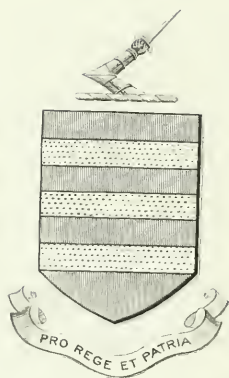


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The Journal of the American Medical Association

VOL. XXXV

CHICAGO, ILLINOIS, OCTOBER 6, 1900.

No. 14

Original Articles.

ASEPTIC MINOR GYNECOLOGY.

WITH DEMONSTRATIONS.*

AUGUSTIN H. GOELET, M.D.

Professor of Gynecology in the New York School of Clinical
Medicine, etc.
NEW YORK CITY.

It is my purpose to submit to my colleagues, both in gynecological and general practice, some of the fruits of my observations and to suggest some improvements in technique, the outcome of personal experience, which will, I hope, prove useful. Progressive men are ever ready to improve their methods, hence suggestions are always acceptable. We may all learn something from each other; some detail that one may lose sight of may be suggested by another's methods. The general practitioner often does excellent work in our line, and we may gain some points from him. I shall hope, therefore, to have a full discussion of the subject from that side of the house also.

It is easy enough to be clean in every-day gynecological work. It is either a matter of taste or habit. Yet, you know very well, cleanliness is one of those good habits for which some never acquire a taste. One who is clean as a matter of taste is more to be trusted than one who is obliged to acquire it as a habit. Like all good habits, it is hard to acquire, and is then seldom proficient. To be strictly surgically clean, one must be naturally so inclined. An acquired habit is not often unailing unless, perhaps, it is a bad habit.

Would you permit a man with habitually dirty fingernails, or who is careless about his linen, to examine a member of your own family? I should not, if he was the most distinguished gynecologist in the land. If it was unavoidable, I should want him to wear rubber gloves, though he washed his hands, and I should want to furnish the gloves, fearing, if he used his own, he would bring them wrapped in his handkerchief.

Nowhere is cleanliness more important than in every-day gynecological work, both for the protection of the patient and the physician himself. Patients have been infected not infrequently by a failure of proper aseptic precaution, as we all know. Physicians themselves have been infected while examining patients, when they have not taken proper precautions. The genito-urinary specialist runs less risk than the gynecologist, because the necessity for precaution is constantly before him to suggest it. Let not the physician think he will offend his patient by methods to attain asepsis in simple gynecological examinations. On the contrary, it pleases her to see that she is taking no risk of contamination because the physician is taking none himself.

As evidence of the imperfect attempt at asepsis in some instances, I will cite one or two incidents. I have seen men prepare for abdominal operations, and after scrubbing and disinfecting their hands, run their hand down in their pocket, pull out a pen-knife and clean the finger-nails, then put on a sterile gown and proceed to operate. With these men cleanliness is not a matter of taste. An attempt has been made to acquire it. I know men who make a great fuss about asepsis and in their preparation for an operation they remind you very much of a slow horse that is making a great effort to get over the ground, and the casual observer would think he was making good time, but really he is slow, very slow. Such men are dirty, really very dirty. I have often overheard nurses criticise their methods because they could see that with all their fussing they failed in asepsis.

The importance of cleanliness in every-day gynecological work can not be over-estimated. It always reverts to the benefit of the physician, as well as to the patient, and inspires confidence. If the patient sees that her attendant is particular for himself as well as for her, she may feel safe. Those who are themselves clean and particular will certainly be favorably impressed, and those who are not may profit by it as a suggestion. It is just as easy to be clean in routine office-work, and it requires no more energy than to be unclean. Everything should be done in an orderly and methodical manner and everything about should bear the mark of precision. Careless, slipshod and untidy methods actually consume more time, because details are not carried out in their proper order; many require repetition, and one may interfere with the other.

Arrangement of the Examining Table.—The examining table should be arranged ready for use, with a fresh, clean, white cover, and pillow with clean case. A fresh, clean napkin should be spread over the pillow for every patient. This should be removed and replaced by a fresh one in her presence after she leaves the table. A clean sheet, neatly folded, should be in readiness to cover the patient. At the foot of the table there should be placed a clinical air-cushion, which I show you. It has the following advantages. It is only twelve inches deep, which permits it to be used on the table for office examination, when the patient's clothing is not loosened about the waist, since the cross-bar of the air-cushion is below the waist line, when it is adjusted in proper position. The downward curve of the cross-bar is useful for the same reason. It is only fifteen inches across the widest part, so that the buttocks rest on, instead of between, the arms of the cushion. The stiffening between the lower ends of the lateral arms of the cushion prevent it and the flap from becoming wrinkled up. The strap is to fasten it in position on the table so that it will not slip around, or it may be utilized for strapping the cushion to the patient for operative work.

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

This pad is used to protect the table and the clothing of the patient from getting wet. Over this may be spread for each patient a fresh square of white rubber sheeting. After being used, these squares are washed and sterilized.

Arrangement of Instruments required on Side-Table, with Absorbent Cotton, Gauze, Tampons, etc.—The instruments needed should be selected from their cases, where they are kept when not in use, and placed in a flat pan and covered with some antiseptic solution that will not injure or tarnish them. This should be done beforehand and the dish covered with a clean towel to conceal them from view, since some nervous patients have a dread of instruments. All instruments should be kept brightly polished and should be replated when they begin to show wear. This can now be done at so

Under this table should be placed a deep receptacle—a deep cuspidor, for instance—for depositing waste cotton wads after they have been used. This receptacle should be deep and have a rather contracted mouth or neck, so as to conceal from view what is thrown into it.

Reservoir and Irrigating Apparatus.—A reservoir containing an antiseptic solution for irrigation should be placed conveniently upon a door-frame or window-frame, and should be arranged on a slide, with pulley for raising and lowering for convenience in refilling and to get the required elevation. This reservoir, for office work, where it can be permanent, is constructed preferably of a large glass percolator, of two-quart capacity, with rubber tubing, eight or nine feet long, attached. This tubing should have a large caliber, so as to convey a stream of considerable volume. The necessity for

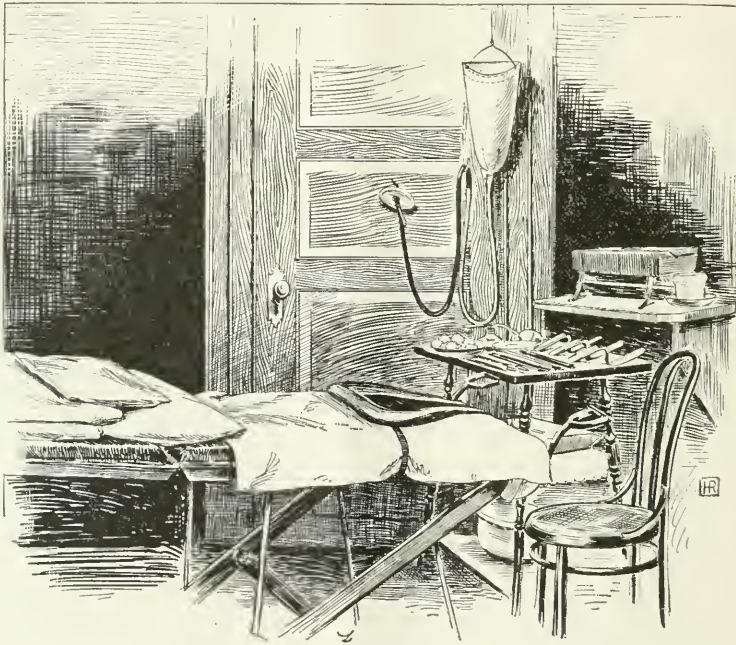


Fig. 1.—Interior of physician's office arranged for aseptic gynecological work.

little cost that no one need neglect this little item. The aphorism that a workman is known by his tools is quite true, and should be borne in mind. The tray or dish containing the instruments should be placed on a low table conveniently to the right of the physician as he faces the foot of the table. All things likely to be needed for the examination, as sterile absorbent cotton wads for sponging, gauze and cotton prepared for tampons with strings attached, or prepared wool for same, are placed in separate glass jars with covers, on a lower shelf on the same table holding the instruments. On the same shelf should be placed such remedies as may be needed, such as glycerin, iodine, and a solution of iodine in glycerin, 1 part to 32, which is to be preferred to other mixtures with glycerin, as boroglycerin or ichthyol and glycerin. This should be placed conveniently at hand before beginning the examination or treatment of the patient.

a wide-mouth reservoir, such as a percolator, is that it may be more readily washed inside.

Necessity for Washing and Sterilizing the Hands.—While the patient is being placed on the table by the nurse the physician washes his hands, for no examination should be made with unclean hands. If he is not so fortunate as to have a nurse to assist him, he places the patient in position on the table first and washes his hands afterward. This is essential, as the hands will become soiled in handling the clothing or shoes, which he may be obliged to touch in getting the feet into right position.

The necessity for sterilizing the hands before making a vaginal examination can be appreciated if the fact is recalled that infecting germs exist on the hands of every individual under ordinary conditions and even after ordinary washing. The staphylococcus is always present, as shown by actual bacteriological tests, and

very often the streptococcus also. A suggestion as to the method of washing the hands may, therefore, not be amiss. It is well known that ordinary soap does not clean the hands, nor does ordinary washing. Scrubbing with a stiff brush and a reliable antiseptic liquid soap is essential. I have employed for this purpose, with much satisfaction, a liquid soap—synol. It does not roughen or injure the hands, but, on the contrary, makes them soft. This soap should be kept in a receptacle over the basin, preferably of glass, with a contrivance that will permit the necessary amount to escape into the hands by pressing a button attached to a lever. Thus, there is no chance of contamination of the whole when a small quantity is needed. The soap should be well rubbed into the hands and around the fingers and nails, by rubbing them together, then it is washed off by a stream of warm water from the faucet, then with more soap and a nail-brush, the hands, fingers and nails are scrubbed thoroughly. Before the scrubbing is finished the nails should be cleaned, preferably with a flat, dull-pointed stick. Then they are again scrubbed, and finally the soap is rinsed off under a stream of warm water. The stream is preferably regulated by foot pressure which controls both the hot and cold water, so as to avoid touching the handles of the faucet in turning it on. I have found, by actual bacteriological tests, that this will positively destroy both the streptococcus and staphylococcus on the hands with five minutes' scrubbing.

Method of Placing the Patient on the Table.—The manner of placing the patient on the table is important. She should be directed to place her back to the foot of the table, and while the nurse or physician stands in front of her holding the sheet spread out between them, so as to conceal her movements perfectly, she is directed to pull up her skirts well behind and sit back on the edge of the table with the skirts free above it. Then she lies back on the table, the sheet is thrown over her, covering her completely, and the feet are lifted into position upon the steps, which should project beyond the foot of the table some seven or eight inches, so that the buttocks may come to the edge of the table. The rubber cushion being in position on the table, the buttocks are now resting on this. Either she or the nurse now draws aside the drawers, which are usually split up the back, thus getting them out of the way, outside of the inflated rim of the air-cushion on each side. The bare buttocks are therefore resting on the cushion, and there is no risk of wetting the clothing.

Antiseptic Irrigation of the Vagina.—Unless inspection of the vagina is necessary, before making a digital examination, or unless it is necessary to take specimens of vaginal secretions for microscopic examination, the nurse should now proceed to irrigate the vagina and vulva with an antiseptic solution. If there is no nurse present, this, though very embarrassing to both, must be done by the physician. I wish to say a word as to the method of irrigating the vagina to secure cleanliness. The usual method is most ineffectual. To do it perfectly it is necessary to distend the vagina and its folds and to permit the solution to escape with a gush. In order to accomplish this readily I have had made a vaginal irrigator with shield. It consists of a hard rubber or glass nozzle, with slits in the end instead of holes, so as to permit the solution to escape more rapidly. This vaginal nozzle is inserted through the opening in the shield, to the back of which is attached the tubing from the reservoir. This shield has a concave surface three inches wide by five inches long, which fits the vulva.

It is covered with soft rubber with a raised rim around the circumference. The vaginal nozzle is inserted and the shield pressed up against the vulva snugly. The water from the reservoir is permitted to flow into the vagina until it becomes distended, then the shield is withdrawn a short distance and the water is permitted to escape with a rush. This maneuver is to be repeated until the reservoir is exhausted. The shield serves the double purpose of compressing the vulva and preventing the escape of the solution so as to distend the vagina, and at the same time protects the hand holding it from contact with the escaping solution. This is the only absolutely reliable method of cleansing the vagina. Each shield is furnished with two of the soft-rubber covers.

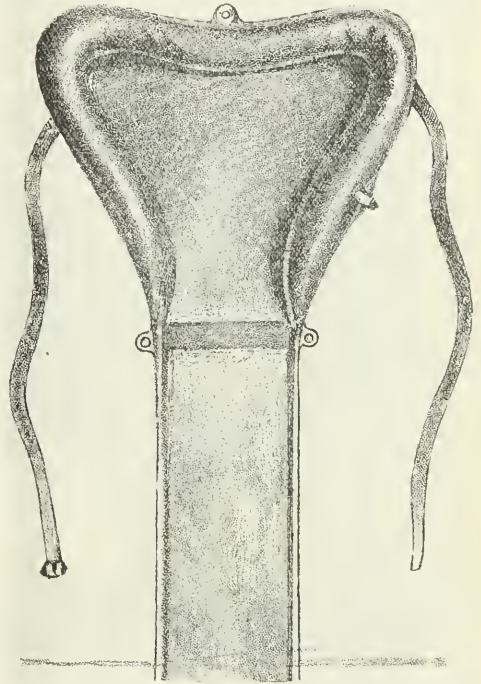


Fig. 2.—Clinical air-cushion for office table or operating table.

so that one may be in use while the other is being sterilized.

The antiseptic employed for this irrigation should be one that is effective without being irritating. I prefer a 1 per cent. solution of the antiseptic soap which I employ for washing the hands, and have found it most satisfactory, on account of its soapy character, in removing the secretion that sometimes adheres quite tenaciously to the vaginal walls and its folds.

Lubricant for Finger and Speculum.—The lubricant employed for the examining finger and instruments is most important, both from the standpoint of cleanliness and comfort of the patient, as well as for the physician. I have abandoned all forms of grease, because they adhere to the parts and are not easily removed, and because they can not be removed from the hand without hard washing and scrubbing. The soap used for washing the hands I have found most convenient and agreeable. It is easily removed from the hand by sim-

ply placing it under a stream of water. It is removed from the vulva by wiping with a damp cloth or absorbent cotton. The same lubricant is used for the speculum. Besides being convenient, it possesses the additional advantage of being antiseptic.

Method of Making Digital Examination of the Vagina.—If a suspicious vaginal discharge is encountered, however, it is wiser to employ rubber gloves or rubber finger cots, when a digital examination of such cases is required. A digital examination should be made with one finger, since just as much can be felt by employing one properly, and it will reach just as far, if the knuckles are not doubled up. The outside fingers should be straightened out and made to slip between the folds of the buttocks. In this manner the reach of the index finger is much increased. The insertion of two fingers into the vagina, besides being unnecessary, is most unpleasant, and even disagreeable, to the patient. Both

sen burner. With this a specimen is taken from the urethra by inserting it within the meatus and turning it around or gently pressing it against the sides. Another similar sterile platinum loop is selected and another specimen taken from the vaginal wall or side of the cervix at the cervico-vaginal fold. Still another is inserted well into the cervix after the visible secretion at the external os has been wiped away with a pledget of sterile absorbent cotton in the grasp of a dressing forceps. As each specimen is taken, it is deposited on a clean cover-glass and teased out into a thin film with the platinum loop. Then it is placed under a bell glass to dry. When dry it is fixed on the cover-glass by passing the reverse side quickly through an alcohol flame or Bunsen burner twice. I will not go into the details of staining and mounting these specimens, as it is understood by most of you, and those not familiar with it can readily find it described elsewhere.

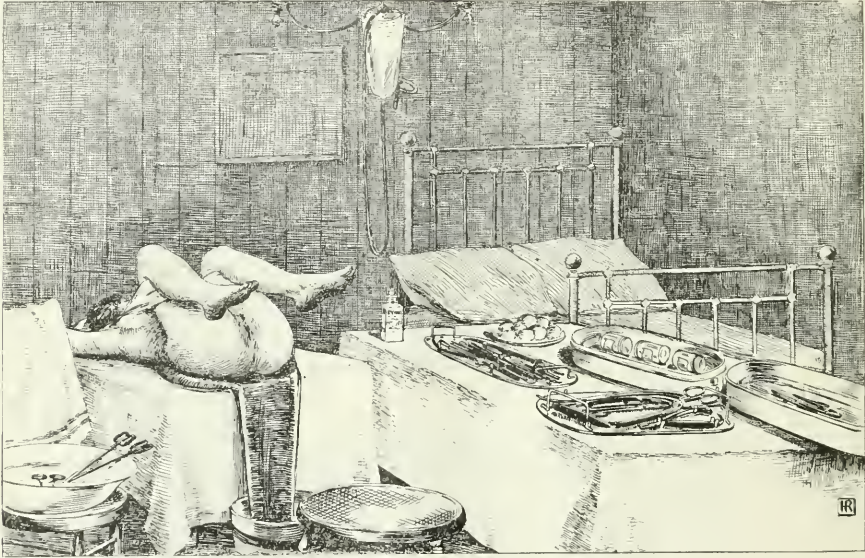


Fig. 3.—Emergency case in connection with operation in private house.

hands should be used alternately for palpating the appendages, since the palmar face of the finger-end is more acutely sensitive and the touch is more reliable when the finger and hand are straight, than when bent over awkwardly to palpate the opposite appendage. Therefore the index finger of each hand should be educated, and a physician should be able to palpate equally well with either.

Method of taking Specimens of Secretion for Microscopical Examination.—When it becomes necessary to take specimens of vaginal secretion for microscopical examination, which is most important, since we should know the character and significance of every discharge that is encountered in this line of work, though it is often neglected, a sterile speculum is inserted into the vagina, preferably a simple perineal retractor. This is lubricated on the outer side and inserted deeply into the vagina, the end of the beak passing into the cul-de-sac behind the cervix. A loop of platinum wire fastened in a glass handle is sterilized by passing it slowly several times through the flame of an alcohol lamp or Bun-

Uterine Irrigation.—Besides irrigation of the vagina, which is done solely for the purpose of securing cleanliness, and seldom by the physician as a therapeutic measure, irrigation of the uterine cavity is frequently necessary, both for the purpose of securing cleanliness and drainage of the cavity, and also for therapeutic purposes. For this purpose I employ a clinical double-current irrigator. It is small enough to be inserted through the cervical canal in most instances where irrigation is required. In conditions requiring irrigation, the canal is usually larger than normal, though it is not invariably so. Where it does not enter readily, a piece of rubber tubing may be slipped over the outside, insulating it to within two and a half to three inches of the end, and converting it into an electrode temporarily, there being an attachment at the outer extremity for connection with the cord from the battery. By using this connected with the negative pole of the galvanic battery for a few moments with a moderate strength of current (10 M.), it will slip by the constriction. Where there is much constriction in the

canal, it is best to continue the current during the entire irrigation, which will facilitate subsequent drainage by relaxing the canal.

There is considerable advantage in having the outer tube or canula as long as it is in this instrument, because it conducts the outflow outside of the vulvar orifice, where it may be emptied into a basin held under it. The outer tube broadens from a point two and a half inches from the point to the exit, which obviates blocking of its caliber. The inner tube, which conducts the in-flow, terminates at the point of the instrument, and the opening is a lateral split similar to a gas-tip. This is for the purpose of projecting the liquid from the point of the irrigator tube, and the split is to permit it to escape laterally if the end impinges against the fundus.

I have found that irrigation of the uterus is the most satisfactory method of treatment for endometritis, both where curettage is necessary and when it is not. After curettage it is particularly useful to remove debris, clots and secretion, which will collect in the cavity and prove a source of irritation if not removed. When medication of the surface is necessary, it is certainly the most satisfactory and least objectionable method of making an application, since an application thus made is most thorough to the whole surface and none of the solution is left behind in the cavity to provoke irritation.

Cleansing of Instruments.—After instruments have been used, either for operative work or for simple examination of the female genitalia, they should be thoroughly cleansed and sterilized before being used again. They should be placed immediately in a 2 per cent. solution of the antiseptic soap, where they are allowed to remain for five minutes. They are taken out of the solution and scrubbed with a stiff brush if they have come in contact with blood or pus, particularly the parts where there are serrations and about the locks. Double-bladed instruments, such as forceps, dilators and scissors, should be taken apart and all parts thoroughly washed. Scissors blades and scalpels are dipped into the soap full strength and wiped off thoroughly with a bit of gauze. When instruments are tarnished, they should be scrubbed with the finest grade of sapollo on a bit of gauze. When this does not brighten the surface or remove roughness, they should be repolished or replated. After the instruments have been carefully washed in this manner, they are placed in a sterilizer partially filled with a 1 per cent. solution of the synol soap and are boiled for three minutes. They are then laid away in a case on glass shelves. Cutting instruments, scissors and knives are not boiled with the other instruments, but are immersed in a boiling solution of the soap separately for two minutes.

In office work, a sterilizer may be kept boiling in a convenient place and the instruments may be placed in it each time after they have been used, but they should be first washed.

When instruments are required for immediate use and time can not be spared for sterilization by boiling, they may be quickly sterilized by placing them in a pan and pouring over them a small quantity of alcohol, which is then ignited. After the alcohol has been permitted to burn for half a minute, if there is too much alcohol to burn out in that time, water is poured over them from a pitcher and the flame is extinguished. Burning alcohol is a very hot flame, and the temper of instruments would be destroyed if submitted to it for too long a time, hence it is not well to let it burn for more than half a minute.

When not in use, instruments should be kept in a closed case, free from dust, on glass shelves. They should be cleansed and sterilized before they are put away as described above, and if one should be taken out and handled it should be sterilized before it is put back into its place; thus instruments are kept always ready for use. It is wiser, however, to boil them for two minutes again immediately before they are used, because dust may settle upon them from the opening of the doors of the case containing them.

Asepsis in Examination at the Patient's Home.—Asepsis is quite as important when patients are examined or treated at their homes. If the physician will go prepared for it, it is as readily attained here as elsewhere. Everything that may be needed to secure perfect asepsis should be taken with him in his bag, including antiseptic liquid soap, sterile absorbent cotton, gauze, sterile nail brush, etc.

The average practitioner does not, perhaps, possess the necessary gynecological instruments that may be needed in cases which he may be compelled to treat, and, as a rule, his outfit is exceedingly meager. If he knew just what he would want, he would, undoubtedly, possess himself of them. Recognizing this, I have suggested to Messrs. Knauth Bros. to make up this aseptic gynecological emergency case with instruments. I have endeavored to select those instruments most essential and to omit those that are superfluous in order to economize space and weight.

Aseptic Gynecological Emergency Case with Instruments.—The case consists of two aseptic white enameled oblong or square basins which fit together, forming a bottom and top, and the instruments are compactly arranged on three metal trays, which may be lifted out without touching the instruments. These basins are to be used as aseptic trays to hold instruments during an operation or examination. Being already clean, it is only necessary to take from the trays such instruments as will be required and place them in one of the basins and cover them with an antiseptic solution. Then proceed with the work in hand.

GYNECOLOGICAL EMERGENCY CASE.

First or upper tray contains: 5 curettes, one sharp and four dull, of different sizes; 2 uterine irrigators, one, the larger, for use in operations, and one smaller clinical irrigator for use in office.

Second or middle tray contains: 1 uterine dilator, 1 needle forceps, 1 angular tenaculum forceps, 1 combined uterus dressing forceps and placental forceps, 1 uterine packing forceps.

Third or bottom tray contains: 1 long-handled, sharp-pointed, curved scissors, 2 broad-ligament clamps, 1 vaginal speculum, 1 scalpel, 1 tenaculum, 1 shaving knife, 1 metal case of one dozen assorted needles, 1 metal box for dusting powder, 1 glass receptacle for liquid antiseptic soap, 1 glass receptacle for absorbent cotton, 1 glass receptacle for absorbent gauze, 1 sealed tube of assorted ligatures containing chromic and plain catgut and silk.

The outer leather case holds, besides the instrument case, a clinical air-cushion, a portable rubber reservoir with tubing (9 feet) and with vaginal irrigating nozzle and vulva shield, and a simple leg-holder strap.

On the first tray there are two double-current irrigators; one, the larger, for use during operation after the cervical canal has been dilated; the smaller, for clinical work without previous dilatation of the canal.

This case is placed, for convenience of transportation, in a leather outside case with handle, in which there has

been space allowed for packing away a three-quart rubber reservoir with pulley attached and tubing, vulva shield and vaginal nozzle and also a clinical air-cushion and leg-holder.

This irrigating apparatus can be placed high against the door-frame or window-frame, as a hook with screw accompanies it. There is also attached a pulley for raising and lowering it for convenience in filling and to obtain readily the required height for the work in hand. The rubber reservoir is made with wide mouth to permit the inside to be washed out. It can be rolled up with shield and tubing complete so as to occupy a very small space. The rubber air-cushion can also be rolled up in a small package, small enough even to be carried in the pocket.

With a ease of this kind complete, the practitioner who is compelled frequently to ride long distances in the

right of the physician, as he faces the foot of the table, are placed the trays containing the instruments to be used. Then the irrigating reservoir is filled and the hook screwed into the window-facing, preferably to his left. Before beginning there should be placed in readiness an extra pitcher of the solution for refilling the reservoir when it is exhausted, so there may be the least possible delay during the procedure.

Where slow, gradual dilatation of the cervix by sponge or laminaaria tents is required, I have succeeded in accomplishing it in a perfectly aseptic manner by employing the sponge-tent cover made of rubber. These have been made for me by the Miller Rubber Mfg. Co., of pure gum, very thin, and they stretch easily. Hence, they offer the least possible resistance to the expansion of the tent. The method of using them is as follows, viz., a narrow strip of sterile absorbent gauze is folded over the point of the tent and down along each side, one end being left longer than the other. The gauze is now wet by dipping it into water. The cover, previously sterilized, is then slipped over the tent covered with the strip of gauze, the long end of which is left hanging out of the mouth of the cover. The tent is grasped in a pair of forceps by its lower end outside of its cover and inserted into the cervical canal. The vagina is then filled loosely with absorbent gauze which is made thoroughly wet. The capillary action of the gauze strip over the tent within the cover takes up the water from the gauze in the vagina and wets the tent, causing it to expand. Thus the tent expands inside of the cover and does not come in contact with the canal. Therefore a perfect aseptic, gradual dilatation is secured.

The physician's first duty is always to his patient, and her interest and security should be kept constantly before him. She must, therefore, be impressed with the importance of what is being done and must under no consideration be permitted to think any detail unimportant, or that she may with impunity neglect herself or miss appointments. Above all things, the case must not be dismissed nor must the patient be permitted to discontinue treatment until cured. She must be made to realize that relief of symptoms does not necessarily constitute a cure, and that the physician is the only one competent to decide this point. He must have her entire confidence, to be successful. Without this he would better not undertake the case. Her confidence can not be gained by incompetent and imperfect methods.

DISCUSSION.

DR. J. M. DUFF, Pittsburg—This has been a very important paper, one especially directed to the general practitioner. I want to call attention to one thing that I think the Doctor did not elucidate so as to bring out the best results, that is with regard to washing out the vagina. If you take the trouble to experiment, you will find that if you flush out the vagina and clean the vulva, and then go to work with your hands afterward, you are going to carry germs into the vagina. Hence, the important thing is to get the vulva clean. The normal secretions of the vagina are germicidal in themselves. If you do not sterilize the cervix before you introduce instruments into the uterus, where you have a catarrhal endometritis without the presence of pus producing germs, you are very liable to carry them in and produce a septic condition. No matter whether or not we have a leucorrhœa, it is a well-established fact that we do have latent germs in the cervix which can be carried up and infect the uterus. I may have misunderstood the Doctor, and if I have he did not bring this point out plainly.

DR. L. H. DENNING, Indianapolis—I do not quite understand whether the essayist recommends his technique as a routine practice in general office work, or not. If so, and he had twelve patients, it would require one hour to scrub the hands

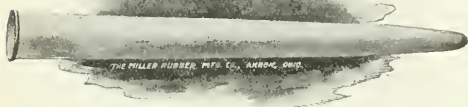


Fig. 4.—Aseptic rubber cover for sponge or laminaaria tent.



Fig. 5.—Aseptic tent cover, showing tent inserted with gauze around it ready for insertion into the canal of the cervix.



Fig. 6. Showing aseptic tent cover with expanded tent within after it has been removed from the cervix.

country will be able to cope with any ordinary gynecological case that he may unexpectedly encounter.

The price of the case complete is so reasonable that it is certainly within the reach of every practitioner.

In making examinations or doing minor operations at private houses, the bed or couch should never be used. A kitchen table is easily obtainable in every house, and this can be readily converted into an examining table. This should be placed conveniently near a window and covered first, either with a blanket folded several times or a thick quilt. Over this is placed a fresh, clean sheet, which is folded over at the corners and pinned down with safety pins. The rubber air-cushion is placed in position at the foot of the table and everything is ready for work. On a smaller table or chair placed to

and another hour for scrubbing the vagina, and if the doctor has only two hours to spend in his office, there would be absolutely no time left for treating more than one patient. It seems to me that in applying tampons to the uterus, where the cervix is not entered, it will not be necessary to adopt all of his technique. I am under the impression that we can disinfect the vagina just as well by scrubbing as by irrigation and in one-half the time. If I desire to make an irrigation of the uterus I should disinfect by scrubbing with antiseptic soap and sterile cotton, using the Sims' speculum. We can do better in ten minutes than by irrigating half an hour, and the method is a much more cleanly one.

Regarding the technique for the ordinary application of the tampon in a private home, I think that if we have the nurse prepare everything for us before leaving the office and have the patient properly cleaned before we get there, it will be unnecessary to adopt this technique. The point of objection is the time it takes. I am sure that I could not get through with half my work if I had to go through all this preparation. The method I have resorted to is to have my nurse prepare my bag, sterilize two sets of instruments wrapped in sterile towels, so that I can make two visits. I instruct the patient on a previous visit how to prepare herself, and as soon as I arrive she takes the proper position and a very little time is lost in treating the case. After having treated two cases I return home for another outfit.

DR. J. WESLEY BOVEE, Washington, D. C.—I consider it almost an absolute impossibility to sterilize the hands by a five-minutes scrubbing with antiseptic soap or anything else. You may make a culture and find them negative, but the hands are not sterile nevertheless. I should suggest the use of the rubber glove if we want to be particular, which for my part I am not. I do not believe that we can scrub the vagina and vulva sufficiently well for sterilization without an anesthetic. In the second place, I believe that the vaginal secretion is usually able to take care of the vagina. We do not need so much scrubbing if the ordinary well-washed hand is passed through the vulva widened by the fingers of the other hand. This is readily realized by recalling the many normal opportunities for such infection. If we went through all this technique in minor gynecology, we certainly would not have sufficient time to do our work, if we have more than one patient. Furthermore, you go to the house of one patient and before you can see another you must go home and sterilize your instruments.

DR. WILLIAM H. HUMLSTON, Cleveland—I was very much interested in Dr. Goelet's paper. I yield to no man in carefulness in making examinations. I do not believe, however, that it is necessary to follow absolutely Dr. Goelet's instructions in making an examination. As Dr. Duff has stated, the danger from infection is not from the vaginal secretion, but from what exists on the vulva. I clean thoroughly the external parts. The ordinary office treatment of the uterine organs is harmful. I have yet to see the first case of any gravity successfully treated by ordinary office treatment, but I do meet with many cases which if they had been properly and aseptically treated early while the condition was a simple one, would not have gone on to the condition where they required active surgical interference. I had a physician come to me a short time since wanting to know how I could explain a certain case. A patient came to him with a leucorrhœal discharge and suffering from dysmenorrhœa. He treated tentatively for a time, but she did not improve. Finally, he concluded to curette the uterus a little at a time every third day, in his office, permitting the patient to walk home afterward. Within a week patient had a chill, high fever and an active pelvic inflammation. On examination, he noticed a marked change, the uterus being fixed and the roof of the pelvis as hard as a board. He wanted to know what to do. You can readily understand that he converted a simple condition into a complicated septic process by not instituting proper aseptic treatment and operation. These cases should be treated thoroughly. If after an examination a chronic condition is found, I do not believe that the case can be cured by office treatment. It requires a minor operation with hospital facilities. Then you can anesthetize,

cleanse the vagina and vulva, which can not be well done without the aid of a brush, and you avoid many perils of careless office treatment with non-sterilized instruments. My office work is limited almost exclusively to examinations; further treatment, if necessary, is given in the hospital.

DR. M. F. PORTER, Fort Wayne, Ind.—In the cleansing of the vagina, or any part, I am of the opinion that we oftentimes do harm with the stiff brush. A few bacteria will not do very much damage in the presence of an intact covering. It is this idea that has led me to use something soft, like gauze pads or sponges, in cleansing the vagina and vulva. Then, I have the satisfaction of knowing that when I am through with my cleansing process, if I have not obtained an aseptic condition, I have at least not increased the number of infection atriæ. I do not believe that any amount of douching or distension, or both, will leave the vagina clean. I simply want to enter my protest against the use of a stiff brush. Another point in connection with aseptic technique: The doctor has referred to the fact that all of us are occasionally guilty of lapses in our technique. One of the best ways to rid oneself of these is for the doctor himself to have it distinctly understood by all those around him that the humblest individual is not only free but is invited to call the operator or his assistant's attention to any lapses which may occur. Each one of my assistants and nurses is told when he comes to work for me, that if he sees me about to err in my aseptic technique, he is at perfect liberty to call my attention to it and I thank him for doing so. None of us are perfect and we must never forget it.

DR. GOELET, closing the discussion—I have learned considerable from this short discussion. One thing I have learned particularly is the necessity for such a paper as this. Asepsis of the vulva can be accomplished only by scrubbing, but for ordinary office work such an irrigation as I have described is sufficient. My paper is upon minor, not operative, gynecology. With this douche we also cleanse the vulva and when necessary to have it especially clean, I ask the nurse to scrub it. My portable rubber reservoir I use for work at the patient's house, where irrigation is required. As to cleansing the hands I agree that it is a very difficult matter to free the hands absolutely from germs, but I have had bacteriologic tests made of the hands after scrubbing them for five minutes with the antiseptic liquid soap mentioned, and all cultures taken after such scrubbing have remained sterile in every instance. There should be no objection to the time required for cleansing the hands. I am surprised that such objection should be raised. It takes nearly five minutes for the patient to get ready and to put her in position on the table, and while the nurse is preparing the patient, you can be scrubbing your hands. You owe this to your patient. Besides, such methods are going to bring more patients than slipshod methods. There is no doubt about that. Women appreciate cleanliness in their physician.

I regret that there was not more said about the sponge-tent cover, as I have found it very satisfactory, although I do not restrict myself to that method of dilating the cervical canal.

Auto-Intoxications in Tropical Climates.—Crespin describes a hepatic form of typhoid fever common in Algiers and attributes the gravity of infections in tropical climates to insufficiency of the liver. The high temperature and the high hygrometric condition create a uniform medium unfavorable for the play of the reflexes. Consequently the emunctories, and especially the liver, are deprived of the excitations necessary for their normal functioning and hence remain torpid. On these grounds he has been administering liver extract in several cases of infections in his tropical practice, and has been highly pleased with the results; the hemorrhages and the delirium in particular rapidly improved. He recommended this organotherapy for further experiences at the International Medical Congress.

RESECTION AND ANASTOMOSIS OF THE DIVIDED URETER.*

HOWARD A. KELLY, M.D.
BALTIMORE, MD.

I desire to lay before the Section on Gynecology several matters in connection with resection of the ureter; and I shall take the liberty of including under my title not only those cases in which a piece of the ureter is sacrificed and the ends brought together—uretero-ureterostomy, resection in the stricter sense of the term—but those cases as well in which the vesical end of the ureter is sacrificed and the upper end is anastomosed directly into the bladder—ureterocystostomy—cases which for practical purposes may be included in the same category.

The importance of my subject is enhanced by two factors, measured by the importance of the ureter as an emunctory, and by its liability to injury in the course of an abdominal or of a vaginal operation. The difficulty in the way of a successful performance of a ureteral anastomosis can only be appreciated by one who has tried for the first time to secure accurate apposition of structures so delicate without unduly injuring the tissues and without allowing the silk sutures, which must be used, to appear on the mucous surface to form nuclei for the subsequent formation of calculi. I take it that a ureteral anastomosis is about as difficult and as delicate a piece of surgical work as we are called on to execute upon the human body, fully as delicate as the most difficult operation on the eye.

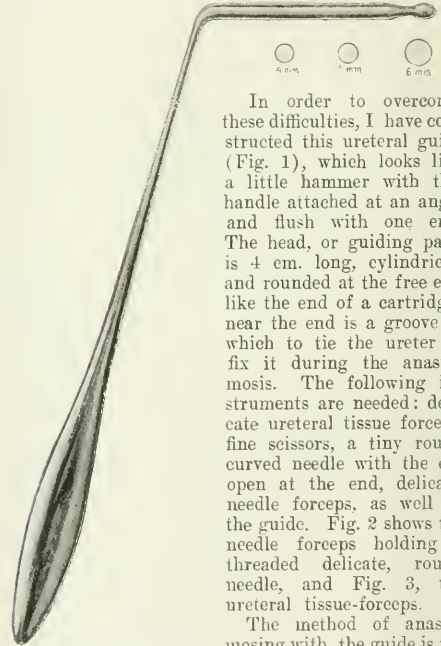
Injuries of the ureter requiring anastomosis are almost exclusively surgical, that is to say, they are produced in the course of operations when they can often be detected at once and immediately repaired. It is a fact of the utmost importance for the successful anastomosis of the injured ureter that the injury is almost invariably confined to the pelvic portion of the ureter, and if any part is sacrificed the loss is limited to the pelvic end. The injury is, for the most part, involuntary on the part of the operator, as when he cuts a ureter for a blood-vessel, or unwittingly picks it up, as I did recently, along with the ovarian vessel at the pelvic brim and ligates and divides it there. In other instances it is torn out of the pelvis with an adherent ovarian cyst, myoma, pyosalpinx, extrauterine pregnancy, or tubercular mass. A voluntary sacrifice is made when the ureter passes through a carcinomatous mass in the broad ligament.

It is my desire to-day to throw some light upon the important practical question, how to deal with a divided or a resected ureter. In the first place it is important to make sure that the ureter is a live one. Occasionally the disease which necessitates the pelvic operation has so completely occluded the ureter that it is dead, and if brought out into the surface of the body no secretion escapes from it. This has happened in some five cases which I have collected from the literature; one of the first was a patient of Schröder's, in which the divided ureter was sewed into the abdominal incision but no secretion ever escaped from it. One of the last was a case of Dr. Fullerton, also seen by Dr. C. P. Noble, in Philadelphia, with the view of determining the functional value of the ureter. I would pass my hand into the abdomen and see if the patient had a normal kidney on that side. If it proved to be atrophied or sclerotic

I would then not go to the trouble of making a delicate anastomotic operation.

There are two ways of anastomosing the injured ureter: 1, anastomosis of the ureter into itself—uretero-ureterostomy; and 2, anastomosis into the bladder—ureterocystostomy.

Uretero-ureterostomy is to be preferred when both ends are accessible, and when there is no obstruction between the lower end and the bladder, and when the lower end does not have to be sacrificed as in extensive carcinoma. Anastomosis into the bladder is the best way to restore the continuity of the urinary tract when the lower end of the ureter has been destroyed, is blocked, or is inaccessible. Anastomosis of the ureter into itself is best adapted to joining the divided ends in the posterior part of the pelvis, between the pelvic brim and the broad ligament. The success of an anastomotic operation depends on the accurate union without injury of the delicate ureteral structures; and this is rendered difficult by their flaccidity and sometimes by the difference in caliber.



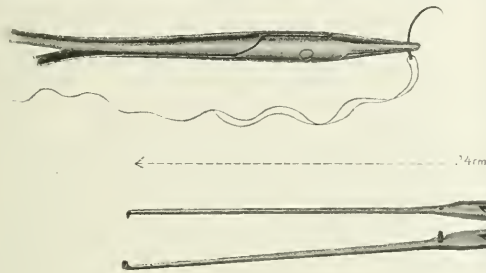
In order to overcome these difficulties, I have constructed this ureteral guide (Fig. 1), which looks like a little hammer with the handle attached at an angle and flush with one end. The head, or guiding part, is 4 cm. long, cylindrical, and rounded at the free end like the end of a cartridge; near the end is a groove in which to tie the ureter to fix it during the anastomosis. The following instruments are needed: delicate ureteral tissue forceps, fine scissors, a tiny round curved needle with the eye open at the end, delicate needle forceps, as well as the guide. Fig. 2 shows the needle forceps holding a threaded delicate, round needle, and Fig. 3, the ureteral tissue-forceps.

The method of anastomosing with the guide is the following: A fine silk mattress-suture is passed through the under surfaces of the cut ends and tied, bringing them snugly together. A longitudinal slit is then made in the upper part of the ureter 2 cm. distant from the end, just large enough to admit the guide easily. The rounded end of the guide is then pushed through the slit into the ureter down through its open end and well into the lower end, where it is loosely tied behind the swelling at the head to hold it in place during the passage of the rest of the sutures (Fig. 4). The end-to-end anastomosis is now completed by passing fine silk sutures, either interrupted or mattress, with the sides very close together, at intervals of from one to one and a half millimeters, including all the coats except the mucosa. During the suturing, the ureter can

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

be rotated from side to side by moving the handle of the guide. At the completion, the string tied around the lower end of the guide is cut and the guide withdrawn. The success of the suturing may now be tested by injecting water with a syringe through the cut and seeing it flow freely down toward the bladder without leakage at the junction of the ends. The slit is next readily closed by three or four fine mattress sutures of silk as after any other simple ureterotomy.

I have the guides made in three sizes. When there is a marked difference in caliber between the upper and lower portions of the ureter, I use the larger size to dilate the smaller end and to facilitate the exact end-to-end approximation. There is a good deal of just complaint about the multiplication of special instruments, but no instrument is *de trop* which facilitates a difficult and a delicate operation. The surgeon who rarely has to do these operations can easily extemporize



a guide by whittling a piece of wood the desired shape, fixing a thread or a long needle in one end and sterilizing this very satisfactory makeshift and using it as above described.

The anastomosis of the ureter into the bladder is effected in a similar way. A hole is made in the top peritoneal surface of the bladder and the guide slipped in and the right or left vesical cornu pushed out in the direction of the divided ureteral end, and an opening made at the nearest point, just large enough to admit the ureter. The end of the guide is then slipped well up into the ureter and tied, and the ureter, with its lower end slit up for at least half a centimeter, is drawn well into the bladder and stitched on all sides to the muscular vesical wall. After this the guide is removed and the abdomen closed with a small gauze drain in event of leakage.

The following cases are ureteral anastomoses I have made in the Johns Hopkins Hospital for a variety of injuries:

CASE 1.—Cancer of the cervix, involving the ureter on the right side; vaginal operation. The anterior portion of the ureter was deliberately sacrificed with the uterus and the upper end anastomosed at once into the bladder. Recovery; anastomosis perfect.

CASE 2.—Ureter involved in a cancerous ovary in a woman 72 years old. Deliberate sacrifice of the ureter from the pelvic brim forward. Ureter stitched into bladder. Recovery; no leakage.

CASE 3.—Cancer of the cervix, abdominal operation. Ureter involved; sacrificed. Anastomosis into the bladder. Recovery; no leakage.

CASE 4.—Ureter attached to a large fibroid tumor involving ilium, cecum and vermiform appendix. Resection of 9 cm. of ureter, ends brought together. Some leakage at first; afterward perfect recovery.

CASE 5.—Uterovaginal fistula and vesicovaginal fistula;

anastomosis of ureter by abdomen into bladder. Recovery; leakage from vesicovaginal fistula.

CASE 6.—Ureter involved in malignant ovarian tumor. Enucleation with removal of almost the entire pelvic ureter; anastomosis into the bladder. Death on the third day from unknown cause. Autopsy not allowed.

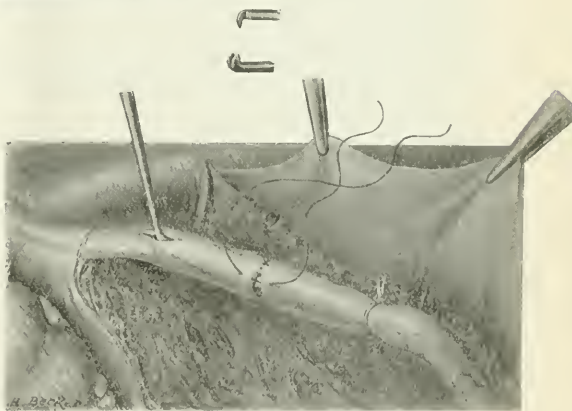
These operations were all done by the older free-hand method, and I have not yet used the guide on the living subject.

CASE 1.—Ureter imbedded in a mass of carcinomatous tissue. Divided 2 cm. from bladder; resected and upper end implanted into the bladder; recovery. (Gyn. No. 6831.) Mrs. S. L., white, aged 35 years.

Diagnosis: Carcinoma cervicis uteri, extending laterally into the broad ligaments well onto the lateral walls of the pelvis, and anteriorly well into the perivesical tissue.

Operation: 1. Thorough curettage of the cervix, removing as much as possible of the friable carcinomatous tissue. 2. Catheterization of the ureters. 3. Abdominal hysterosalpingo-ophorectomy. 4. Ureterocystostomy.

After removing the uterus, tubes and ovaries a distinct carcinomatous nodule still remained on the right side, extending well out to the pelvic wall and upward to the bladder. After some dissection the ureter was found markedly displaced, running downward from the bladder and then sharply curving on itself to run directly upward, being entirely surrounded by diseased tissue. It was found impossible to dissect out this nodule without injuring the ureter, so it was at once severed



2 cm. below the bladder. The nodule was then thoroughly and most carefully dissected out.

Implantation of the ureter into the bladder was accomplished in the following manner. A sound was introduced into the bladder and pressed firmly down upon the bladder wall a little anterior to the orifice of the ureter; the bladder wall was then incised just over the sound; next, the lower end of the ureter was split for .5 to 1 cm. down its lumen to avoid constriction. This end was then introduced over the sound and passed into the bladder. The next step was to very accurately approximate the bladder wall around the ureter, the end of which was now standing erect inside of the bladder. Approximation was neatly and accurately accomplished by passing catgut sutures through the outer portion of the bladder surface, then just lightly catching the surface of the ureter, catgut sutures only being employed. The first few of these sutures were passed just at the edge of the bladder and then into the ureter; the next set took firmer hold on the bladder

and a larger bite into the ureter at a greater distance on its surface from its point of entrance into the bladder.

The patient made a perfect recovery, with no leakage from the bladder.

CASE 2.—Ureter surrounded by carcinomatous tissue and resected from the pelvic brim to the bladder. Anastomosis of upper end of ureter into bladder. Recovery. (Gyn. No. 7372.) Mrs. M. F., white, aged 72 years.

Diagnosis: Cystoma of both ovaries. Carcinomatous degeneration of the right cystoma.

Operation: 1. Abdominal hysterosalpingo-öphoro-cystostomy. 2. Ureterocystostomy.

Removal of the cystomata with the tubes and uterus was extremely difficult—slow and painstaking—on account of numerous exceedingly dense adhesions to the small intestines and the rectum on all sides. When the left cystoma and the uterus were tied off and freed they still remained attached to the cystoma on the right side, which was also gradually freed, but was found to contain at its base a cancerous mass extending down in the broad ligament to the ureter, which it surrounded. The tumors and the uterus were then removed in one mass and the remainder of the operation directed toward the removal of the cancerous tissue in the broad ligament. This was slowly enucleated by tying on all sides in the sound tissues and removing the ureter with it from the pelvic brim forward to its vesical portion. The ureter was then implanted into the bladder in the following manner: The bladder was separated anteriorly from its attachments to the anterior abdominal wall sufficiently to throw it well back and allow the ureter to reach it near the fundus. On the right side of the pelvis an opening was made through the peritoneum, where it was reflected from the bladder onto the pelvic wall; the ureter was carried through this and thence into an opening made into the bladder, where it was securely stitched by several small silk sutures. The junction of the ureter and bladder was in this way made extraperitoneal. The opening into the peritoneum was about 3 cm. from the point of entrance into the bladder. The connective tissue and the bladder wall were stitched over the point of junction of the ureter and bladder, thus reinforcing the line of original sutures. The implantation of the ureter in this manner puts it on considerable tension.

Result was excellent. No urinary fistula nor any sign of leakage from bladder.

CASE 3.—Ureter embedded in carcinomatous tissue; its lower 5 or 6 cm. resected; upper end implanted into bladder. Recovery. (Gyn. No. 7510.) Mrs. S. C., white, aged 56 years.

Diagnosis: Carcinoma cervicis uteri. Bicornuate uterus with left rudimentary horn, left tube absent.

Operation: 1. Curettage of cervix uteri. 2. Catheterization of ureters. 3. Hysterosalpingo-öphorectomy.

The operation was begun by the abdomen on the left side. The first ligature was applied at the junction of the round ligament and the ovarian ligament, the ovary being left behind. Dissection was continued along the wall of the pelvis until the ureter was exposed and bared to its entrance into the bladder, 5 to 6 cm. The vesical peritoneum was then pushed well down; the ureter was pulled gently toward the pelvic wall and the dissection continued toward the vagina beneath it, all vessels being tied as they were reached. The right side was begun in the same way. On reaching the ureter it was found passing through the carcinoma. It was dissected free up to its entrance into the growth, where it was cut off. The dissection toward the right pelvic wall was continued apparently outside of the carcinoma. The vagina was now entered anteriorly and the enucleation continued around the vagina, leaving a cuff of vaginal wall on the uterus on all sides. The uterus, with its carcinomatous extension, was then removed. A long clamp was pushed into the bladder *per urethram* and an opening made by cutting down on it from above. The end of the ureter was split for about 5 cm. A silk suture was then passed through the ureter and through the bladder opening and the bladder wall at a lower point and the end of the ureter drawn into the bladder. It was sutured here with fine silk sutures. Peritoneum was brought over both ureters.

Result excellent. No leakage from bladder.

CASE 4.—Ureter, terminal portion of ileum and vermiform appendix and commencement of large bowel inseparably attached to a large abdominal fibroma. Resection of 9 cm. of ureter, 16 cm. of ileum, 14 cm. of large intestine, and removal of vermiform appendix. Recovery with a persistent ureteral fistula. (Gyn. No. 7521.) M. P., negress, aged 33 years.

Diagnosis: Large solid abdominal tumor, extremely vascular, having inseparable attachments to the bowel and the ureter. (It was found by microscopic examination to be a fibroma.)

Operation: An attempt was first made to shell the tumor out of its capsule, but the bleeding was so profuse on incising it that this plan was abandoned. The only remaining plan of procedure was to remove the entire tumor with the adherent portion of the bowel and ureter. The vermiform appendix was seen on the under surface of the tumor, on the upper surface the head of the cecum and ascending colon spread out with the lower end of the ileum. The portion of the intestine removed includes the terminal 16 cm. of the ileum and the proximal 14 cm. of the large bowel. The portion of the ureter removed measures 9 cm. in length. The ends of the intestines were next united by end-to-end anastomosis without the aid of bags or LaPlace forceps, three preliminary sutures bringing the ends into approximation; next a row of mattress fine-silk sutures and a few intermediate Lembert sutures. The mesentery, which well supplied the intestine with blood at the point of anastomosis, was united by sutures. The ends of the ureter were next united by end-to-end anastomosis. The upper end was much larger than the lower, the ureter being dilated above the tumor and atrophied below it. The lumen of the kidney end of the ureter was at least twice the size of the bladder end. Suturing was difficult and the approximation was, on account of the difference in size of the lumina, not as satisfactory as could have been desired. After completing the anastomosis, pressure on the ureter above caused a distension above the point of union. The ureter was also quite tensely stretched, owing to the removal of so large a section of it. A gauze drain was placed in contact with both anastomoses and brought out of the lower angle of the wound.

The patient made a good recovery, but was discharged with a persistent ureteral fistula.

CASE 5.—Ureterovaginal and vesicovaginal fistula, surrounded by dense scar tissue. Division of the ureter just in front of the uterine artery and closure of the vesicovaginal fistula. Recovery, with persistence of vesicovaginal fistula. (Gyn. No. 7569.) L. C., white, aged 46 years.

Diagnosis: 1. Adherent, myomatous uterus. Tubes and ovaries also adherent. 2. Ureterovaginal fistula. 3. Vesicovaginal fistula.

Complications: 1. Scar tissue involving the vaginal opening of the ureter. 2. Periureteritis.

Operation: (Twenty-four days prior to the present operation the patient had been operated on for complete laceration of the rectovaginal septum and at the same time an unsuccessful attempt was made to close the ureterovaginal fistula.)

After removing the uterus, tubes and ovaries in the usual manner, from left to right the stump of the cervix was grasped with tenaculum forceps and pulled up and to the right. The ureter was exposed just below the pelvic brim by pulling open the layers of the broad ligament. It was about two and a half times its normal size and injected, not white. The ureter was caught and dissected out by carrying the finger under it and pushing on down and freeing it forward without detaching it from the peritoneum. In this way the vessels crossing the ureter were brought up into view and tied without risk of involving the ureter. The ureter was then tied well forward just in front of the uterine artery and divided back of the tie. The bladder was now opened for 5 cm. in the median line and its interior inspected. It was found healthy and the vesicovaginal fistula was seen out by the left pubic ramus, 8x3 mm. The bladder was opened in the left cornu at a point near the ureter by introducing forceps and pushing the wall out at this point and cutting down on the forceps. The ureter was incised for 7 mm. and then drawn into the bladder by fine forceps passed in through the incision above and out of the hole made for the ureter. The ureter was then sewn into the bladder

opening with fine silk, grasping all but the mucosa in the bladder wall and ureteral wall.

The vesicovaginal fistula was closed by denuding the mucosa and uniting with fine catgut.

The incision into the bladder above was closed with a line of catgut sutures. A finger was thrust under the peritoneum on the left side, making a hole down to the ureteral anastomosis for an extraperitoneal gauze drain. The peritoneum was united over the ureter and the bladder and peritoneum closed entirely.

There was for a short time after operation some leakage from the bladder, a small amount of urine escaping through the abdominal incision via the drainage tract. This fistula closed entirely before the patient was discharged from the hospital.

A vesicovaginal fistula persisted after the operation.

CASE 6.—Ureter involved in a malignant tumor, resected above the pelvic brim; implantation of the upper end of the ureter into the bladder. Sudden death from unknown cause on the third day after operation. (Gyn. No. 7653.) Mrs. R. D., white, aged 67 years.

Diagnosis: Left cystoma ovarii with malignant disease at its hilum extending into the broad ligament.

Operation: 1. Hysterosalpingo-ophorectomy. 2. Ureterocystostomy.

When the cyst on the left side was brought out it was found to be anchored fast, the left broad ligament being infiltrated with a mass of dense nodules. It was impossible to expose the broad ligament and see the vessels, so I lifted up the sigmoid and cut the peritoneum over the pelvic brim on the outer side and dissected it up and exposed and ligated the ovarian vessels first 3 cm. above the pelvic brim, then on the ovarian side and cut between the ligatures. The left round ligament was then enucleated from the pelvic connective tissue, clamping the left uterine cornu and all bleeding vessels and lifting it up *pari passu*. The ureter, which was adherent to its under surface, was cut on the front of the broad ligament and posteriorly above the pelvic brim. The anterior end was about half the size of the posterior, small and delicate, and retracted out of sight, being found only at a later stage—after opening the bladder and passing a catheter down the ureter from the vesical end—when it was tied to prevent any possible reflux of urine. The entire uterus and the right lateral structures were removed.

The next step was the anastomosis of the ureter into the bladder. I did not try to bring the two ureteral ends together, as the front end was so small and restricted, and moreover the bladder could be brought farther back than could the vesical end of the ureter.

The bladder was loosened and pulled back on the left side until it touched the posterior brim of the pelvis. I then opened the bladder by an incision 5 cm. long in the median line anterior to the peritoneum. The urethral and ureteral orifices were seen and there was no disease in the bladder. The portion of the bladder which could be displaced farthest back toward the ureter was found anterior to the left vesical cornu. An artery forceps was pushed through at this point, catching the ureter and drawing it into the bladder. It was split 5 mm. and turned open and caught with four mosquito-forceps, and then sutured from the vesical side, catching the whole thickness of the ureter and the mucosa and submucosa of the bladder. In this way was accomplished a perfect attachment of the ureter without any narrowing of its lumen, which opened trumpet-like into the bladder. The incision into the bladder above was closed. The bladder was then drawn up and attached to the pelvic brim and to the sigmoid.

After operation there was some leakage from the bladder, as indicated by the escape of urine via the pelvic drain.

The patient died suddenly on the third day after operation from an unknown cause. Autopsy was not allowed.

DISCUSSION.

DR. L. H. DUNNING, Indianapolis—I was very much interested in the paper of Dr. Kelly, because it brings up so clearly a subject which confronts us occasionally in our operative work. I can see how the advice will be of assistance to us. Two years

ago, I encountered a case such as he described, but I was not provided with special instruments for the purpose of bringing the ureter into the bladder. I finally resorted to a very simple method, which enabled me to effect that purpose with very good results. The ureter in this case was displaced by a pelvic cellular abscess occurring seven weeks after confinement. It was carried over the top of the abscess and accidentally torn in the operation. I introduced a uterine sound into the bladder through the urethra, carrying it to the point nearest the severed ureter, cut down on it, carried it through, reaching the ureter, into which I introduced the sound. Then, I gradually drew the ureter into the bladder, and fixed it there without any stretching. That little device of carrying it over the end of the uterine sound is what made our operation easy. I encountered a case a short time ago, in which I desired to graft the end of a torn ureter into the bladder, although subsequently I was glad I did not do such grafting. It was a case of cancer of the uterus, with suppurative of one tube and ovary. During the operation we injured the ureter, and four weeks afterward, when the patient had recovered from the operation I desired by abdominal section to fasten the ureter into the bladder. I washed out the ureter a few times, hoping to clean out the pus which had accumulated there, in order to prevent infection of the kidney. We found the pelvis of the kidney already infected so that I desisted from doing anything more to the ureter. I think extirpation of the kidney was in that instance the proper procedure. It was accomplished with the most happy results.

DR. J. WESLEY BOVEE, Washington, D. C.—I did not hear all of Dr. Kelly's paper, but we all know the careful, scientific work that Dr. Kelly has done in this regional anatomy and pathology. The subject is one of considerable interest to me as I have spent much time on it in the last few years, having had a few cases of this kind. Many times this operation is necessary for cases other than accidental injury during the operations. A large proportion of injuries follow childbirth, as ureterovaginal fistula; a certain proportion are due to congenitally abnormal openings, abscesses rupturing into the ureter, tuberculosis and diseases of the ureter itself. I think there have been about 80 cases of ureteral anastomosis into the bladder, about equally divided between those due to injury and those due to disease.

Of the various operations I think uretero-ureteral anastomosis is the best. The next best is the switching of the ureter into the bladder; the next, into the vagina; the next, into the bowel, which is a much discussed question at the present time, and lastly, switching the ureter to the surface of the body. In the latter, infection is positive, whereas in implantation in the bowel there may not be any infection. The experimental work with the latter method is probably not as satisfactory on dogs as on the human being, owing to the small size of the dog's ureter. Then, too, we have no control over the animal after operation such as we would have over a patient. I think the extraperitoneal method of attaching the ureter to the bladder is better than the intraperitoneal, as it is practically a minor operation. The only danger, as Dr. Kelly mentioned, is the too great tension on the ureter. Pozzi found that in one of his cases ten months after an operation for hernia, the ureter was very markedly distended and at the junction of the bladder it was very much contracted. If there is too much traction on the ureter the caliber is decreased at the bladder junction.

Another point is to make the anastomosis as obliquely as possible. It is impossible to establish a condition anything like the normal, because of the little muscular structure running from the ureter to the orifice of the urethra, tending to pull down the mouth of the ureter as the bladder expands. About two years ago, in a case of cancer of the uterus, I found the ureter passing through a cancerous mass, and I removed the lower inch and a half, transplanting it into the bladder. That was a case of injury to the ureter and of transplanting it into the bladder by election. The patient is still alive and free from trouble. Dr. Polk, of New York, and Krause have performed this operation for the same purpose.

DR. KELLY, closing the discussion—In anastomosing the ureter in the bladder I follow one of two plans. I either bring the ureter in opposition with the vesical opening by using one of my guides, or I draw the ureter well into the bladder by means of a pair of alligator forceps suggested by Sanger for this purpose. The forceps are inserted through the urethra, and then through the bladder wall, and so used to pull the ureter into the bladder, when it is held and sutured there. I have a guide on the end of the forceps, in the form of a long tongue, which projects into the ureteral lumen, thus preventing any contraction of the ureter. The statistics are so meager that it is desirable to have all cases recorded, and I am sure there are many.

LESSONS FROM A FIRST SERIES OF ONE HUNDRED CATARACT OPERATIONS.*

F. T. ROGERS, M.D.

PROVIDENCE, R.I.

The man who fails to study his case records, and thus gain confidence by reason of his successes and profit by his failures, does not take advantage of the best way of perfecting his medical education, begun in college; he is at his graduation but ready to learn. The successful physician is one who appreciates this fact and finds in each case fresh instruction, in each success added confidence, in each failure a warning of incomplete preparation.

It is neither because I can add to the sum of human knowledge by a recital of personal experiences, and instruct this Section concerning the technique of cataract extraction, nor gain personal glory or added notoriety that I report these cases, but because during six years of attendance at these meetings I have not heard adequately discussed the results of cataract extraction from a beginner's standpoint.

Masters of operative skill have reported their cases by hundreds. We are wont to listen with admiration to their recital of good results, but aside from the incentive to renewed exertion we gain little practical good. I am speaking to-day to the younger element, the tyros of operative skill, in the hope that profit may result to them from the discussion of evident mistakes and the bad results obtained just as I have personally gained by a study of these records.

I am at the start impressed by one fact, that a certain proportion of the bad results I have obtained has been due to the poor selection of cases. The young man beginning operative work is apt to allow his judgment to be warped by his desire for another operative case. The eagerness to operate overcomes the possibility that a successful result will not be obtained, and when but moderate vision is secured it may be due to the fact that the vision was not there as well as to some fault of the operator.

I am convinced that not enough attention was paid to the general condition of the patient, and that the ideas advanced before this Section three years ago by Dr. Knapp in regard to the effect of any systemic disturbance on the ultimate result were not sufficiently impressed on me at the time. The existence of bronchitis, nephritis and rheumatism in patients undoubtedly influenced the healing process, although prior to the operation this did not seem important.

If, however, we operate upon patients to benefit them and not to gain a record for perfect vision, even partial success is to be desired if it ameliorates the condition

and improves in any degree the vision of the patient. The operator who can change total blindness to even ability to get about, is deserving of some credit. As an evidence of this I cite one case:

CASE 52.—Mrs. M. W., 64 years of age, suffered, in 1896, from acute glaucoma of the right eye, for which an iridectomy was done five days after the onset of the disease, when the patient was first seen; but the resulting vision was nil. L. V. was at that time 0.5 with +1.50. Two years later glaucoma of the left eye occurred, for which an iridectomy was done within twenty-four hours with relief of pain and slight improvement of vision; but within a month the lens became opaque and the patient totally blind. There was good perception of light but poor projection and I decided to operate for possible relief after a frank statement to the patient of the possibilities of failure.

An easy extraction with dense capsule and a secondary dissection gave her an ultimate vision of 18/200 with +13, and her later years have been rendered happier, at any rate. Although by current rating this operation can not be classed a success, to my mind it is one.

The series includes operations upon the following:

Senile cataracts of varying degrees of maturity.....	92
Traumatic cataracts	2
Congenital cataracts.....	5
Soft cataract.....	1

The preparation of the patient has included the careful cleansing of the lids, lashes and brows with soap and water and a solution of bichlorid 1 to 5000, and in hospital cases the application of a bichlorid poultice for twelve hours before operation. When any secretion was noted on its removal the operation was delayed until the existing trouble had been treated. Cocain was used in all cases except four congenital cataracts, and just before operating the eye was flushed thoroughly with a warm solution of boric acid. The instruments were sterilized either by steam or formaldehyde and placed in absolute alcohol, and all dressings were rendered sterile by steam. I have no knowledge that any eye was lost by reason of carelessness in the preparation of either patient or instruments.

The after-treatment was in the ordinary room or ward and with a subdued light, but without darkening it; with few exceptions all dressings during the first week were done by myself. The results in acuity of vision were as follows:

Vision of 1.0, 6 cases; vision of 0.9, 7 cases; vision of 0.8, 14 cases; vision of 0.7, 12 cases; vision of 0.6, 7 cases; vision of 0.5, 14 cases; vision of 0.4, 9 cases; vision of 0.3, 7 cases; vision of 0.2, 3 cases; vision of 0.1, 8 cases; count fingers, 3 cases; light perception, 4 cases; nil, 5 cases. Total, 100 cases.

This shows an average vision of 0.502 and, if 0.1 be assumed as useful vision, 88 per cent. of successes, 3 per cent. of partial success and 9 per cent. of failures.

The operative procedure was: Simple extraction, 18 cases; extraction with iridectomy, 66; extraction following preliminary iridectomy, 8; needling, 7; suction, 1; total, 100.

Concerning the method of operating, I am convinced that difficulty in making a clean corneal section has been increased and the success of the operation endangered by insufficient illumination. Once, I have been obliged to withdraw the knife and postpone the operation on account of inability to see the blade distinctly when introduced into the anterior chamber. I believe that a routine practice of illuminating the field of operation by a condensing light, electricity in the hospital

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and an acetylene light in private houses, is a decided help to success. Outside of special hospitals it is difficult to gain skilled assistance and the surgeon is compelled to rely on himself. It has happened in my earlier cases that, while the fixation forceps were held by an assistant, interest in the operation frequently distracted his attention from his own duties so that undue pressure was made with the forceps; hence for several years I have not used an assistant but, holding the fixation forceps myself, I am able to make counter-pressure against the knife and thus aid its introduction and exit.

A conjunctival flap was made in twelve cases, but there was so frequently a hemorrhage which obscured the field of operation that I have not lately used it save when accidentally made. In a large majority of cases the knife has, just before the completion of the section, been turned outward and the exit made in clear cornea about one millimeter from the sclerocorneal margin. Although such a section, it is stated, is more likely to entangle the iris and more liable to primary or secondary infection, it has not proved so in my experience. I have found the flap to close accurately, prolapse of the iris has been less frequent and I have seen no reason to discard the practice save that it is not advised in the books.

After the corneal section I remove the speculum, and make the cystotomy while holding the upper lid by pressure over the orbital arch. My losses of vitreous—seven cases—all occurred with the speculum in place. The accident has not occurred when the lid has been held.

Cystotomy has been made by the semicircular and crucial incision, and I am unable to detect any difference in the ease of extraction or the resulting condition of the iris and capsule. Simple extraction was done in but eighteen cases, the combined operation in sixty-six cases, and I am led to prefer the method with iridectomy for the following reasons:

1. In one sense it simplifies the operation, rendering it easier to expel the lens and soft cortical matter through the large coloboma, and lessens the frequency of secondary cataracts.

2. There is less danger of prolapse of the iris.

3. The clean excision of the iris is no more likely to cause inflammatory action than the traumatism to which it is subjected by the expulsion of the lens in simple extraction.

4. It requires less skill and delicacy of touch, and thus lessens the danger of complications.

5. With care in replacing the angle of the excised iris and any bits of capsule, there is no greater danger of incarceration in the lips of the wound.

6. It does not materially affect the mobility of pupil.

7. While the cosmetic effect is not so perfect as in the simple extraction, the upper lid so completely hides the coloboma that, even if the cosmetic effect was the desideratum instead of acuity of vision, there would be little in favor of the simple method.

8. Visual acuity is nearly the same; according to Gayet it is the same. In my cases the average vision in the cases of simple extraction is 0.48 and in the combined operation is 0.47. The proportion of complications in the two methods was as follows:

	Uncomplicated.	Prolapse of Iris.	Iritis.	Visual Acuity.
Simple operation; 18 cases	10 cases, 55 per cent.	5 cases, 27 per cent.	5 cases, 27 per cent.	48
Combined operation; 66 cases	37 cases, 57 per cent.	1 case, 1.5 per cent.	14 cases, 21 per cent.	47

The combined operation has its drawbacks: It is prolonged, more painful and possibly increases the danger of infection, although with the means at our command this is reduced to a minimum, but to the average man it is safer and gives as good or better results.

The ideal operation is the one with the preliminary iridectomy, and in eight cases where this was done there was uncomplicated healing in seven. Personally I am of the opinion expressed by many authorities that had I a cataract requiring operation I would have a preliminary iridectomy; one can hardly give better advice to a patient than that which he takes himself.

Artificial ripening of the lens was done in five cases, and was in every case entirely satisfactory. Preliminary iridectomy with gentle massage of the cornea sufficed to render the lens mature in from three to six weeks, and the extraction was invariably easy and satisfactory. The resulting vision was 0.3, 0.5, 0.9, 0.5, 0.7.

The suction operation was done once, with resulting perfect vision. The needle operation was done seven times with resulting vision of 0.3, 1.0, 0.9, 0.5, 0.6, 1.0.

Secondary discission was done in twenty-seven cases with a maximum increase of vision of 0.8, a minimum of 0.1 and an average of 0.4. Following the secondary operation there developed in four cases a mild iridocyclitis, in three a severe attack, but in all there was in time a complete subsidence of all inflammatory action.

Failure to obtain useful vision occurred in twelve cases. Of these, three are able to get about with difficulty, four have bare perception of light, and in five the eye was lost. This unfortunate termination occurred as follows:

CASE 6.—A female patient, 65 years of age, was operated on at St. Joseph's Hospital. The modified Graefe operation was made without difficulty, and until the sixth day recovery was uneventful. She was treated in the open ward and on the evening of the sixth day a new patient was admitted and placed in the next bed. During the night a large psoas abscess was evacuated and the bed and bedding were well soaked with pus. Forty-eight hours later there was swelling of the lids, chemosis of the conjunctiva, and, in spite of treatment, panophthalmitis developed and phthisis bulbi resulted.

CASE 38.—Simple extraction in a woman of 60 years. On removing the dressings on the second day there was found beginning panophthalmitis, and the eye was lost. I have no knowledge of the source of infection, save possibly this, that the operation was done in the presence of a number of physicians who were visiting the hospital and one had come directly from a case of puerperal septicemia.

CASE 66.—Modified Graefe operation was made on a man of 75 years and in poor health. The operation was smooth, and aside from slight iritis there was an uninterrupted recovery but no vision. Examination showed almost complete detachment of the retina; it probably did not occur after the operation and it was an error of judgment to operate the case, although it may have occurred at the time of the extraction of the lens.

CASE 89.—Female, aged 71 years, underwent a smooth operation and perfect convalescence until the eleventh day, when there was noted a slight puffiness of the lids with beginning chemosis of the conjunctiva. The dressings, solution of atropin and droppers were taken immediately to the state laboratory and were pronounced sterile, but the eye was lost in forty-eight hours. Examination of the purulent discharge showed a small rod-like bacillus of great activity which rapidly affected the

culture-medium, but gave no intimation of the source of infection.

CASE 94.—Male, aged 84 years, had the wound infected on the second day, and ten days later enucleation was done. This case was undoubtedly infected by the unclean fingers of the patient, as he tore the bandages from the eyes and rubbed them violently the first night and was so unruly that no covering could be kept on the eye.

Of the four cases resulting in perception of light two may be designated as accidents pure and simple.

CASE 9, was a simple extraction of soft cataract. The operation was done in a boarding-house and the patient was on the third floor. During the night while the attendant was asleep he arose from the bed and went down the three flights of stairs to an out-house in the yard. Returning in apparent safety he miscounted the stairs and turned into the room on the second floor just under his own, and groping his way he deliberately crawled into bed with a man and his wife. Aroused from sound sleep by this unwelcome intruder the occupant of the room seized the patient by the collar, marched him to the door and calmly kicked him downstairs. The next morning I found the wound open and a large hernia of the vitreous. Recovery was slow but without useful vision.

CASE 26.—On the seventh day while making an uneventful recovery, a fly crawled into the nose of the patient and caused a violent attack of sneezing. The wound was opened with loss of vitreous and a resulting iridocyclitis, which resulted in a blocked pupil and although two attempts were made to improve the vision by dissection and an iridotomy the result was not favorable.

In Cases 20 and 60, iritis of a severe type on the fifth and sixth day produced a tedious convalescence and blocked pupil.

CASE 91.—Male, 69 years of age, was referred to me by another oculist with a request that I operate on him in the hospital. The patient was not seen until on the table, when I found a large fleshy pterygium on the cataractous eye. Although my judgment was against operating, I finally did so, making the corneal section somewhat obliquely so as to avoid the pterygium. A severe keratitis developed and the ultimate vision was for large objects.

CASE 88, was a hospital patient of exceedingly filthy habits, and there was an infected wound. Hot fomentations and the persistent use of pyoktanin checked the destructive process so that the eye was saved, but without useful vision.

Similar infection of the wound occurred in two other cases, one in private and one in hospital practice: The first was infected by the finger of the patient on the tenth day and, although the wound was infiltrated and the cornea like ground-glass, faithful and persistent use of hot fomentations and pyoktanin finally controlled the process and gave an ultimate vision of 0.8. The second case was infected on the fifth day and the vision for a week reduced to bare perception of light. Under the same treatment the vision finally gained was 0.6. Various minor accidents occurred which were annoying to both patient and operator, but did not materially affect the ultimate vision.

From a careful study of these cases and from experience gained in my first hundred operations on the lens, while perhaps not befitting me to give advice to others, I am able to draw the following conclusions which will at any rate guide me in future operative work:

1. More attention should be paid to the general condition of the patient, and the presence of any systemic disturbance should influence the prognosis.

2. All operative procedures on the crystalline body should be done under the best possible illumination.

3. Providing that it is large enough, the exact site of the corneal section does not materially influence the result.

4. The combined operation is the safest and the easiest for the operator of limited experience.

5. The most frequent complications, iritis and iridocyclitis, should be combated by the early instillation of atropin, and their existence does not necessarily prevent an ultimate good result.

6. Dissection of the capsule can be done with comparative safety and materially increases the acuity of vision.

7. Infection of the wound does not in all cases destroy the sight, and careful and assiduous treatment may save an apparently doomed eye.

8. The experience gained in the first series of operations has, besides improving the technique of operation, impressed me profoundly with the possible dangers which may arise and will prevent me from advising operative procedures so freely as I have done in the past without a frank statement to the patient of the possible outcome.

9. For some reason, which I hope will be brought out in the discussion, I have had more iritis in these cases than I should, but whether due to defective skill in operating or insufficient care in the after-treatment I am unable to decide.

DISCUSSION.

DR. E. E. HOLT, Portland—I have been very much interested in this paper and I think we should all welcome reports of cases carefully taken down and the deductions made from them. When I began practice 25 years ago I found no satisfactory book for making records of eye cases and I devised one so that I could have a record of all cases, but I have made but few compilations therefrom, which is contrary to the resolve I made early in my practice. When I mention, however, that I have founded an eye and ear institution and begged and handled several hundred thousand dollars to build it and carry it on I think you will excuse me. I find, however, that in the records of the Maine Eye and Ear Infirmary I have operated some 500 times for cataract and in my private practice I think I have done as many more, so my experience is based on about a thousand operations for cataract.

In opening the discussion on this paper I am reminded that in the American Ophthalmological Society, when we have listened to a paper on cataract, it is passed by without discussion because members say there is so much to be said and no one is willing to undertake to start it. I shall confine my remarks to my personal experience.

In the preparation of a case for cataract operation I like to get acquainted with the patient and have him under observation at least a week before I operate, see that the bowels are all right and have him take certain baths and remedies that may be indicated. I have the face washed and all parts adjoining the face cleansed in bichlorid, and the conjunctival cul-de-sac washed out with a 1 to 5000 solution of bichlorid for a week or more before operation. I also look after the lachrymal sac, syringe it out with antiseptic solutions if need be, and examine the nasal cavity and mouth to remove all possible foci of infection. I like to use some weak mydriatic in order to examine the lens, to estimate its size and determine as well as I can how large a corneal section I shall make. I admit this is very difficult to determine in some cases, as we find some larger lenses than we anticipate. In my early career I operated with ether and did the modified Graefe operation with an iridectomy. For the last ten years or more, however, I have done the simple operation without iridectomy as a rule.

making the puncture and counter-puncture just at the corneal margin, and I like to make a small conjunctival flap, for I think I am less likely to get prolapse of the iris. In changing over from operating with iridectomy to operating without it I found that I had to learn a new technique, and one of the most essential points to observe is, after making the cystotomy, to make pressure on the lower border of the lens to tip the upper part forward and prevent its sliding up under the iris. In my early career I always practiced on the mask with pig's eyes before attempting an operation, and I think that it is very important for the young operator. I am sure I performed more than a thousand operations on pigs' eyes before I did many cataract operations on the human eye. The young man has plenty of time to do it and it gives him confidence in his hand and forearm, and when he has to operate he will do the operation very much better. I was very much pleased some time ago when I saw a book written on that subject, though I can not recall at this moment the name of the writer.

I used to wash the anterior chamber out when there was any amount of cortex left. I should not hesitate to do that now, although I think there is apt to be some irritation from it, but I do not find the occasion for it as I used to. I think the normal-salt solution sterilized is better than the pure water for this purpose. In dressing the eye I have for a long time been putting cotton over the eye and using isinglass plaster to hold it in place. Fifteen years or so ago I used a shield made of wire and also of pasteboard, but I abandoned them, for in my practice I thought I got more prolapses of the iris when I used them than when I did not. They are apt to become irritating to the patients and they make efforts to move about, causing spasms of the muscles, and, by the way, I think prolapse of the iris is more frequently caused by muscular contractions and spasms than by external violence.

When Dr. Ring brought out his eye shields I tried them, but I again abandoned them for the same reason I had before.

DR. R. L. RANDOLPH, Baltimore—I hope this paper will elicit some discussion as to the technique to be pursued in these cases. I have long maintained that the eye is endowed with natural powers that make it unnecessary to use bichlorid douches before the operation. While I am not prepared to say that its use in Dr. Rogers' case had anything to do with the iritis, I do not think he would have had any more iritis if he had abandoned the use of the bichlorid. I think the eye, more than any other part of the body, is endowed with antibacterial properties, and I make it a rule to use no bichlorid solution whatever. In the first 100 cases I reported I did use it; in the second 100 cases reported a few years ago, I used nothing, but simply sterilized my instruments and used sterile cocaine. I would like to ask Dr. Rogers if he sterilized his cocaine in these cases.

I am surprised to note the number of cases where he was successful in maturing the cataract. I have tried in ten cases, but succeeded only in one. Lately, I have abandoned cocaine also in these cases and never use anything but holocain.

DR. W. B. MARPLE, New York—I should think it would be interesting in connection with Dr. Randolph's remarks to know from the different gentlemen here whether or not they irrigate the eye before operation. Since Dr. Randolph's paper of a few years ago, I have used nothing but the sterile salt solution, and I would like to know if there are many who use no irrigation at all. Irrigation with some sterile non-irritating solution seems to me to be in many respects of decided advantage.

DR. ALBERT E. BULSON, JR., Fort Wayne—Aside from the general interest which a paper on cataract operations excites, this paper becomes of interest because the essayist recounts his failures and successes, with reasons therefor.

The point which I wish to make in discussing the paper is that, with the average operator, a preliminary iridectomy is usually unwarranted. It has always appeared to me to be an unnecessary risk to open the eye twice for the purpose of removing an opaque lens. The average ophthalmologist does not exceed fifteen or twenty cataract operations a year, and as every one of these cases must of necessity carry its weight of praise and blame, and as it is practical results which all patients desire, it behooves the operator to secure the best possi-

ble results as a minimum risk. In spite of the most exacting efforts to have an aseptic operation, occasions will arise in which infection alters what otherwise might prove to be an ideal result, and opening the anterior chamber twice paves the way for such a complication. I have never felt that the results with preliminary iridectomy averaged any better than the results with iridectomy at the time of extraction, and the patient certainly objects to two operations when one may be fairly stated to do as well.

I believe the combined operation for the average ophthalmologist to be, not only the easiest, but the best for securing practical results. It is usually attended with fewer complications, and but few patients will complain of the cosmetic effect, the main desire being to get vision, and it is this which brings out their praise.

DR. J. L. THOMPSON, Indianapolis—These reports appeal to most of us because there are very few of us now that see as many cases as Knapp, or the Baltimore physicians, and very, very few of us get more than twenty-five cataract operations a year. I feel that one of my failures used to be due to the manner in which I used the speculum. That seems to bother a good many of the beginners. I used to open it very widely, but now I open it just as little as possible, to give enough room to work on the eye. Of course, I began when there were no antiseptics in use. In regard to cleaning the wound, I notice, if you go to Knapp's clinic, for instance, the great pains he takes to clean the wound and to put the iris back just as carefully as possible, but the beginner feels that he had better leave well enough alone, and he does not want to work over the eye too much.

I do not recall one case I ever lost where I made a preliminary iridectomy. We have so many cases where just a plain extraction of the cataract is out of the question on account of the small cornea; the deeply sunken eye, the shallow anterior chamber, etc. I would like to advise the beginner to learn to use both hands and to do an iridectomy.

DR. LUCIEN HOWE, Buffalo—I want to call attention to one point in regard to the difficulties with an assistant, and the necessity of having some one who rotates the eye or fixes it without pressing on it. Some years ago I presented a small pair of autofixation forceps, and I want again to call your attention to the advantage of not having another brain to depend on, but in having one's own fingers only involved in the operation. The little forceps on the speculum fixes the eye perfectly, and acts as our third hand.

YELLOW FEVER; ITS NATURE AND CAUSE.*

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From the earliest history of yellow fever in our country there have been evidences of its having been imported from some foreign place, usually the countries to the southward within the tropics. This importation has usually taken place during the prevalence of warm weather in the spring, summer or fall months, and could be traced to one of the intertropic endemic centers. During cold weather, the disease would disappear either entirely or to a great extent.

Its continued presence, however, from year to year in some of our southern cities, and its recrudescence with the advent of the warm weather of the spring, following its epidemic presence during the summer, induced numbers of prominent observers to believe that this disease was indigenous to our southern latitudes, and, like malarial infections, depended on unsanitary conditions.

The cessation of the fever following the institution of an adequate system of maritime quarantine protection for our southern seacoast cities, against such importa-

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tion, was the convincing argument that it was essentially exotic. The continuance of an epidemic invasion of these latitudes depended invariably upon the continuance of heat and moisture, so much so, that close, humid and sultry weather became known as "yellow fever weather," for under such conditions the disease propagated more rapidly and became more fatal; while on the other hand, dry, temperate weather has been known to induce a cessation of the disease before the advent of colder weather. The appearance of the cold season has invariably been followed by a marked diminution in the number of cases at any center, endemic or epidemic; and those instances recorded of this disease, during cold weather, in temperate latitudes must have depended upon some special feature of exposure. As a matter of fact, they have been recorded in cities of the Northern States where the first hint of winter is sufficient to determine the almost perfect closing of houses against cold, and therefore, the enclosure of the specific organism in an atmosphere sufficiently warm to allow the propagation of the disease from person to person. In southern latitudes this barricade against frost is not nearly so complete, and it is not unusual for such communities to be caught unprepared for winter; within the infected homes, therefore, the germ is as much refrigerated as it would be out-of-doors. Isolated recrudescences, however, indicate that through special agencies the organism may pass safely through the season of frost, and produce the disease, under conditions of increased temperature. These deviations from the normal history of yellow fever are so infrequent that it is evident they depend upon such special influences.

Within the tropics the disease is endemic under similar atmospheric conditions to those which determine its epidemicity, i. e., heat, moisture and unsanitary environment, the presence of *témoins* contributing to its endemic duration. In such centers the advent of cold weather, scarcely ever so frosty as 40 F., is followed by a notable cessation of yellow fever; and it is a clinical fact that during such seasons of cessation, as in the city of Havana, the cases which do occur are well marked and frequently have a fatal termination.

Such is the natural history of this scourge of the tropics, *bête-noire* of the southern states contiguous to them; it is that of an acute infectious malady, dependent upon an etiologic entity which exhibits a marked susceptibility to changes of temperature, this susceptibility finally causing the disappearance of the disease.

Yellow fever has also presented a uniform complex of symptoms which has served to distinguish it clinically from the other infections. Its onset may be either precipitate, or heralded by a series of prodromes such as are common to these infections. The course and termination of the disease do not seem to be in direct sequence to the onset: the precipitate cases becoming benign, and the mild onset frequently followed by the gravest symptoms.

In a characteristic case the temperature rises to its maximum within the first twenty-four to thirty-six hours; the pulse rising at first in proportion to the temperature. This, however, does not continue and there ensues a remarkable reduction of the pulse-rate, at the same time that the temperature continues to rise, or remains at its acme.

This is the first symptom in yellow fever that is of intrinsic value in the diagnosis of the disease. It was clinically recognized by early observers, but it was not until the introduction of the clinical thermometer enabled the older Faget to accurately chart the temperature

range, that this remarkable phenomenon was fully recognized to be of diagnostic importance. Faget established *avec l'aide de la montre et du thermomètre* the law of the non-correlation of the pulse and temperature, and it has been recognized, by all conversant with the disease, as of inestimable value in its diagnosis.

The prodromal symptoms of the infection, such as cephalalgia, rachialgia, pain in the eyeballs, the slight yellowing of the conjunctiva and sclera, can be of only slight differential value. However, with the undoubted presence on the clinical chart of the phenomenon of Faget, the case assumes a more serious aspect, and the diagnosis will probably be confirmed by the later symptoms.

The next clinical feature of importance is also connected with the temperature chart. Upon the second or third day of the disease, it is usual for the temperature to decline, and there is a more or less marked remission, at times an intermission, of fever. There is no fixed time for the appearance of this fall in the temperature, but it is so confidently anticipated by clinicians of epidemic and endemic centers, that its non-appearance has often caused them to diagnose the malady as an infection of an allied nature.

The fall in temperature may be of one or two degrees, or it may reach the normal, or pass below it. Under all circumstances it is accompanied by a notable alleviation of the distressing symptoms, the patient entering a period of comparative calm, which may last from one to many hours. Indeed, it is possible that convalescence may be established at this stage, but in the characteristic type under consideration it is soon followed by an exacerbation of the temperature, which may rise even higher than during the "first paroxysm," and an exaggeration of other symptoms. The patient enters now upon the "third stage" of the disease, or into the "second paroxysm" of the fever, the paroxysms being separated by the "period of calm," or "second stage" of the disease.

This phenomenon presenting the two accessions of temperature, with a decline, the period of calm, separating them, has been recognized by southern clinicians as the most characteristic of all the symptoms of yellow fever; and it may be recognized, as outlined here, in all cases lasting from three to eight days. These variations of the temperature forming the three periods, or stages, of the fever have heretofore been regarded as inexplicable from a clinical standpoint, although many eticians have advanced theories which did not satisfactorily account for them.

Among the clinical phenomena should be mentioned the "black vomit" encountered in this disease with such constancy as to name the disease in some countries "*vomito negro*;" also that phenomenon encountered post-mortem, the extreme steatosis of the liver cells, which transforms the organ into a friable, yellow tissue incapable of performing its functions, and from which arises the icterus, or yellow skin, giving the well-known name to the disease. Other organs are involved but in them there is no special change characteristic of the malady.

Cases of yellow fever have been divided into three classes or varieties, the ephemeral, the grave, and the *siderante* or fulminantly fatal cases. The first class comprises cases exhibiting a slight toxic attack, ending in recovery in from two to three days or less. They are with difficulty diagnosed because of their resemblance to other infections of less gravity, and have been likened to a "slight cold." To this class belong the acclimatization fevers of the tropics. The second class embraces all grave cases of the type already described as presenting

the characteristic symptoms. The third class are those rapidly fatal cases in which death ensues before the appearance of many of the characteristic symptoms, but in which acute fatty degeneration of the liver is always found, together with a most pronounced paralysis of the vasomotor constrictors, as evidenced in the marked visceral congestions and the intravisceral hemorrhages. These are the clinical and pathologic peculiarities which, with the natural peculiarity of the disease mentioned above, must be correlated with the phenomenal powers of the organisms said to be the cause of the disease.

THE CAUSE OF THE DISEASE.

Since the bacterial origin of yellow fever became a probability through the discoveries of Koch, Fränkel, Löfler, Eberth and others in the domain of the acute infections, there have been numerous organisms announced as its cause. In 1885 Domingo Freire, of Brazil, and Carmona y Valle, of Mexico, announced the discovery of the infecting organism, and in 1887 two announcements were made from Havana, by Finlay and Gibier, who isolated totally dissimilar organisms from the cadavers of yellow-fever patients.

The proofs advanced in support of these claims were not convincing, and during 1888-9 the question was thoroughly investigated by Dr. G. M. Sternberg, of the army medical corps, who was detailed to this duty through the Surgeon-General M. H. S. His report¹ was made in 1890, in which he stated, after careful and exhaustive research into the merits of these claims, that "among the micro-organisms encountered there is not one which, by its constant presence and special pathogenic power, can be shown to be the specific cause of the disease," and further, that with the most approved facilities at his command he had not been able to discover an organism in the blood of those ill from yellow fever, and expressed the decided opinion that the infectious germ, if a bacterium, would require for its detection other aids than those which he had employed. Incidentally, he suggested the possible etiologic value of his bacillus "X," isolated at Havana, since it had proved pathogenic to animals, with the production of the morbid anatomy found in men dead from the disease.

These observations of Sternberg made a profound impression on the professional mind of this country, and, without doubt, acted as a deterrent to further investigation. Indeed, I recall the personally stated opinion of one of the most distinguished bacteriologists of the day, that the disease, in view of that report, was scarcely one of bacterial origin, but that the cause might be a plasmodium, and he suggested freezing the bodies of victims of this disease, immediately after death, in order that section might disclose the pathologic conditions unchanged, and possibly also the infecting cause. When, in 1897, Giuseppe Sanarelli published the account of his work in yellow fever², there at once arose a murmur of surprise and incredulity, so fully had our minds been imbued with the value of the statements made by Sternberg in 1890. Dr. Sternberg himself at once assumed the defensive, and antagonized the statements of Sanarelli as casting reflections upon his own work, and he insisted upon the identity of his bacillus "X" and the bacillus *icteroides*, assumed by Sanarelli to be the cause of yellow fever.

This was the state of affairs when the epidemic outbreak of the disease in Mississippi and Louisiana in the fall of '97 enabled the Surgeon-General of the Marine-Hospital Service to detail officers from his own corps to investigate its etiology. For this purpose he detailed P. A. Surgeon H. D. Geddings and myself to the isola-

tion hospital of the city of New Orleans, and later, at the direction of the President, to Havana, Cuba.

The results of the work of that commission were embodied in a report³ to the President through our Surgeon-General, dated July, 1899. The conclusions arrived at by the commission, as therein stated, are as follows:

1. That the micro-organism discovered by Prof. Giuseppe Sanarelli, of the University of Bologna, Italy, and by him named "*bacillus icteroides*," is the cause of yellow fever.

2. That yellow fever is naturally infectious to certain animals, the degree varying with the species; that in some of the rodents local infection is very quickly followed by blood infection, and that, while in dogs and rabbits there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man.

3. That infection takes place by way of the respiratory tract, the primary colonization in this tract giving rise to the earlier manifestations of the disease.

4. That in many cases of the disease, probably a majority, the primary infection or colonization in the lungs is followed by a "secondary infection," or a secondary colonization of this organism in the blood of the patient. This secondary infection may be complicated by the instantaneous passage of other organisms into the blood, or this complication may arise during the last hours of life.

5. There is no evidence to support the theory advanced by Professor Sanarelli that this disease is primarily a septicæmia, inasmuch as cases do occur in which the bacillus *icteroides* can not be found in the blood, or organs in which it might be deposited therefrom.

6. That there exists no causal relationship between the bacillus "X" of Sternberg and this highly infectious disease; and that this bacillus, "X," is frequently found in the intestinal content of normal animals and of man, as well as in the urine and the bronchial secretion.

7. That, so far as your commission is aware, the bacillus *icteroides* has never been found in any body other than of one infected with yellow fever; and that whatever may be the cultural similarities between this and other micro-organisms, it is characterized by a specificity which is distinctive.

8. That the bacillus *icteroides* is very susceptible to the influences injurious to bacterial life, and that its ready control by the processes of disinfection, chemical and mechanical, is assured.

9. That the bacillus *icteroides* produces *in vitro* as well as *in vitam*, a toxin of the most marked potency; and that, from our present knowledge, there exists a reasonable possibility of the ultimate production of an antiserum more potent than that of Professor Sanarelli.

Does the bacillus *icteroides*, therefore, fulfil the demands of modern bacteriology; and does it offer an explanation of the clinical and natural history of yellow fever?

In the report of 1899 the Commission affirms the isolation of this bacillus from the blood of 13 of 14 patients in whom the disease was clearly recognized, that is to say, in whom the typical phenomena of the disease were present, or in 92.85 per cent.; in those dead from the disease it was isolated from the blood and organs in 85.7 per cent. Sanarelli had predicated his discovery of the cause of the fever upon the presence of the bacillus *icteroides* in about 55 per cent. of his cases living and dead⁴.

Our cultures thus isolated were pure, and in no instance was a contaminated culture allowed to enter our computations. These cultures were each retained and are still in evidence. Introduced into animals susceptible to them, they each produced illness and death, the morbid anatomy being similar to that of man dead of the disease.

The organism is always found in these artificial infections, as it is in the septicæmic cases in man, distributed by the blood-current in the organs.

Moreover, the chemical products of this organism introduced into animals produce the symptoms of the dis-

ease, and furnish the pathologic changes peculiar to it. Sanarelli made use of the soluble toxins of the germ in an experiment carried out upon some nine imbeciles, otherwise healthy, who were under the care of a civic institution. Of these helpless ones nearly all reacted to the intravenous injections of the toxins; in a few there were evident signs of profound toxemia with symptoms of the disease; and in at least one case death must have ensued, the autopsic findings being those of yellow fever.

It would appear therefore that the bacillus *icteroides* would require no further proof of its pathogenicity; that its etiologic rôle is patent, since it has fulfilled the demands of bacteriology as laid down by Robert Koch.

After the Report of 1899, and just prior to its issue, there were a number of voices raised against the acceptance of the bacillus *icteroides* as the cause of yellow fever, mainly because of its close cultural relations to many other organisms known to be infectious in their nature²; and because of its behavior in the presence of changes of temperature³.

Taking the experimental work of Sanarelli under consideration, during my work in Havana, I soon became convinced that he had fallen short of proving his position in regard to the etiology of the disease, and that the contention of Sternberg, in favor of the specific influence of bacillus "X," was a very valid one, since bacillus "X" was frequently isolated from the yellow-fever carriers at our disposition, and at times from the living blood, and since this bacillus, and its toxin, acted upon animals in artificial infection in a manner strikingly like that of the bacillus *icteroides*. But Sternberg seemed to have lost faith in his organism, and withdrew it from further consideration before I had fully determined, by experimentation, its lack of specificity.

All that Sanarelli had proved in his mémoires was the presence, in one-half of his cases, of an organism not before described in yellow fever; that it possessed powers pathogenic to animals by artificial infection; and that its toxins had proved toxic to man and animals, the lesions produced resembling those of yellow fever.

These facts were applicable to the peculiarly motile, highly pathogenic organism of the colon group, found freely by us in cases of the disease, and which corresponded perfectly to Sternberg's bac. "X." I was therefore compelled to attempt a differentiation of these bacilli. They were both pathogenic in animals; were they infective to them also? Introduced into their tissues, or into their blood, the reactions were very similar; they produced acute sepsis, with a profound influence upon the vasomotor constrictors, the paresis of which was, in all cases, followed by intense congestion of the organs, especially the cavernous ones, in which lack of support tended to free hemorrhages, notably the stomach—"black vomit"—and the intestines—"black stools." The parenchyma of the organs suffered from fatty degenerations, and necrosis. The onset of symptoms and death seemed to be in direct ratio to the amount of culture injected; there could scarcely be determined any cycle of disease in the case of either organism.

The differentiation of the organisms could only be accomplished by a series of experiments with susceptible animals naturally exposed to their infective influence, and to do this I exposed white mice, susceptible to most infections, to bacillus *icteroides*, and bacillus "X," in pure culture, as well as to a common colon organism, and that of Havelberg, who had announced its discovery some time before. The same conditions were maintained for all the mice thus exposed, the organism be-

ing placed in their grain. In a given time—8 to 10 days—all the mice, 19 of them, exposed to the bacillus *icteroides* became infected, and all died except one, which recovered after a severe illness. Of those exposed to bacillus "X" not one sickened or died. Those exposed to bacillus *coli communis*, and to the bacillus of Havelberg remained perfectly well.

From those infected by bacillus *icteroides*, it was determined that its incubation took place within five days, the usual incubative period of yellow fever; and that its cycle was that of the septic type of the disease in man, or of 5 to 8 days' continuation. The autopsies in these cases were typical of those in man. Of other animals, guinea-pigs resisted the natural infection, which was a surprise in view of the active reaction of this rodent to artificial infection. Rabbits reacted readily to natural infection, and in case of death gave characteristic autopsies. They developed the fact, however, that in them the blood does not become invaded; that is, that the colony of bacillus *icteroides* remains entirely local to the lung tissue, and sepsis does not take place. Dogs react readily also to the inhalation of the bacillus *icteroides*, and are invincible to the germ placed in their food, or in the small intestine beyond the acid stomach. In them also there is no secondary invasion of the blood, absolutely no sepsis, the necroses presenting typical pathological appearances. Monkeys are susceptible to the inhalations of bacillus *icteroides*, and present a picture of suffering from symptoms of yellow fever very similar to that of man. In this animal the secondary invasion of the blood on the third day of the disease was demonstrated by careful planting of minute quantities of blood daily from the commencement of the symptoms. There were no deaths in monkeys; all of those infected recovered.

Altogether 44 animals were subjected to the infective influence of the bacillus *icteroides*, exhibited naturally. Of these 34 reacted, showing acute symptoms of disease, and 23 died, a mortality of 67.5 per cent. Recoveries took place among dogs, white mice, rabbits and monkeys, which demonstrates that the domestic animals may enter as a factor in an epidemic of the disease.

During my experimental work we were honored by a visit, at our laboratory in Havana, from Dr. Sternberg, who said to me, while passing through our animal room, that the strongest argument against the acceptance of the specificity of any one of the organisms advanced as the cause of yellow fever, was the fact that no one of them, during experiments in laboratory, had ever communicated this disease by natural infection to the animals of those laboratories; and he asserted that, whenever such infections should occur, the lesions being characteristic, and the organism recovered, he would accept that organism thus demonstrated as the cause of yellow fever, and such demonstration as the proof of its specificity.

In that same room, shortly afterward, I had nine cases of this disease occur among the animals, naturally caught, from the introduction into the atmosphere of the adjoining room, of the bacillus *icteroides*. Eight of these animals died; one recovered; from the necropsies I recovered the bacillus *icteroides* in pure culture from 50 per cent., almost as large a number of cases, and as large a percentage of isolations, as those used by Sanarelli in forming his assumption as to the value of bacillus *icteroides* in the etiology of the disease. These spontaneous infections occurred in dogs, mice, guinea-pigs and rabbits. The first infection, that of rabbit "S. S." was noticed on April 16, 1899, the only known exposure being that of the insufflation of dog "A," in

the adjoining room, on April 7, with the bacillus icteroides in lycopodium powder. Granting 3 to 5 days as the incubating period of this bacillus, we have the disease lasting in this rabbit from 6 to 8 days, and ending in death on the seventeenth. In all these animals the disease was accompanied in the pregnant female by miscarriage, and in the normal female by flooding. Necropsies gave the characteristic morbid anatomy of yellow fever.

I therefore maintain that Sternberg, who has assumed the rôle of censor in this disease, should now be thoroughly convinced, since my work has been crowned with the results which he demanded, and since our commission has proved what Sanarelli did not, that the bacillus icteroides is constantly present in yellow fever, and is the cause of the disease. Sanarelli, in a recent issue of the *Medical News*,⁷ has acknowledged the work of the American Commission, as a confirmation of his own, and he uses its results in formulating several conclusions which were not possible with the information derived from his experience alone.

But the work of that commission was far more important than this. It constitutes the only proof of the specificity of the bacillus icteroides, and without such demonstration the bacillus icteroides would have no better claim to our consideration as the cause of yellow fever than the organisms of Sternberg, Havelberg, or the commoner colons, that of an artificially pathogenic microbe.

The close cultural and biologic relationship which exists between bacillus icteroides and some others, infectious to animals, but not to man, as the micro-organism of American hog-cholera, the hog-cholera of Bavaria, that of the peripneumonia of calves, and that form of colon frequently isolated from the summer diarrhoea of children, and also known in acute mucoenteritis epidemic among young pigs, has been noted for some years, and recently resulted in the assertion of one observer that the bacillus icteroides is of the hog-cholera group, and therefore of secondary importance if found in yellow fever in the septic stage. According to this observation the bacillus icteroides, when fed to our domestic pigs, gives rise to disease, and autopsy discloses the characteristic lesions of hog-cholera in their intestines.

This has not been my experience with the most virulent bacillus icteroides, for with a most perfect environment against possible contamination with the bacillus cholerae suis, I was unable to infect the hog in Havana with the icteroides, and later, under conditions equally free from suspicion of contamination with cholera suis, Geddings, upon a group of pigs and controls had a similar experience. Bacillus icteroides in pure culture, and in an environment free from bacillus cholerae suis, does not produce hog-cholera.

When the observations noted above were called to my attention they interested me greatly, not that the conclusion arrived at by the observer was thought to be correct, but the question at once arose in my mind of the possible mutations of these specific organisms with changing environment. Could it be possible for bacillus icteroides to give rise to yellow fever in man and to cholera in the hog? Could environment thus influence results? In so far these observations were of immense interest, but my experience and those of Geddings seemed to properly dispose of the question, and to determine that, however closely allied these organisms might be, the specificity of each one seemed an inherent quality, to be developed under certain environment, and that this quality is immutable. The same observer has

questioned the power of bacillus icteroides, as known in the laboratories of the milder latitudes, to produce constant toxic results, advancing its failure to produce "fatty degeneration" of the liver, when injected under such conditions, as an argument against its specificity. As a matter of fact, the bacillus icteroides, like many other infective pathogens, exhibits at times a most marked quality of septicity, and in proportion as the organism is septic it loses its toxic quality, and consequently the manifestations of toxicity, the fatty liver and renal epithelium, become merged into a condition characteristic of sepsis; that is to say, these organs present then more the appearance of the changes of typhoid fever, with necroses of their parenchyma rather than fatty degeneration. The more acute the intoxication in this disease, typified in the siderant cases, the more typical the fatty degenerations, and the reverse is equally true. We therefore can not expect the same results from this bacillus under conditions which we know will cause its attenuation, as those which we encounter constantly under conditions most favorable to the development of its peculiar powers. An instance in man—cited in the report of the commission,⁸ that of Private Patrick Smith, 8th Infantry U. S. Army, who died of yellow fever at Havana, after an illness of nine days—presented a condition of sepsis or blood invasion by the bacillus icteroides, the most marked that I have ever known. His necropsy revealed a chronic malarial cachexia, upon which a pronounced anemia had depended, and modified changes in the stomach, the intestine and the liver; these modified changes, partaking of the nature of typhoid sepsis, were accepted by some of the attending physicians as diagnostic of typhoid fever, but evidently there was lacking an adequate conception of the quality of septicity in the bacillus icteroides, from which had arisen these modified changes.

There has been made one other, and apparently the most formidable, argument against the bacillus icteroides as the cause of yellow fever. Novy has shown that the bacillus was not killed by exposure to temperatures below the zero mark, but that after such exposures it gave rise to a septic condition when injected into animals. He therefore concluded that the bacillus could have no etiologic relation with this disease, since epidemics of yellow fever have always subsided and disappeared upon the advent of a temperature of the frost-line, or about 40 Fahrenheit.

Having had no experience with this bacillus under other than tropic and semitropic conditions of temperature, I could make no comment at the time of his publication, but at this time I can say that his position was only apparently well taken, for the bacillus icteroides, although not killed by exposure to extreme cold, is most profoundly influenced by temperatures at and below 40 Fahrenheit. Having had the opportunity during the past fall and winter months to observe these conditions, I tested carefully the facts of the case. While specially engaged at the Institut Pasteur, in Paris, in the matter of the possible production of a serum, curative and preventive, in this disease, I made a series of vaccinations in animals with the "sérum anticolé," of M. Lesage, and with the "sérum antipneumonie in calves," of M. Fehrenbach, against virulent cultures of the bacillus icteroides which I had taken with me. Details of these observations are in the addendum.

During the months of September and October these serums seemed to afford but little if any protection to the animals used, vaccinées and controls dying nearly at the same time. With the advent of the colder weather,

however, it was noted that the serums were more potent and now protected the animals, but at the same time it was noticed that the controls, inoculated subcutaneously, did not succumb, the points of inoculation presenting nodules of accumulated leucocytes, something unusual in my experience with the germ in the tropics. At this time I determined to test the influence of cold and heat upon the infecting quality of the germ, since cold had so materially attenuated its pathogenicity; for this purpose I exposed white mice to its infective influence at different degrees of temperature. From the same group of mice, six were selected and two were placed in each of three cages. In each cage there was placed grain mixed with an equal quantity of the same culture of bacillus *icteroides*, originally obtained from the blood of Patrick Smith, which had always proved extremely virulent. One cage was then placed in an incubator temperature of 25 C., or 77 F. One other was placed in laboratory room temperature of 18 C., or about 65 F., and the remaining cage in the open air in an outbuilding, one side of which was entirely open. The temperature in Paris during this outdoor exposure averaged 5 C., or about 40 F., and at times was below zero, ice and snow being present, the record of temperature having been taken from the daily Paris edition of the *New York Herald*.

In the cage at 77 F., one mouse become infected and died on the ninth day, about the usual period in these animals; and one died on the thirteenth day, much beyond the usual period of eight to ten days. In the cage placed at 65 F., one mouse died on the fourteenth day, and the other on the eighteenth day after exposure, or in twice the usual period of time. Two other mice, placed in a fourth cage and exposed to this temperature of 65 F., died on the nineteenth day after their exposure. In the cage placed in out-of-door temperature, the mice at no time, under daily examinations, gave the slightest evidence of disease, and when last examined, two months after their exposure, were perfectly well. To summarize, mice are extremely sensitive to the infection, developing acute septicemia, with death in all cases of my own except one. The mice exposed at summer temperature, 77 F., died in very nearly the time noted in the tropics. Those at 65 F. sickened and died, but at periods of twice the usual length in these animals. The mice exposed at and below 40 F., the "frost-line," with us, did not become infected and remained well. Details are given below. Beside this attenuation of the germ, as shown when inoculated into animals, I found that the attenuated germ does not produce a potent toxin, even when grown at 37 C.; for mice and pigs resist large quantities of the soluble toxin produced when injected into their tissues.

The bacillus *icteroides* was thus shown to attenuate rapidly in the presence of cold, losing its toxic, septic and specific qualities.

During the prevalence of extreme cold in Washington last winter, my confrère, Geddings, remarked that animals inoculated subcutaneously, and intravenously, with the bacillus *icteroides*, in order to revive the organism by its passage through them, failed to succumb to it, and as it was desirable to employ the most virulent germ in his work, he was nonplussed. At this time, in a note from Paris, I stated my observation in regard to the influence of cold upon the bacillus *icteroides*, when, acting upon this information, he placed the inoculated animals at incubator temperatures, with the result that they succumbed and furnished the virulent organism desired. Nothing can be clearer than this demonstration, and it is in consonance with the many

different results obtained by observers in different latitudes with this bacillus.

Reverting now to the natural history of yellow fever, I can most positively assert that the most striking of all of its natural phenomena, its endemic and epidemic cessation with the advent of cold, is thus readily explained by my discovery of this peculiar biological phenomenon while investigating the life history of the bacillus *icteroides*—the loss of its toxic, septic and specific qualities in the presence of a temperature below 5 C., or 40 F.

As to the clinical phenomenon of the "double paroxysm," separated by a more or less well marked interval, or "period of calm," I believe that this can be explained by the consideration of the mode of infection in yellow fever. It has long been conceded that the disease is air-borne and not water-borne; and because of the marked lesions of the liver and intestinal canal, the primary colony of the causative organism has been thought to be in the intestinal tract. Sanarelli but dimly realized the truth, and so did not profit by it. He assumed that the bacillus *icteroides*, entering the body, perhaps by way of the respiratory tract, in some occult manner reached the spleen, there to lay *perdu* until finally, late in the disease, it invaded the blood, producing with other organisms a "secondary sepsis."

This is not true; my observations in the natural infections in animals limit the colony primarily to the respiratory tract. In dogs and rabbits it is totally limited to this tract, there being in them no invasion of the blood from the primary colony. In man and the monkey this secondary invasion takes place some time after the appearance of the symptoms of intoxication from the primary colony.

My observations, therefore, have convinced me that the bacillus *icteroides* is always first colonized at some portion of the respiratory tract; that the intoxication arising therefrom produces the early symptoms of the disease, the "first paroxysm" of the fever; that the injury sustained locally sooner or later permits the passage of the germ into the circulation, with those evidences of sepsis termed the "secondary paroxysm," which has been attributed by the earlier authors to an invasion, from the changed intestinal canal, of bacillus *coli* communis and other organisms; and that this secondary invasion is due to the development of an inherent quality in the bacillus *icteroides*, that of septicity.

The interval of calm is due to the profound impression of the commencement of this second intoxication, from the bacillus in the blood-stream, upon the nerve-centers. This depression, amounting to shock, sometimes ends in death, but if the patient rallies the temperature again rises and sepsis is shown by its chart. It is an uncertain quantity, this interval of calm between the two toxic periods, the first intoxication arising from the primary colony, the second from the lung colony plus the influence of the colony invading the blood; the first a pure toxemia, the second a septicemia.

Should death take place during this primary toxemia the body will be found to be sterile, Sanarelli agreeing with us that the *foudroyante* cases are sterile, excepting the local colony in the lungs, a fact which he did not realize.¹⁰ This explanation correlates the three periods of the disease, the first intoxication lasting from 2 to 4 days, when, if septicity develops, the blood colony becomes a factor in the secondary, septic, or "third period," lasting from 3 to 5 days longer, the "period of calm" being of several hours' duration, or so slight as to barely merit the name. Thus, too, will be explained the

three great varieties of yellow fever. Why should there be three varieties of this disease? Because this bacillus exhibits *par excellence* the dual qualities of toxicity and septicity; if the toxic property is alone developed after an infection, cases of the first and third variety are produced. That is to say, an intense toxemia, resulting in death, is the *siderante* or third type, while the multitude of benign or ephemeral cases, in which only a slight toxic result is noticed, constitutes the first variety. Between these are possibly the majority of cases of diagnosed yellow fever of the second variety, those giving the marked clinical peculiarities mentioned above, and in all there is the phenomenon of the "second paroxysm," "septic invasion," or "third stage" of this peculiar disease.

In regard to the want of correlation between the pulse and temperature I can quote Dr. Bernard E. Baker,¹¹ of Charleston, as noting this phenomenon as due to the soluble toxins of the bacillus icteroides.

In regard to the role which domestic animals and vermin encountered in domiciles may play in the retention of yellow fever in their systems after their infection on shipboard, or during the prevalence of the disease on land, and its convection by this means to new areas, which may then become infected, I can but introduce the ready susceptibility of mice, dogs and rats to the infecting influence of the bacillus icteroides, and the marked reactions obtained by Sanarelli in his artificial infections, or inoculations, in the horse, in cattle, and in the ass. Domestic animals are therefore susceptible, and if infected, many of them may recover. In all of these the disease, as in man, is accompanied by intravisceral hemorrhages, and, except in the dog, in which there is no blood invasion, the dejecta, as well as any bronchial secretion, may contain the germ, from which the disease may recur in the infection of a resident of the domicile. This mode of entrance from shipboard and from house to house bears the aspect of improbability, but the well-known instances of this fact in the history of plague demand for it respectful consideration in connection with yellow fever. I am reminded also of the fact that during my stay in New Orleans in '97 and '98, I heard well-founded rumors of the presence of some disease at that time frequent among cattle and horses, which resembled epizootic, and which was attributed to yellow fever. I have not had an opportunity of subjecting the greater animals, horses and cattle, to the bacillus icteroides, and can not state the facts as to their natural reaction to the germ.

In at least one variety of animal extremely reactive to artificial infection, guinea-pigs, I have not succeeded in inducing a natural infection, although there was one case of natural infection among our animals, and this may apply to horses and cattle.

The danger from infection through animals, especially the rodents, has been illustrated on many occasions of yellow-fever outbreak at points ashore, and adjacent to the nearest landing place of such rodents swimming from an infected ship. Moreover, the recrudescences of the fever, even after quite cold winters, could be attributed to an attenuated form of the disease lasting among these animals during the cold months, and the propagation of the germ in virulent form with the advent of hot weather.

Such convection and propagation of yellow fever deserves the careful consideration of sanitarians in an equal degree as in bubonic plague. I therefore submit to your intelligent body these facts—elicited in my efforts to clear away the obscurities surrounding this American

disease, and although it was the fortune of my friend, Dr. Sanarelli, to first see the germ and name it, it has remained for America, the United States, to furnish the indubitable proofs of the value of the Italian discovery, and further to establish the scientific explanation of this disease which more than any other has occupied our attention. Incidentally also to the establishment of the fact that the infecting pathogens vary in their pathogenic results with the varying preponderance of their two great qualities of toxicity and septicity; and that a proper recognition of the latter will serve to elucidate a number of heretofore obscure problems incident to these infections.

ADDENDUM.

Experiments to test the value of certain serums, known to be protective against the specific organism from which they were produced, on the animals subjected to the influence of closely allied organisms.

The serums used were those termed "*anti-coli*," perfected by M. Lesage, of Paris, France, and the "*anti-peripneumoniae*" of calves, perfected by M. Fehrenbach in the Institute Pasteur, and the organism the bacillus icteroides obtained from cases of yellow fever in Havana, Cuba.

Oct. 26—A full-grown guinea-pig was vaccinated with 2 c.c. serum *anti-coli*, and in 2 hours was given subcutaneously .25 c.c. of a 24-hour bouillon culture of bacilli icteroides. A control pig of the same size was given, under the skin, .25 c.c. of the same culture at the same time. Oct. 27, both pigs were ill. Oct. 30, the control was found dead. Oct. 31, the vaccinée was found dead. Autopsy gave hemorrhagic conditions and light colored livers, the blood contained the bacillus icteroides in large numbers.

Oct. 28, a large rabbit, 2000 grams, was given .25 c.c. of a bouillon culture of the bacillus icteroides, 72 hours old, in the ear vein, two hours after 4 c.c. of the serum *anti-coli* had been given in the other ear vein. A control of the same size was given .25 c.c. of the same culture by the ear vein. Oct. 30, both control and vaccinée were found dead.

Nov. 2, two large guinea-pigs were vaccinated on four successive days with 1 c.c. of serum *anti-coli*. On the fourth day they were also inoculated with .5 c.c. bouillon culture of the bacillus icteroides, 72 hours old. Two controls of the same weight were given only the .5 c.c. of the culture of bacillus icteroides.

Nov. 6, one vaccinée was dead, no autopsy. Nov. 7, the control was dead, no autopsy. Nov. 8, the other control was dead, no autopsy. Nov. 11, the other vaccinée was dead, the autopsy showing that it had been dead some time. There was an ulceration of the skin at the site of the inoculation 2 cm. long by 1 wide, the peritoneum being laid bare, and covered by a cheesy layer of pus, the margins well defined. The abdominal incision was carried carefully around the ulcer and the peritoneum turned back exposing its inner surface at the site of ulceration. There was no peritonitis, the intestines retaining their brilliancy. The outline of the ulcer was seen as a raised border of infiltration on the inner surface, and from this raised border I carefully made cultures on slant agar-agar. The liver was much engorged, with fatty and necrotic areas. The spleen was slightly enlarged. The stomach contained 50 c.c. of fluid containing black flakes of blood; its walls were congested and extravasation had taken place. The kidneys were congested; the heart was full of fluid blood. From all organs cultures were made and in forty-eight hours were sterile; the culture made from the inner surface of the peritoneum gave the bacillus icteroides in pure state.

Conclusion—The serum *anti-coli* appears to be protective to guinea-pigs to some degree. The first of this group to succumb was one of the vaccinées, yet the other vaccinée lived almost twice as long as the témoins, and presented after death a sterile interior. From the fact that these animals are most susceptible to the septic influence of this bacillus, it is clear that the serum *anti-coli* induced a local reaction at the seat of inoculation in this pig, sufficient to limit the organism to the

seat of the injection and to prevent sepsis. The animal died of a toxemia from the localized colony.

Nov. 21 inoculated a 2000-gram rabbit with 1 c.c. bouillon culture bacillus *icteroides*, 72 hours old, in the ear vein, and fifteen minutes afterward injected through the opposite vein 18 c.c. of the serum *anti-coli*. It died in 52 hours. At the same time, in another rabbit of the same weight, there was injected the same quantity of the bacillus *icteroides*, the "normal serum" of the horse being used instead of the serum *anti-coli*. This rabbit died in 74 hours. A control rabbit was also inoculated with the same quantity of bacillus *icteroides* alone. The control died in 65 hours. No autopsies were made except in the case of the first that died, the vaccinee with serum *anti-coli*, from which was regained the bacillus in pure culture.

Conclusion—There was no increase of resisting power from the vaccinations with the serum *anti-coli*, since this animal died first, the vaccin exerting a depressing effect at first similar to that known in the use of the "serum antipesteuse" for vaccinations. The horse serum did not exhibit this toxic influence and prolonged the life of the animal somewhat.

A large rabbit was vaccinated intravenously Nov. 11, with 10 c.c. of serum *anti-peripneumonia*, obtained from the sheep from subcutaneous injections of the killed cultures of the bacillus which causes this disease in these animals. Nov. 12, the animal was quite sick from this vaccination. Nov. 13, it was better, and 1 c.c. of a 24-hour bouillon culture of the bacillus *icteroides* was placed in the opposite ear vein. Nov. 15, there was some reaction; the animal was quite sick. Nov. 16, there was some reaction, the animal was still sick. Nov. 18, there was considerable reaction, the animal was quite thin. Nov. 22, it was better and gaining in weight. Nov. 25, there was given 10 drops of a virulent culture of the bacillus *icteroides* intraperitoneally. Nov. 27, it ate well and was gaining in weight; there was no reaction. Dec. 4, it was given .5 c.c. of a bouillon culture of the bacillus *icteroides* subcutaneously. Dec. 6, there was no reaction, and the animal seemed well. Dec. 14, the animal was found dead.

Autopsy showed meager body and under the pelt at the seat of the subcutaneous injection there was a solid lymph plaque 2 cm. by 1.5, from the center of which bouillon tubes were planted. The tissues were dry; the peritoneal cavity and its contents were normal; the liver normal in appearance; the spleen was the same; the kidneys were congested; the heart was full of fluid blood; serose normal; stomach and intestine normal. Cultures were made from all organs. On the sixteenth the cultures from liver and spleen and from the lymph plaque gave pure growths of the bacillus *icteroides*.

Conclusion—The vaccine serum *anti-peripneumonia* protected this animal against a dose usually fatal in 36 hours, but this protection was evanescent and the animal succumbed finally to a general invasion from the subcutaneous injection of the germ, on December 4.

Nov. 24, a large rabbit was vaccinated with 10 c.c. serum *anti-peripneumonia* in the ear vein. During the day it was dull, but not ill. On Nov. 25, it weighed 1960 grams, and the control 1980 grams. They were now injected in the opposite ear vein with 1 c.c. of the bacillus *icteroides* in bouillon 72 hours old. Nov. 26, the control was dead; Nov. 27, the original was dead; no autopsies were made, as they died of intoxication.

Nov. 21, five fine guinea-pigs were vaccinated with serum *anti-coli*, 1 c.c. being given daily under the skin for 6 days, or in all 6 c.c. were given to each animal. One received 8 c.c. altogether.

Nov. 21, each of these vaccinees received .5 c.c. of a bouillon culture of bacillus *icteroides* 48 hours old, a control pig receiving the same dose under the skin. Nov. 22, one vaccinee was dead from a perforation of the peritoneum into the abdominal cavity. Nov. 24, several vaccinees showed considerable local swelling at the site of the inoculation, the one to receive the 8 c.c. presenting the largest lump. This was perforated and the serum from it planted. Nov. 27, all the pigs appeared well, there having so far resulted only a local reaction. The planting from the localized swelling had resulted in a good growth of the bacillus *icteroides*. Dec. 1, these local swellings in vaccinees and controls were diminishing. Again I planted tubes from the serum obtained by puncture from them all.

Also prepared cover-slips which showed the bacilli free and engulfed by the leucocytes. The tubes gave in 24 hours pure and active cultures of the bacillus *icteroides*. On Dec. 6, the experiment was finished; all the animals were well; the swellings having disappeared. *Conclusion*. There seemed no doubt that the serum had protected these pigs, yet the control had reacted to the inoculation to the same extent as the vaccinees. This was puzzling, but it was finally attributed to the influence of the very cold weather which had prevailed during the experiment, upon the bacillus *icteroides*.

On Nov. 27 three large guinea-pigs were vaccinated with 1.5 c.c. of the serum *anti-coli* subcutaneously, and this was repeated daily for ten days, each pig receiving 1.5 c.c. of the serum. On Dec. 5 these pigs were inoculated with 1 c.c. bouillon culture of the bac. *icteroides*, 36 hours old. Two controls were also given the same quantity of the same culture subcutaneously. On Dec. 10 all were apparently well, the vaccinees had developed a distinct tumefaction at the seat of inoculations, tending to suppurate. The controls had large tumefactions, hard, with sharp borders, and no pus. All were eating well and were playful. On Dec. 12, the vaccinees were purulent, the tumeurs hard, and sharp bordered at the site of the inoculations. At this time having become convinced of the attenuation of the bacillus by the prevalent cold, I placed the cage containing all these pigs in the incubator at 25 C, and removed them to the room temperature the next morning. On the 14th, the cage was again placed in the high temperature incubator. On the 15th, the control was found dead, the others remained permanently well in the room temperature, the vaccinees were purulent and the control was ulcerated at the site of the inoculations; all recovered. From this and the other results it was determined that it was useless to experiment further with these serums in view of the very evident attenuation of the bacillus *icteroides* by the cold, and all further effort was in the direction of proving the effect of cold and heat on this germ.

On Dec. 12, to test the quality of the soluble toxins of the germ, a bouillon culture in a Fehrbach flask, 14 days old, was filtered to 5 c.c., and 1 c.c. was given intraperitoneally to a 500-gram pig without appreciable result. The remainder was tested against the highly toxic blood-serum of the eel and without result. It was considered the result of the attenuation of the germ. On Jan. 1, a 25-gram mouse was given .25 c.c. of the freshly filtered culture under the skin, the culture being 6 weeks old. In 15 minutes, there being no reaction, I gave 1 c.c. with no result; in all the mouse received 2 c.c. within the hour and without result.

On Jan. 4, I gave the pig which had received the toxins on Dec. 12, 2 c.c. of a bouillon culture of the bacillus *icteroides*, intraperitoneally; this culture had been made in a moderately warm temperature, from the bacilli obtained from the spleen of a mouse dead from natural infection after 19 days. There was no reaction. Therefore, it was evident that the bacillus was so changed by the prevalent cold that there was not the normal production of toxins, or that they were much attenuated.

On Dec. 12, in each of two sterile cages there were placed two white mice, and given grain inoculated with bac. *icteroides*, obtained through an African ape from one Patrick Smith. One cage was placed in a temperature of 18 C, and the other in an incubator at 25 C. On Dec. 21, a mouse in the warm cage was very ill; its mate seemed thin and ill. On Dec. 23, one was dead and the other was quite ill. All in the cold cage seemed well. On Dec. 27, the remaining mouse in the hot cage was dead. Autopsies were made on both. In the first the pelt was yellowish on its inner surface; the liver was friable, not fatty to the eye; the spleen was normal. The cultures from the spleen gave pure colonies of the bac. *icteroides*. In the second mouse the pelt was yellow; the liver somewhat fatty, and the spleen enlarged—something unusual; from it the bacillus was regained in pure culture. On this date all the mice at 18 C. were apparently well, and one of them was transferred to the hot cage. Dec. 30, this mouse was dead. On the same day, the remaining mouse in the colder cage at 18 C. was dead. *Conclusion*—While the elevated temperature of 25 C., induced infection and death in about

the time usual in these animals in the tropics—8 to 10 days—the reduced temperature of 18 C. induced this infection and death only after twice the usual period, or in about 19 days.

On Dec. 29, two fresh mice were placed in one of the infected cages and 1 c.c. of fresh culture bac. *icteroides* added to their grain, the cage placed in the open air of the animal barn, one side of which was entirely open, the temperature that day averaging 11 C.

Dec. 30, Temp. 8.5 C. (average).....	47.3 F.
Dec. 31, Temp. 8.7 C. (average).....	47.4 F.
Jan. 1, Temp. 7.2 C. (average).....	45 F.
Jan. 2, Temp. 9.5 C. (average).....	49 F.
Jan. 3, Temp. 9 C. (average).....	47 F.
Jan. 4, Temp. 7 C. (average).....	44 F.
Jan. 5, Temp. 5 C. (average).....	40 F.
Jan. 6, Temp. 5 C. (average).....	41 F.
Jan. 7, Temp. 4.5 C. (average).....	40 F.
Jan. 8, Temp. 4.5 C. (average).....	40 F.
Jan. 9, Temp. 4.5 C. (average).....	40 F.
Jan. 10, Temp. 4.7 C. (average).....	40 F.
Jan. 11, Temp. 5 C. (average).....	41 F.
Jan. 12, Temp. 4 C. (average).....	40 F.
Jan. 13, Temp. 2 C. (average).....	36 F.
Jan. 14, Temp. 2 C. (average).....	36 F.
Jan. 15, Temp. 2 C. (average).....	36 F.
Jan. 16, Temp. 3 C. (average).....	37 F.
Jan. 17, Temp. 8 C. (average).....	46 F.
Jan. 18, Temp. 7 C. (average).....	45 F.
Jan. 19, Temp. 7 C. (average).....	45 F.
Jan. 20, Temp. 6.5 C. (average).....	43.7 F.

These give a general average of about 4.5 C., or 40 F., which is the frost-line, to which the animals were exposed without the appearance of any symptom of infection. At the end of this time the animals were transferred to a clean cage and the infected one was sterilized, the animals remaining well two months after the change.

At the same time, from January 5, two other mice were exposed to bacillus *icteroides* under the same conditions of temperature in the same barn until the 20th, an average of about 4.5 C., or 40 F., without the appearance of any symptom of infection. They were transferred to the clean cage with the other mice and remained permanently well.

These experiences demonstrate that the extreme degrees of cold, below the line of frost and approaching zero C., are extremely hurtful to the bacillus *icteroides*, attenuating it to such an extent that it failed to infect white mice, the most susceptible of animals, during an exposure of 23 days. Moreover, these are the only exposures of these animals which failed to result in infection in from 3 to 5 days at high temperature, and a longer period as the temperature became reduced.

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DISCUSSION.

DR. SIMON FLEXNER, Philadelphia—1 have been much interested in Dr. Wasdin's exhaustive paper. The high value of it is, of course, dear to everyone who has followed the literature of the subject since Sanarelli's discovery. Most bacteriologists believe that Sanarelli has done no more than point out the existence of a hitherto unknown pathogenic micro-organism in the bodies of a certain percentage of persons dead of yellow fever. The complete proof of its relation in a causative way to the disease is yet to be brought. This evidence, Dr.

Wasdin thinks, is supplied by his experiments. He will, I am sure, permit a reasonable amount of scepticism even after his series of experiments. If we are to conclude that animals are subject to accidental infections with the bacillus *icteroides*, how are we to harmonize the absence of similar infections during the prevalence of the natural disease? Dr. Wasdin doubtless has established that the bacillus *icteroides* is capable of a high degree of potency; that its diminution in the air may lead to infection in animals; but I fail to see that by those experiments he has proved that he has produced yellow fever.

DR. GERRY, Boston, Mass.—I should like to ask regarding the immunity of patients who have had yellow fever, if they really were immune. During the Cuban war we heard a great deal about the immune, and there seems to be a fixed idea that these people were really immune.

DR. EUGENE WASDIN, closing the discussion—The remarks of Dr. Flexner should carry much weight. It is certainly right to criticize, and I know of nothing that would be more productive of good. We feel convinced that further investigations will prove the value of the observations of Professor Sanarelli. In regard to the question of actual immunity from yellow fever I should like to have some one in the audience reply. I can not do so. I can only state my own observations in the epidemics of yellow fever and what occurs in endemic centers. One attack does not protect absolutely against a second. I have seen several cases in which two attacks were enjoyed. There was black vomit freely ejected. The soldiers in Cuba supposed to be immune sometimes did suffer from a second attack. I regret that the time is so short that it will not permit me to go into details of the paper which would have been interesting and would satisfy some of the inquiring minds showing the amount of work condensed in the report of the commission made in 1899.

DEMONSTRATION OF HOME MILK MODIFIER.*

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The best food for an infant is its mother's milk; in its absence comes milk properly modified. Up to the present, this has been difficult of accomplishment. The Walker-Gordon Company has set a standard of what can be done in this direction, and now the Sheffield Farms Company, of New York, has opened a laboratory for the modification of milk. But such laboratories are situated in only a few of the larger cities, and their product is so expensive that their usefulness must necessarily be limited.

The modification of milk at home entails much elaborate calculation on the part of the physician; much patience and intelligence on the part of mother or nurse; methods so crude for the most part as to render the procedure difficult and inaccurate. However, although modified milk is acknowledged to be the best artificial food for an infant, it is comparatively little used.

The apparatus which I desire to demonstrate today is not intended to replace the laboratory, nor will it supply the needs of every infant. It will, however, if properly used, provide a food for any healthy infant for the entire first year of its life. It was suggested by Dr. Sidney V. Haas, of New York. This apparatus consists of a glass jar showing seven panels, with lip, capable of holding 16 ounces. One of the panels presents an ordinary ounce graduation, the other six panels present six different formulas for the modification of cow's milk, each

*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

formula so arranged as to make it suitable for a certain period of the infant's growth, viz.:

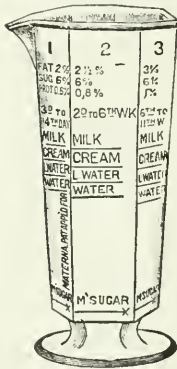
Formula	1	2	3	4	5	6
Fat, per cent.	2	2½	3	3	3	3½
Sugar, per cent.	6	6	6	8	11½	13½
Proteids, per cent.	06	08	1	1	1½	1½
	3d to 11th day.	2d to 6th week.	6th to 11th week.	11th to 2d month.	2d to 5th month.	5th to 12th month.
Milk, parts	1¾	1¾	2½	4½	6	9½
Cream, parts	1¾	1	1	2	2	1
Lime-water, parts	1	1	3½	3	3	3
Water, parts	12½	11½	11½	8½	7½	5¾
Milk sugar, parts	1	1	1	1	1½	¾
						Milk, parts 9½ Cream, parts 1 Barley-gruel, parts 5¾ Granulated sugar, parts ¾

DIRECTIONS FOR FORMULAE 1-5.

The lines underneath the words indicate the points to which the various ingredients are to be filled in.

1. *Milk Sugar*—Introduce milk sugar to the line thus marked. Milk sugar is preferable, but where good milk sugar can not be obtained granulated sugar should be used, in just half the quantity. The small cross on the apparatus indicates the point for the latter emergency.

2. *Water*—Add boiled water (hot) to the water mark; stir until sugar is dissolved. If any particles are to be seen floating in the solution it should be filtered either



through absorbent cotton, or a piece of clean muslin (two thicknesses).

3. *Lime-water*—Ordinary lime-water as bought in the drugstore should then be filled to the L. Water mark. (This is to overcome the acidity.)

4. *Cream*—This should be the ordinary cream, (16-20 per cent.) as obtained in bottled milk and as commonly delivered by the dairymen and should be filled to the cream mark. If cream is bought separately, the ordinary light cream should be used and never the very heavy cream.

5. *Milk*—Ordinary good cow's milk should be used and filled to the milk mark.

6. Stir the entire mixture.

7. The whole should then be poured into separate bottles and sterilized, or pasteurized if desired, and stoppered with cotton and placed immediately upon ice.

DIRECTIONS FOR FORMULA 6.

1. *Sugar*—In this formula granulated sugar should be used instead of milk sugar. Introduce the same into the vessel to the line thus marked.

2. *Barley-Gruel*—In this formula barley-gruel should be used instead of water and filled to the line thus

marked. Barley-gruel should be prepared as follows: To one tablespoonful of pearl barley—after soaking several hours—add one pint of water, a pinch of salt, and boil for 5 or 6 hours, adding water as it boils away. Strain through muslin; or, one rounded tablespoonful of Robinson's barley flour; rub up with cold water, and add to one pint of boiling water; cook 15 minutes, stirring, and strain if lumpy.

3. *Cream*—Add the same as in other formulas.

4. *Milk*—Add the same as in other formulas.

5. *Stir*—Same as in other formulas.

6. *Sterilize*—Same as in other formulas.

The formulae of the apparatus are calculated upon a 20 per cent. cream, and whole milk, *i. e.*, milk containing 4 per cent. of fat. Practically, however, the milk as obtained in bottles in the city will furnish the ingredients, the cream layer answering for the 20 per cent. cream, and the milk and cream left in the bottle shaken up together will supply the milk—a milk containing somewhat less than 4 per cent. of fat. Outside the cities where bottled milk is supplied, cream obtained in the usual way, by allowing it to rise in shallow vessels, and whole milk will answer.

Full directions and a schedule for the quantity of fat, the number of feedings, and the intervals between feedings accompany the apparatus.

SCHEDULE FOR FEEDING A HEALTHY CHILD DURING THE FIRST YEAR.

Formula	Age.	Number feedings in 24 hours.	Interval between feedings by day, in hours.	No. night feedings 10 p.m. to 7 a.m.	Quantity for one feeding, oz.	Quantity for 42 hours, oz.
1	2 to 14 days	10	2	2	1 to 2.5	10 to 25
2	2 to 5 weeks	10	2	2	2 to 3.5	20 to 32
3	5 to 10 weeks	8	2.5	1	3 to 4.5	24 to 36
4	10 weeks to 4 months	7	3	1	4 to 6	28 to 42
5	4 to 9 months	6	3	0	5 to 8	30 to 48
6	9 to 12 months	5	3.5	0	7.5 to 9.5	37 to 48

A large child should receive the maximum quantity and sometimes even a little more; a small child should receive the smaller quantity and sometimes a little less. The hours for feeding should be kept conscientiously as indicated.

This apparatus is absolutely simple in its use. Nothing could be more accurate except the laboratory. It is capable of forming other percentages than those fixed by the combination of two of the formulae. It is inexpensive. The modification is rapidly accomplished, and what is most important, it gives results. In those cases which have been under my observation in which this apparatus has been used there has been a steady gain in weight; the easy graduations by which the food is strengthened abbreviates entirely the gastrointestinal disturbance which is so apt to follow a change in an infant's diet.

If the following points are observed, the instrument can not fail: 1, fresh milk and cream of proper quality; 2, formula suitable to individual case; 3, quantity at each feeding suitable to individual case. In other words, this apparatus must be used as any drug is used. First the preparation is selected, then the proper dosage is prescribed.

Combined Wire Ligature and Vessel-Crusher.—Michaux announced a new method of hemostasis at the International Medical Congress which combines the advantages of a rapidly and easily applied ligature and of a vessel-crusher. The vessel is taken up on the female blade of the instrument, in which is fitted a U-shaped piece of silver wire. As the male blade closes on it, the ends of the wire are crossed and crushed to form a permanent ligature on the vessel, which is itself crushed at the same time. His experience with twelve major operations, including several amputations, has been extremely favorable.

THE REEFING OPERATION FOR MOVABLE KIDNEY.*

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It is well known that Hahn in 1881 first practiced nephrorrhaphy or nephropexy, since which time the operation has become a common one. The work done by Landau, Bruce Clark, Reidel, Tuffier, Guyon, Delvoie, Jaboulay and others, has reduced it to the class of procedures nearly free from risk in careful hands, and pretty sure to give relief in cases which require it. The mere presence of floating kidney is not an indication for operating. Some kidneys can be distinctly palpated which give no other symptoms; some which cause distress, are satisfactorily held by supporters. There has been much discussion as to what kind of supporter best retains a wandering kidney. A form of spring truss with a pneumatic pad always seemed to me mechanically more perfect than a belt or corset, inasmuch as the spring can push up under the costal arch in a way the belt can not imitate, just as the hand does in palpating and replacing the prolapsed organ.

Turning to operative treatment, we find also a somewhat unsatisfactory state of things in the frequency of relapses. It is true that a majority of cases of nephropexy remain cured or permanently benefited, and in so safe an operation a repetition is not a serious thing; but it would be still more satisfactory surgery if we could avoid all relapses and repetitions.

Hahn's first series of cases consisted of operations done by suturing the fatty capsule. A majority of these were relapsed. He next included the fatty and the fibrous capsule in his stitches. In this method he had fair success. Out of 27 cases there were 15 cures, 4 improved, 7 relapsed, 1 died; total, 27.

Various operators—Riedel, Tuffier, Guyon, Nicoladoni—began to strip parts of fibrous capsule, after removing the fatty capsule, thus allowing the cortex of the kidney and the everted flaps of fibrous capsule to form a firmer union to the fascia lumborum. Suture of the parenchyma, in addition to free dissection of the fatty and fibrous capsule, is advocated by most recent writers, with the exception of a few who believe this endangers the kidney.

Jaboulay avoided sutures, and relied upon iodoform gauze packing to support the kidney in position until granulation tissue had formed around it to bind it in its bed. Senn advocates this method, and passes one loop of the gauze packing around the lower pole to insure its retention high up in the wound.

I have operated on a number of wandering kidneys, several of them double operations, and mostly by the older method of removing the posterior part of the fatty capsule and thus uncovering the fibrous capsule. This I formerly split into two flaps, which were everted and stitched to the muscles. Two long catgut stitches were then passed deeply through the kidney substance and out through the muscles. The muscles themselves were closed with buried sutures, and the deep sutures in the kidney substance tightened last of all. I am decidedly of the opinion that the stitches in the parenchyma cut through if drawn hard. In fact, I have seen this occur at the moment of tying.

I have usually sealed these wounds without drainage, and have had aseptic results; but in one instance a hematoma formed, which was slowly absorbed, and

which was the cause of a partial relapse, probably by pushing the kidney forward and so preventing union with the posterior fascia.

On the whole, nephropexy by this method gives fair satisfaction. No dangerous symptoms have ever followed the operation in my experience, and it has always proved easy of execution. About 25 per cent. of relapses certainly followed, but in no case has the kidney been as movable as before, nor the pain as severe. This corresponds with the statistics collected by Delvoie, Keen, Langenbuch, and others, as follows:

	Cases.	Improved.	Cures.	Relapses.	Deaths.
Frank found in	39		21	18	0
Keen found in	59		39	20	0
Sulzer found in	93	10	56(%)	31(%)	3
Delvoie found in	215	30	135	45	5

Classifying according to type of operation, we have as follows:

	Cured.	Improved.	Relapsed or failed.	Died.
Suture fatty capsule	4	3	7	0
Suture fibrous capsule	10	3	9	2
Suture parenchyma	73	14	49	2
Suture parenchyma capsule stripped	9	0	1	0
Special methods	37	10	9	1
	135	30	45	5

Before describing the new method, a few words by way of explanation may be in place. A fact that has been emphasized to me many times in operating on the kidney is that it is normally a very movable organ. As seen in the operation field, it is never at rest, but rises and falls with respiration, making a descent of about one inch with each excursion of the diaphragm. What happens now when we suture it tightly to the muscles? This rhythmic motion the organ shares with the other viscera below the diaphragm. That is, the liver, spleen, stomach and transverse colon, and kidneys rise and fall *en bloc*, or in unison. It is perfectly clear that, as the right kidney lies with its upper pole in a hollow made for it in the lower surface of the liver, a collision must take place between these two organs if the kidney is fixed artificially. In other words, the liver must thump or strike against the motionless kidney with each inspiration. Furthermore, as to the anterior ligaments of the kidney, the attachments to the other viscera are less firm, but they all have to do with holding the kidney in place or out of place. In case of enteroptosis and gastroptosis, I believe the kidney is dragged down, and its prolapse is entirely secondary. If we could palpate all the other viscera as certainly as the kidney, we should think less of the latter as a cause of the digestive trouble. Many patients with dilated stomach and enteroptosis refer all their pain and gastralgia to the misplaced kidney, which they can so easily feel with the hand, and think that if it were only kept in place the abdominal troubles would be gone. They seek an operation, and may be disappointed wholly or in part, because the sutured kidney can not bear the strain of supporting all the viscera. It must pull down under their dragging weight to some extent. Some nervous women would be better off if they never had been told that they had a "floating kidney." I should consider such a condition curable only by a combined operation on the viscera and kidney, or kidneys. The slighter respiratory excursion which the organ makes, is different only in degree from that of movable kidney. It would seem that when we endeavor to cure the latter by operation, we ought to leave it a small degree of play. How

*Read before the Chicago Surgical Society, April, 1900.

to do this is a difficult mechanical problem. The fascia near the vertebral column and twelfth rib is very rigid and strong, as are the deep muscles, like the quadratus lumborum.

I now wish to call your attention to the fatty capsule, or capsula fibro-adiposa, and Gerota's capsule in front of it. We have seen that this structure was used by the first operators, like Hahn, in 1881, to hold the sutures in nephrorrhaphy. As already stated, this proved too weak a tissue, and out of 14 cases reported, 7, or 50 per cent., failed or relapsed. This was doubtless due to the inability of this layer to hold sutures properly. Nevertheless, I have found that I could always seize the fatty capsule of a prolapsed kidney, pull the organ up by it, and hold it firmly in the wound as long as I needed. This came about in the following manner: I have usually split this fatty envelope longitudinally, and thus formed of it two flaps, each of which I cut off, so as to bare the posterior surface. Now, in doing this I was each time more impressed with the complete control these flaps gave of the kidney. With these held by an assistant, the organ can be pulled firmly into the wound and held there much better than by pressure of the hand in front. I have several times had these flaps laid outward on the skin on each side, temporarily, to fix the organ, while I was splitting and sewing the fibrous capsule, as in Fig. 1.

It was also noticed that the respiratory movement continued however tightly the fatty sac was drawn, which was in direct contrast with what is seen when the fibrous capsule is sewn. The fibroadipose capsule contains in fact a reticule of fibers, forming a complete pouch for the kidney, in which it has free room to move. It reminds me of nothing so much as the dartos of the scrotum, having considerable strength of an elastic kind, yet allowing a free gliding movement of its contents.

Now, while the fatty, fibrous kidney capsule is not strong enough to hold stitches well, it occurred to me that it was strong enough to hold far more than the weight of the kidney, if its whole sac-like character be utilized. This I have tried to do by an operation of gathering it together posterior to the kidney, and pulling it out through the lips of the wound. In dissecting this layer off the posterior wall, as in the older operations, I had often noticed that this fatty capsule was voluminous, and that the kidney was drawn fully up only when the former was well outside. It was therefore evident that it must be shortened, but still the problem remained of how to attach such a frail structure in which stitches could get no firm hold. It seemed that all attempts to use it were likely to end, as Hahn's original efforts had, in frequent relapses. I found, however, that by one method I could support it in the wound without tearing it. This was by gently holding it in the incision while the latter was closed with deep and superficial stitches. Thus the lips of the wound closed on it with a uniform pressure, and did not tend to cut it as sutures alone would do.

After perfecting this method as well as I could, I found that the *atmosphère cellulo-grassieuse*, as this layer is called by the French writers, has been used by Doyen, in 1898-99, in what he calls his hammock operation, the fatty capsule being shortened, and slung by stitches to the lumbar fascia and sometimes the twelfth rib. This seems like a return to Hahn's unsuccessful method, but the plan of suspension by shortening the whole sac contains the germ of a good idea.

I explained this method at the last annual meeting of the St. Joseph County Medical Society, and was in-

terested to hear a description by Dr. F. C. Ferguson, of Indianapolis, of a method practiced by him, in which he draws all the coverings of the kidney, including the peritoneum, back by stitches to the lumbar muscles. To do this he opens the abdomen. In some respects this is ideal, but I should fear the loops of suture might in certain cases compress the ureter or vessels.

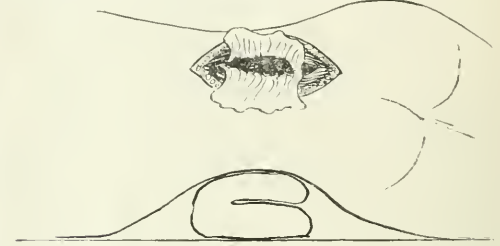


Fig. 1.—Cellular capsule split and drawn out, lifting kidney.

Dr. Harvey Reed has advocated a method also involving an anterior incision, in which the hand is introduced into the peritoneal cavity, the kidney grasped and held back in its lumbar pocket, while sutures are passed into its substance through the posterior skin and muscle, without a posterior incision. This seems to me to endanger the vessels and ureter.

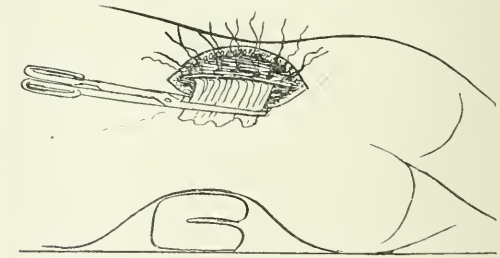


Fig. 2.—Cellular capsule clamped between muscles by mattress suture.

Dr. L. H. Dunning, of Indianapolis, was a pioneer in nephrorrhaphy, being one of the first in America to take up the work of Hahn. I am of the impression that he has made use of the fatty capsule in some of his cases. I have this statement from him:

The article to which I referred in the discussion of your paper may be found in THE JOURNAL, Vols. IV and V, 1885. I

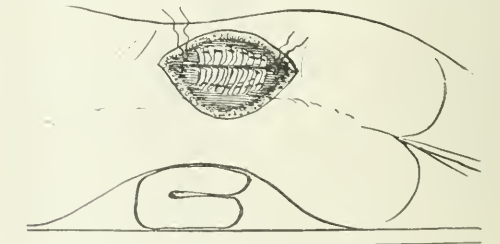


Fig. 3.—Flaps everted and sewn to muscles before closing skin.

have also found the original draft of my paper, read before the International Congress, but it does not touch any new facts concerning nephrorrhaphy.

Upon a few occasions I used a method somewhat similar to the one you indicated, but it is not so likely to be successful

as yours, for the reason that I only pulled up the lower portion of the fatty envelope. In your operation, as I understand it, you propose to pull out between the edges of the wound a considerable portion of the cellulose-adipose envelope, and include this in the sutures that inclose the incision.

That method seems to me to be feasible, and I shall try it. I wish you success in the working out of the solution of this perplexing question. Truly yours,
L. H. DUNNING.

TECHNIQUE OF THE REEFING OPERATION.

1. Incision at outer borders of quadratus from twelfth rib to ilium. This is carried through the lumbar fascia and along edge of quadratus to loose fat about kidney.

2. The muscles are retracted and the fatty capsule split the whole length of the kidney. The two flaps thus formed are pulled outside, and the kidney thus held well up and back. Care should be taken that the lower pouch of this capsule is pulled high up. In cases of great prolapse, the fatty capsule will be found drawn into a long tube, like a stocking. It will surprise one who has not tried it to see how nicely it can be reefed by drawing it out of the skin opening, and how well the kidney obeys every pull we make in the upward and backward direction. It is expected that Gerota's capsule is included. Five or six inches of this fatty sac can sometimes be drawn up. The kidney will now be seen to lie snugly in the lumbar wound, and yet to rise and fall in respiration. Probably it will be an inch or more below its normal place. This is an advantage, because it removes from it the pressure of the liver, and enables us to hold the entire organ and not merely its lower pole. I have had cases of relapse by older methods in which the lower pole was still anchored by my stitches, while the upper end tilted forward and could be felt below the costal arch in front.

3. The broad segments of the fatty capsule, and its enclosing, or Gerota's, fascia already drawn outside are now held by the hands of an assistant or by long forceps, while the opening in the muscular wall is closed by a line of mattress stitches. These transfix the fatty capsule. The real support is obtained, however, not by the stitches, which would cut out, but by compression between the muscles.

4. The flaps should now be cut off an inch or two outside the muscle, everted and stitched down, after which the skin can be closed in any simple manner. In Dr. Steele's case we brought the fatty capsule out through the skin also, and cut off the surplus. These wounds seem to belong to a class in which primary healing is easily obtained.

REPORT OF OPERATIONS.

CASE 1.—M. F., aged 27, multipara. First noticed dragging pain and soreness two years previous. The right kidney descended so far as to touch bladder, and was easily palpated in any position. No enteroptosis.

Operation, with oblique incision. Kidney drawn easily into wound and held by broad ligament forceps clamped on fatty capsule. The latter was drawn cut and upward four or five inches outside skin. In this case I had not thought of the mattress stitches, and I used interrupted catgut of large size, closing the muscle, and compressing the fatty capsule into a roll which had a tendency to keep the muscles apart. The skin was closed over with buried catgut and a collodion seal on wound.

Primary union occurred, and thirteen months after operation there was no return.

CASE 2.—Miss G., aged 24. Some history of dyspepsia, and dilated stomach. Had for seven or eight years pain and dragging in right side. The movable kidney was discovered by her physician, who advised a supporter. This gave only partial relief.

Operation, with vertical incision from ribs to pelvis. Quadratus and psoas formed inner boundary of muscular cut. Capsule drawn freely up, held with two broad ligament forceps, and a line of mattress stitches made to grip it while closing the muscle. Skin closed over the whole, and a small drain inserted. After the skin wound was closed, a flat tumor formed by the excess of fatty capsule could be felt and seen outside the muscle.

This patient had no recurrence after six months.

CASE 3.—Miss S., aged 32. For nine years had had pain in walking, some gastric disturbance, neurasthenic symptoms, and a palpable tumor in right side, which descended as far as the anterior superior spine of the ilium. When held in position by the hand, patient felt much relief, and also in lying down. No bandage had been found which did not seem to increase the trouble by getting above the kidney and pushing it down.

Operation, by vertical incision from ribs to pelvis. Quadratus and psoas as usual formed inner boundary of the muscular cut. Adipose capsule was drawn out, after dividing it lengthwise, and held by two long clamps. The kidney came well into the wound. Eight mattress stitches of chromicized formalin gut were used to close the muscles, and this seemed to hold the capsule very smoothly. The fatty flaps were then turned outward, and sewn to the muscles in opposite directions, after which the skin was closed with buried sutures, and a small bundle of silkworm gut left in the lower angle.

Primary union occurred here, and no recurrence had appeared after five months.

CASE 4.—Miss H., a patient of Dr. D. A. K. Steele, aged 25. Has had a right wandering kidney for several years, causing local pain, malaise and nervous symptoms.

Operation, at Chicago Hospital, by Dr. Steele, assisted by myself. The oblique incision was used, and the kidney easily found. The fatty envelope was divided longitudinally. The two flaps thus formed seemed to have considerable strength, and all present noticed that the organ could be drawn up and held quite snugly against the posterior opening, while at the same time its respiratory movement did not cease. Catgut sutures were used, and the capsule drawn outside both muscles and skin.

No recurrence has taken place up to the present time.

CASE 5.—Mrs. M. V., multipara, aged 42. After a miscarriage two years ago had pain or sense of weight in right side. Dr. Eisendrath diagnosed wandering kidney.

Operation, at Post-Graduate School, by Dr. Eisendrath and myself. Vertical incision as before. Fatty capsule drawn out and held by two forceps, while sutures were placed mattress form, fixing it between muscles. The fatty capsule seemed a little more frail and tore easier than in my other cases. The skin was closed and a small drain placed in lower angle.

A relapse occurred in this case very early, whether from some imperfect carrying-out of the technique, or some inherent fault of the method, I should be glad to know. At a recent examination I found both kidneys markedly prolapsed, but the left more than the right.

CASE 6.—Miss A. R., aged 15. Had been under Dr. Johnson's care for gastric dyspepsia and neurasthenic condition, and on account of persistent pain in right side. Examination showed wandering kidney, with an excursion as far as brim of pelvis.

Operation, with vertical incision, and free exposure of fatty capsule. The latter, in two flaps, was drawn freely out, and the mattress sutures of catgut inserted. The two flaps of capsule were then everted and sewn down to the muscle with catgut. After closing the skin, these flaps could be felt to form a slight tumor.

No relapse has appeared in three months since the operation.

CASE 7.—Miss G., aged 26. Has suffered with gastric dyspepsia for several years. Wandering kidney is found on both sides. The duration is not known. Has also had several attacks of severe left renal colic and hematuria, and later passed calculi size of peas.

Dr. Fütterer advised exploration of left kidney, and nephropexy of both. In a previous double nephrorrhaphy on one of Dr. Fütterer's patients I had used the old method, but I had now acquired enough confidence in the new operation to use it in every case.

Operation, on right kidney with vertical incision. On left side the oblique cut, one inch below the twelfth rib, was used, so as to be prepared for removing stones, and possibly following ureter. The kidney was explored digitally, and by needling, and as no signs of pyelitis or calculus were discovered, the reefing operation was done on both sides. The fatty cellular capsule was reflected upon the muscular flaps, while the latter were closed by mattress sutures of catgut. The reflected capsule was then sutured down on each side. The wounds were drained with iodoform gauze, extending to the lower pole of each kidney. Primary union was obtained, and the patient sat up on the eleventh day.

This case is too recent to have much value in the statistics. So far, the result has been perfect.

CONCLUSIONS.

1. The adipo-cellular capsule and Gerota's capsule are strong enough to hold up a wandering kidney.
2. Stitches can not hold this tissue, but pressure between flaps may do so.
3. Nephropexy will often fail in wandering kidney brought about by gastroptosis and enteroptosis.
4. The new method—reefing operation—has been tested from one to thirteen months, and has shown fair results.
5. The interposed fascia has not caused failure of union in any case.

ACUTE GRAVES' DISEASE.*

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The diseases described in text-books under the heading, "Diseases of the ductless glands," are usually chronic in their course. There are interesting exceptions to this rule. Fussell and Taylor have collected from literature 56 cases of acute leukemia in which death occurred in from two to three months. Graves' disease is still more strikingly chronic in its course. The number of fatal cases of acute Graves' disease reported by American authors is remarkably small. The only fatal cases which I have been able to find are those of J. H. Lloyd¹ and F. P. Henry.² A few cases have been reported in which the symptoms of Graves' disease came on suddenly, lasted for a few days, and disappeared with recovery. In French, and especially in German, literature, the reported cases are more numerous, but still rare. Cases of this interesting form of the disease have been reported by the following authors, besides those referred to above: Troussseau,³ Peter,⁴ Roth,⁵ Foerster,⁶ Gräfe,⁷ Freudenberger,⁸ Mackenzie,⁹ Solbrig,¹⁰ Eger,¹¹ Reymond,¹² Mueller,¹³ Hirschlaff,¹⁴ Sutcliff,¹⁵ Moore,¹⁶ Kinnicutt,¹⁷ and Patterson.¹⁸ The case which I wish to add to this list of acute Graves' disease died while under my care at the University Hospital.

Mrs. P., aged 33, married, born in Germany, but a resident of Michigan for many years, occupation, housewife. Her father died at 75; had articular rheumatism for thirty years previous to his death. Cause of mother's death not known. One paternal uncle had rheumatism. The patient was well as a child, and had none of the ordinary diseases of childhood. Menstruation began at 18, was regular, normal in amount, and without pain until three years ago, when her periods,

which lasted three days, were followed by severe pains in the front of the thighs, and a white discharge from the uterus, which lasted three days. Menstruation ceased entirely one year ago, with disappearance of the pains in the thighs. Patient was married at 23, and one year afterward was confined at 7 months, child being still-born. Overwork was thought to be the cause of this premature labor. A second child was born two years later and lived 12 months. A third child is 8 years old and in good health. Articular rheumatism began in one finger sixteen months ago, and gradually involved nearly all the joints of the extremities. The thyroid gland began to enlarge seven months ago, nervous symptoms soon developing. The patient's husband states that severe nervous symptoms and palpitation of the heart developed less than four months previous to the patient's admission to the hospital, immediately following a severe shock. The patient's only son was sick at this time with appendicitis. An operation was planned and the mother was almost prostrated with grief and anxiety. The symptoms appeared immediately after this shock. During the past two months the patient has been too weak to work. The bowels have moved four or five times daily and urine was voided with difficulty. There is constant thirst. The patient has grown rapidly weaker, emaciated, more nervous, and the diarrhea has continued.

Status Præsens.—Patient has the appearance of a very sick person; body is emaciated, though face is fairly full. She is extremely nervous and so restless that examination is made with difficulty. Mind is clear. Height a trifle below average; present weight 74 pounds, four months ago, 140 pounds. Frame slender, musculature very small and soft, panniculus very thin; skin of a light brown color, especially on face, very moist, patient sweating profusely; mucous membranes a trifle pale, tongue thick, with a fairly thick grayish coat on dorsum, teeth poor, no edema at ankles, joints not deformed. The thyroid gland is enlarged in both lobes and isthmus. The tumor extends from the clavicle to the angles of the jaw. The right lobe is the larger. There is marked pulsation in all of the veins and arteries of the gland, and over the gland. On palpation a fine thrill is felt. A loud "bruit de diable" is heard over the gland. Circumference of neck is 37.5 cm. There is no exophthalmos. Von Graefe's sign is absent. Mœbius' sign is positive, as the eye can not converge for any length of time. On extending the hands a fine tremor is noticed. Thorax is rather small, of fair length, is deep and narrow; epigastric angle of fair size. The sternum projects and the angle of Louis is prominent. Expansion is small. Percussion of lungs is negative. On auscultation over right apex expiration is louder than inspiration. Over left apex inspiration is louder than expiration. Over remainder of front there is a weak, somewhat sharpened, vesicular murmur.

The apex-beat of the heart is in the fifth intercostal space, nipple line, and is heaving. On percussion, dullness begins on fourth rib and extends to left, to nipple line, is not enlarged to right. On the first sound at the apex there is heard a harsh, fairly loud murmur, which is well transmitted to the left axilla and is heard over the entire front of the chest. The second pulmonary sound is louder than second aortic, but is not particularly accentuated. Liver and spleen are not enlarged.

The lower border of the stomach is just above the umbilicus. Succussion sounds are present.

The patient was admitted to hospital April 11, 1899, with a temperature of 100, pulse 140, and respiration 30. She was very much exhausted and nervous, partially as the result of a long trip. Following our usual custom in the treatment of Graves' disease, the patient was put to bed and placed upon a light diet, because of an irritable condition of the stomach. An ice bag was applied over the heart, and strychnia, gr. 1/30 t. i. d. were given for three days, then thyroid extract was given in a tentative way, gr. v. t. i. d., and dilute hydrochloric acid after meals. These were continued for seven days, when all medicines were stopped, as the patient was vomiting and had a severe diarrhea. At this time she was taking broths, egg nog, milk and malted milk, but on attempting to swallow anything, vomited and retched fearfully, producing great exhaustion. On the twelfth day she took 23 oz. of malted milk,

*Read before the Detroit Medical and Library Association, May 14, 1900.

did not vomit, but had a number of watery stools; temperature was about 100 and pulse 122. On the thirteenth day she refused most of her nourishment, vomited once, and had a large number of soft stools. On the fourteenth day strychnia was resumed and patient retained most of her food, which consisted of broth and malted milk. On the seventeenth day, on account of diarrhea, bismuth, paregoric and chalk mixture were given, and peptonized milk was given as food. On the eighteenth day she refused most of her food and vomited frequently. Rectal feeding was now begun. Nineteenth day was a very hard one; most of the nutrient enemata were expelled, stools very numerous and watery, and she vomited frequently. Temperature varied from 99 to 101 and pulse ranged from 134 to 150. Patient was very weak and restless. On the twentieth day the patient was very restless; nutrient enemata were given, but most of them were expelled. At times she was so restless that the temperature could not be taken; morphia hypodermically and bromids were given per rectum; temperature rose to 104.5, pulse 160. Patient became wildly delirious—could not be controlled—and raved continuously. On the twenty-first day she grew more wildly delirious and could scarcely be kept in bed; temperature rose to 106.2, pulse to 200; at 10 a.m. temperature reached 107 and it was impossible to take the pulse. Patient died at 12 m.

Unfortunately, I was unable to secure an autopsy. The most salient points in the case are the cessation of menstruation one year before death, the appearance of the goiter seven months before death, the advent three months later of palpitation of the heart, tachycardia and nervousness, immediately after a profound emotional shock, the presence of diarrhea and vomiting, the great loss of weight—nearly seventy pounds in four months—the high pulse-rate and the high temperature toward the close of the illness, the presence of delirium and the complete absence of any evidences of exophthalmos.

From an etiologic standpoint the question of shock is an important one. A large number of cases have been reported in which the signs of exophthalmic goiter developed immediately after some profound emotional disturbance. Case 1, of Mueller's¹⁴ series, was abruptly told of the death of Kaiser Wilhelm, and thought reference was made to her sister, who at the time was very sick with typhoid fever. She immediately became so weak that she took to bed, palpitation of the heart came on, loss of appetite and vomiting, exophthalmos and struma.

Trousseau⁹ relates a case in which three cardinal symptoms of the disease appeared in a single night in a woman who had been greatly affected by the loss of her father. Kinnicut, in the "American System of Practical Medicine," speaks of the following case in his practice: A woman, at sight of her husband covered with blood, was seized suddenly with violent palpitation and tremor, followed speedily by enlargement of the thyroid and protrusion of the eyes. Raymond¹³ reports a case in which acute symptoms suddenly appeared following anxiety in a woman of 45, death occurring on the fourteenth day.

Sansom—"Allbutt's System," Vol. ii—reports a case developing suddenly after fright, but ending in recovery. Moore—cited by Ord and McKenzie in Vol. iv of "Allbutt's System"—reports a case occurring in a young girl after reading of her brother's death, in which the symptoms lasted only two days.

Some of the signs and symptoms of this disease have also developed following operations, severe attacks of pain, the administration of an overdose of thyroid extract and the section of the cervical sympathetic. In Mueller's series, Case 2, five years before the beginning

of the disease, had a sudden blow upon the nape of the neck. In the third case, gall-stone colic preceded the attack many years. In Case 4 there was a long attack of fever of an unknown kind, following which the patient never entirely recovered.

Patterson¹⁹ reports a case in a girl of 15; tonsillotomy was performed. A good deal of agitation and tremor of the hands were noted at the time of the operation. In the course of three weeks enlargement of the thyroid, tachycardia and exophthalmos developed. The tremor also extended to the legs.

If the histories of many of the reported cases of this disease had been worked out carefully, it is my belief that in the majority of them signs, though indistinct, of a pre-existing incomplete Graves' disease could have been obtained. The fright, grief or worry is simply an accidental factor in the disease, which has accentuated the signs already present and hastened the development of others. The entire human family would be suffering from Graves' disease if fright, shock and worry were sufficient causes. There is at this time either an unstable condition of the emotional nervous system, or the disease is present in its incipient stage. In my own case menstruation had ceased five months before the goiter was noticed, and eight months before the severe shock. Articular rheumatism, involving most of the joints, preceded the development of nervousness and tachycardia by a year.

In Raymond's case there was continuous tremor for more than a year preceding the acute attack. In Patterson's, the patient had been troubled with tremor of the hands for eighteen months, which had occasionally made writing difficult. Kinnicut reports a similar case, in which, before there was any evidence of palpitation, a trembling of the hands had interfered seriously with his occupation of bookkeeping. Enlargement of the thyroid occurred six weeks later. In these cases the tremor was an evidence of the existing Graves' disease. Hirschlaff's case had palpitation of the heart and dyspnea at time of menstruation for nine years previous to the acute development of the disease. In 1895, after a fright, convulsions and unconsciousness supervened; similar attacks occurred every month, preceded by paresthesia of hands and feet. Excitement and anger brought on the attacks.

In the majority of acute fatal cases of this disease there is a history of uncontrollable vomiting and diarrhea, which soon exhausts the patient. In Sutcliff's case this feature was very prominent. Vomiting persisted in spite of all treatment till death. For three weeks no food was taken, even the sight of food bringing on distressing vomiting.

J. H. Lloyd's patient was thought to be suffering with cholera morbus. When examined in a good light the cardinal signs of Graves' disease were found. Vomiting continued, prostration became marked, pulse rose to 170, and was tumultuous; patient died at end of third day of illness. Post-mortem was performed by Dr. Dock, showing heart, lungs, kidneys and suprarenal capsules practically negative.

Hirschlaff's case, toward the end, had diarrhea. In Mueller's four cases symptoms on the part of the abdomen ushered in the scene in three cases; there was gastralgia, vomiting and diarrhea, the diarrhea being especially persistent in the first case. In three of his cases, the voice acquired a nasal twang, becoming toneless and soft. Several showed bulbar symptoms in a slurring of the speech.

Psychical condition.—All four of Mueller's cases showed great restlessness, irritability and excitability. The great motor restlessness continued until death. The first three cases had delirium at the periods of exacerbation. Case 4 had feelings of anxiety, associated with frightful dreams and hallucinations. My case showed wild delirium toward the close. Henry's case was markedly delirious. Hirschlaff's case showed great restlessness, amounting almost to choreic movements. A number of hysterical attacks occurred following trifling annoyances. Very rapid tremor was present in all four of Mueller's cases. It was also marked in Hirschlaff's case and my own. Patterson's, Reymond's and Kiinnicutt's cases all showed fine tremors. Charcot first called attention to the tremor as a symptom in Graves' disease. Marie thinks it presents characteristics which distinguish it from all other forms of tremor. The to-and-fro movements of Graves' disease occur at a rate of 8 to 9½ per second, whereas the tremors of paralysis agitans, general paresis, alcoholism and general senility are much slower, about 4 to 5 per second, and more regular. The importance of the presence of tremor should be emphasized because of the assistance it gives us in diagnosing incomplete and incipient forms of Graves' disease.

The number of post-mortems on acute cases of Graves' disease is small. Mueller makes the following reports in the cases examined by him:

Case 1 died three and a half months after beginning of the disease. Numerous small fresh hemorrhages were found in the medulla oblongata, especially in the neighborhood of the vagus nucleus, and in the upper olive body; otherwise the cerebral peduncle, pons, oblongata and spinal cord were normal. The vagus trunk showed considerable degeneration on both sides, in slight degree also the recurrent vagus and the heart nerves. The sympathetic appeared entirely normal. Near the enlarged hyperplastic thyroid were a number of lymphatic glands the size of cherry-stones, showing fresh and old hemorrhages throughout their substance.

Case 2 died in a little over two months from the beginning of disease. Struma, slight heart hypertrophy and numerous swollen lymph-glands in the neck were present. The spinal cord, medulla, pons and cerebral peduncles were normal. On the floor of the fourth ventricle were rather numerous, fresh hemorrhages, arranged especially in and about the vagus nucleus. The sympathetic was normal.

Case 3 died in less than six weeks from beginning of disease, and showed nothing abnormal either in brain or medulla, except a moderate degree of edema. The sympathetic was normal. Besides the old cholelithiasis there was struma and brown hypertrophy of the heart muscle.

Case 4 did not come to the post-mortem table.

Case 5 was a subacute one, dying after ten months of illness. Post-mortem showed the sixth and eighth dorsal vertebrae carious. There were several small fresh hemorrhages in the fourth ventricle; no other changes in the brain. Vagus, recurrents, cardiac nerves and cervical sympathetic without demonstrable changes. The dorsal sympathetic in the neighborhood of caries was interrupted. The splanchnic was normal; thyroid hyperplasia; no hemorrhages; numerous swollen cervical lymph-glands were hyperplastic and studded with fresh and old hemorrhages. There was brown atrophy of the heart. Seeligmüller (Lehrbuch der Nervenkrankheiten) reports a similar case of Basedow's with spondylitis, which recovered. Peter reports a case which died after an illness of eight days, in which both lower cervical ganglia were enlarged, the ganglion cells small and in part granular, and the nerve elements diminished. The upper middle cervical ganglia were normal.

In Hirschlaff's case post-mortem showed adenoma of the thyroid, hyperplasia of the thymus, tonsils, spleen and of the adenoid tissue in the stomach and intestines, hypertrophy and dilatation of the aorta.

The only pathologic lesion which is found constantly

present in these cases of acute Graves' disease is the diseased thyroid gland, which is usually hyperplastic. Supporters of the theory that disease of the sympathetic nervous system is the cause of Graves' disease point to the fact that Beveridge, Smith, Knight, Virchow, Biermer, Moore, Hopfengartner and Johnson have all reported cases of Graves' disease in which changes were found in the sympathetic.

Analogous changes in the sympathetic, however, have been found in other diseases, such as traumatic neuroses, Bright's disease, tabes and diabetes. On the other hand, the supporters of this theory must remember that in numerous cases of Graves' disease the sympathetic has been found to be normal. Pathologic changes in the brain and cord are not sufficiently constant to give them any importance from an etiologic standpoint.

The striking difference between acute and chronic cases lies not in the pathologic findings, but in the greater intensity of the symptoms, especially those on the part of the gastro-intestinal tract, evidencing a more profound intoxication with perverted or excessive normal thyroid secretion.

Treatment is of no avail. Digitalis, strychnia, bromids, morphia and thyroid extract have all been used, and with indifferent results.

The use of thyroid extract in Graves' disease, acute and chronic, is condemned by many as irrational. If one accepts the theory that Graves' disease is the result of an excessive secretion of the thyroid gland, it certainly would be illogical to prescribe thyroid extract. It would be just as sensible to give hydrochloric acid in Reichman's disease and expect an improvement in the symptoms. However, upon the ground that this disease is the result of an absorption of an excessive amount of perverted thyroid secretion it is good treatment to give these patients thyroid extract. By supplying artificially a normal secretion, it is possible for a diseased organ to recuperate and regain its normal function. In diseases of the stomach with subacidity we prescribe hydrochloric acid, and in many cases, the stomach regains its power to secrete a normal gastric juice. In the treatment of the disease we must guard against drawing too favorable conclusions regarding the efficacy of therapeutics. The disease is prone to improve without or in spite of treatment. On the other hand, exacerbations may occur during treatment, and one is led to think that the medication is responsible for the relapse, when it is without blame. It can not be foretold whether thyroid extract will do a patient good or harm, but many patients with the chronic type of the disease have improved under its use, and it seems a justifiable clinical experiment to try this drug in the treatment of Graves' disease.

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MEDICAL ORGANIZATION AND THE REORGANIZED NEW YORK STATE MEDICAL ASSOCIATION.

The pernicious conditions existing in the medical profession, regarding its material interests, is a subject which calls for the consideration and earnest thought on the part of all the members of that profession who are interested in its welfare. These conditions are many and varied, and too well known to need repeating here. In every instance they are the result of a lack of organized effort, on the part of the profession itself, to remove them.

Organization in the medical profession of the United States is at present best defined as "chaotic." While there are nearly fifty states and territories, and as many state and territorial societies, there are also nearly as many plans on which these are organized. A few are based on the county society, membership in this carrying membership in the state body; a few others, recognizing the value of the county organizations, encourage them in a half-hearted manner; a majority of the state societies absolutely ignore the local society.

The basis for the complete organization of the profession must be the county or local society; this must be regarded as an axiom. Another assertion must be accepted as a truth before a complete and permanent organization may be looked for: The objects of the organization must include the material, as well as the scientific, welfare of the individual members. The average physician is only human, and he asks for a material return for the money and energy he has invested. This must come directly to him as an individual, or indirectly as a member of a profession which he sees materially benefited as a result of his investment. While the scientific and educational advantages of the ordinary medical society are alone sufficient to satisfy the few, the many are not so satisfied; they want something more. The state medical society which attempts to completely organize the physicians in its territory without recognizing these fundamental principles will fail in the future as it has failed in the past.

Holding these views, we can but endorse the plan on which the New York State Medical Association is being reorganized, for it is evident that the committee on reorganization has recognized the necessity of this broader plan in formulating its charter and organic law. According to these, the reorganized New York State Medical Association is to be the central body in which

the sixty-one county associations, when organized, will unite, and through which the combined county associations will work. Its fundamental principle is fair and equal representation, leaving no chance for the formation of cliques, or a possibility of its management getting into the hands of a few. The Association has just issued a pamphlet which contains the new charter and proposed laws, together with the proposed by-laws for district and county associations, from which we obtain the following information:

The subordinate bodies of the State Association are the "district branches" and the county associations. Of the former there are five—First or Northern; Second or Eastern; Third or Central; Fourth or Western, and Fifth or Southern district branches, each including from ten to fourteen counties.

The membership is composed of resident, non-resident, corresponding and honorary members, all but the first being non-residents of the State. The active voting members are called "Fellows" and are delegates elected by the county associations annually in the proportion of one for each ten active resident members. These, as do all the officers, serve one year. They meet with the Council annually on the day preceding the regular annual meeting of the State Association, conduct the general business of the Association and elect officers.

The "Council" consists of the fifteen officers of the Association, i. e., president, vice-president, five ex-officio vice-presidents—these being the presidents of the branches—secretary, treasurer and the chairmen of the six standing committees. It is the active working body, the executive board of the Association, and during the intervals of the meetings of the larger body, manages its interests.

Members are not elected to the State Association directly, but obtain this membership through that of a district branch, or county association. To become a member of a district branch the applicant must be a resident of the district included in that branch, and of a county in which there is no affiliated association. Residents of those counties in which there is a county association must obtain their membership in both the district branch and in the state organization through membership in their own county association. When the members of any district branch, residing in one county, are ten in number they must organize a county association, and thereafter control memberships from that county. This, in brief, is the plan, which means that to become a member of the State Association the applicant must be a member in good standing of his local association, if there is one, and, if not, of the district branch, membership in the county carrying with it membership in the branch and state associations without further fee. It means the building up of the local associations. Each county and branch association elects its own officers, controls its own affairs, and makes its own laws, but these must be in conformity with the organic laws of the State Association. For the reason that

there are many counties in which there is no local association, the district associations are necessary, but whether this will be true when all the counties are organized time will tell. It is presumed that each of the district associations will now work energetically to organize an association in each county, so that, before long, it is hoped we may look for an association in every county in the State.

Two important provisions are incorporated in the charter and by-laws which have reference to what we have designated above as the "material interest" of the individual member. The first of these provides for the establishment of a death-benefit fund. Section 4 of the charter is as follows:

The New York State Medical Association may, in its discretion, establish a death-benefit fund, and may include in its by-laws an article governing the establishment and distribution of the said death-benefit fund.

Whether a life-insurance department is advisable or not we are not prepared to say. We understand that a suggestion has been made that, instead of this, provision be made for creating a fund to be used for the superannuated among the members, in other words, provision for old age rather than for the dependents of a deceased member. In any event the creation of some such fund would have a good effect in two ways: the direct good for which the fund is created, and the indirect in keeping those once affiliated in active membership. One having an interest in such a fund would naturally be more liable to retain his membership than if there were no such interest to hold him.

Another excellent provision is that covered by sections 5 and 6 of Article II of the by-laws.

It shall be the duty of the Council to employ an attorney and counselor-at-law, resident in the city of New York, who shall appear in all legal matters for and on behalf of the New York State Medical Association. It shall be the duty of the Council to receive and consider all applications of members for assistance in defense of suits for alleged malpractice or other matters affecting their professional status, and all complaints of violations of the laws of medical practice and of public health; and the Council shall without delay, and with the advice of its attorney, examine the case and determine the expediency of defending such action or prosecuting the alleged violators. If the Council's decision be in the affirmative, then the New York State Medical Association shall furnish the funds and legal services necessary for the conduct of such defense or prosecution.

These provisions are of the greatest importance and will result in more material benefit to the profession than any other that could have been incorporated in the organic law. The great trouble in every state is that the medical laws have not been enforced; and those who have had experience in trying to enforce them know that this will never be done by the politically appointed or elected prosecutors. It must be done, if at all, by physicians; and as there is not a state in which they are thoroughly organized, there is not a state in which the medical laws are enforced. Our friends in Kentucky have come nearer keeping quacks out of their state than has been done in any other, and this is be-

cause a few have been well supported in every way by the many. Hence, we believe the provision made for this work in New York is destined to result in good in many ways.

The provision made for the assistance of members in the defense of suits for alleged malpractice, when justly brought, is such an excellent one that it needs only to be mentioned to be commended. The resisting of suits for alleged malpractice is as much the duty of the profession as a whole as it is that of the individual directly affected; for the success of one of these suits, either by compromise or otherwise, is liable to bring on a dozen others.

The reorganization of all state societies on a uniform basis has been proposed, but what the ideal plan would be which each state would be invited to adopt is a question which requires earnest and careful consideration. The above outlined plan, which the New York State Medical Association at its meeting this month will consider—for it has not yet been adopted by that body as a whole—has many excellent features; whether it can be made more ideal is for the future to decide.

HOSPITAL ORGANIZATION.

The method of organization of the medical staffs of our hospitals is a matter of great importance. Naturally the same plan, even though quite ideal, is not applicable to all hospitals, because their scope and nature differ greatly. In the case of those of large or medium size, whether supported by some branch of the government or by endowment, the general conditions are usually quite similar, and it would seem natural that the medical staffs were appointed and organized according to some well-considered plan which had gradually met with more or less general approval. At present, this is far from being the case. In most of our city and country hospitals the positions on the medical staffs are prostituted in the interests of practical politics. There is no reasonable certainty in the tenure of office; there is no esprit de corps in the staffs so constituted, and no successful attempt can be made to organize them into harmoniously working bodies, because of the total absence of high motive and of proper training in most of the appointees. Such hospitals are usually scientifically sterile. The limitations of the authority of the attending physicians and surgeons and of the non-medical officials are illy defined and not infrequently lead to occurrences of whose disgraceful character the least said the better. Naturally, there is but little discipline among the internes in such hospitals. Fortunately, there are institutions in which better systems prevail, and it seems that the conditions in general are slowly improving in most of the large cities.

In the hospitals maintained by endowment or by religious bodies the conditions are, on the whole, somewhat better, certainly more refined, yet in these is seen a rather low standard of organization that leaves

much to be desired. Speaking generally, the attending clinicians in both these groups of hospitals give their services free to the non-paying patients. In some hospitals this means that an attending clinician may take free charge of 50 to 75 patients for shorter or longer periods of time each year; in others, year after year. In hospitals admitting private and pay patients the opportunities for "making money" are often most inviting, especially in surgical work. Hence the fact that in some institutions the number of surgical patients greatly exceeds that of medical. The chief shortcoming of such hospitals is the lack—often absolute—of systematic scientific clinical work of general value. The spirit of commercialism prevails.

In order to improve on the present conditions certain broad general policies should be introduced into hospital management. In the first place, the appointment of hospital staffs should be taken out of politics. This needs no further explanation. The hospitals, especially the larger, should be subdivided into distinct, definite, and, within certain limits, autonomous departments or services, each with its own chief or head, assistant, or assistants, residents, and internes. In a hospital large enough to maintain two surgical departments, each should be independent of the other. Common operating-rooms, common assistants, etc., destroy individuality and hinder the development of the department as a whole. The service should be continuous and practically permanent. The fragmentary service of three months a year, or the like, is incompatible with good work. Apply the principle to other lines of activity and its absurdity is at once apparent. The chief of service should be the best available man for the position, the attainment of which under the conditions briefly outlined here would constitute in the end one of the highest honors a medical man in this country could hope to reach. The proper mode of selection could be worked out easily. The time of service of the assistants, residents, and internes should be arranged with two points in view: the greatest good of the department, and the thorough training of young men. Lastly, the principle that a servant is worthy his hire, is as applicable to hospital work of a responsible character as to any other employment. The custom that physicians should give their time and their services to the extent now prevalent here without the principle of compensation being recognized directly is not only without parallel, but directly detrimental to clinical work of a high degree. Here, we meet with the awkward complication of two spheres of work, one public or semi-public, the other distinctly private. The adjustment will work itself out with time if the principle at stake, and we believe it is a correct one, is recognized, as is the case already in a few institutions in this country and quite universally elsewhere. The affiliation of many hospitals with medical schools and with universities greatly simplifies the problem. Finally, in hospitals so organized may we hope that

scientific clinical and pathological study and investigation will be carried on to an extent that speedily will increase manifold the value of the services of the hospital and that in a much larger and more broadly humanitarian sense than under the present haphazard methods of regime.

SOME SOURCES OF ERROR IN SKIAGRAPHS.

Every method of physical exploration can yield information only with regard to physical conditions, but for the establishment of the anatomic and physiologic significance of which other data will be required. It should hardly be necessary to add that the observations must themselves be in the first place above suspicion. Here, as in the application of all methods of precision, are demanded the two essentials of correct perception and equally logical interpretation, and both of these bespeak a certain foreknowledge. While the large possibilities for diagnostic usefulness of the X-rays were early appreciated, it soon became recognized that the results obtained were susceptible of varied interpretations, in accordance with the skill and the experience of the observer and the opportunities for the development of what, for want of a more convenient term, may be designated "artefacts."

Some of these sources of error are pointed out in a communication presented to the Society of Medical Jurisprudence, of New York, by Dr. Carl Beck,¹ who speaks from an extensive experience. To reduce the likelihood of error to a minimum, it should always be borne in mind that the X-rays produce only shadow-pictures, for the correct interpretation of which a thorough knowledge of the anatomic relations of the parts is absolutely essential. The density of the shadows produced will necessarily vary with the position in which the picture is taken, and, for purposes of control, the observation should be made in at least two directions. For purposes of precise localization it may be necessary to make several observations and to employ special devices. One must always first assure himself that the shadows found are not due to the presence of normal structures, even though these be at times unusual, before deciding them of abnormal origin. It is, therefore, often useful to compare opposite sides of the body under like conditions. As has been indicated, the possibility of anomalous or exceptional conditions, in themselves not abnormal, should always be borne in mind. Then, the incompleteness of ossification in the young, and the bone-changes attending rachitis, for instance, may give rise to appearances in skiagraphs simulating the results of traumatic lesions. It is further appropriately pointed out that the apparent deformity disclosed by the skiagraph is not a trustworthy index of the degree of disability. The point ever to be remembered in the employment of any and all methods of physical diagnosis is that the results yielded are in themselves not conclusive, but their

¹ Medical Record, August 25, p. 283.

significance will depend on the interpretation given them, and this will be governed by a full knowledge of all the possibilities in the case.

AMBIDEXTERITY.

Dr. E. Noble Smith¹ makes a plea for the education of children in the use of their left hands interchangeably with their right, instead of as at present discouraging it. The inconvenience of having to use the left hand for all manipulations when the right happens to be temporarily disabled has been experienced by many of us and we can therefore the more readily appreciate his argument. It certainly would be an advantage if one could be equally dexterous with both hands, and the fact that some favored individuals are naturally thus endowed makes it seem possible that by education all could be made ambidextrous. We are usually inclined to believe with Sam Patch "that one man can do a thing as well as another;" why, therefore, should we all not use our left and right hands alike if we so wish? The almost universal prevalence of right-handedness, however, must have some physiologic basis, and this being the case it may not be so easy to correct the tendency. It is probable that the selection of the right or left hand for special training is a matter of custom and choice; whole nations are, like the Benjaminites of Scripture, said to be predominantly left-handed, but it is none the less the rule that one or the other hand is more dextrous and more used. Man is not a symmetrical being, his viscera are distributed according to his needs, and this fact has been used in theorizing as to the cause of the phenomenon, as noted by Smith. He does not, however, refer to the elaborate speculations of De Fleury and others on the effects of the unequal blood-supply of the hemispheres of the brain, which would appear as likely as anything else to have an influence.

A still more striking indication, as it might seem to some, pointing to the physiologic reasonableness of one-handedness, is the fact that the speech centers are almost invariably located on one side of the brain. There is, as regards the faculties of expression, a close relation between the hand and the organs of speech, and it is in this relation particularly that the inequality of the two sides is most manifested. We can learn with comparative ease to use the left hand for many purposes nearly or quite as well as the right, but it is a much more difficult task to accustom it to write, that is, at least for most of us. The fact also that children who happen to be originally left-handed are easily taught to use their right hands, but then lose their facility with the left—become right-handed instead of ambidextrous—would seem to point to an inability of the average brain to utilize both hemispheres simultaneously to the same extent. Adults who educate themselves out of left-handedness into right-handedness generally do this imperfectly, their right hands can only be approxi-

mately perfect in certain specialized movements; they rarely, if ever, become perfectly ambidextrous. Even ambidextrous—so-called—individuals have a preference, which must be based on some greater ease of use, for one hand or the other. All these facts, together with the additional one that in movements of the lower animals there is a certain degree of unilateral predominance, indicate that one-sided function is natural and due possibly to an inherent incapacity of the average brain to work both sides alike. There are still other facts in connection with aphasia that are suggestive in this connection, but they need not be considered here.

The question remains, if unilateral function is the normal condition and bilateral equivalence the rare exception, might not the attempt to educate the average individual into ambidexterity result in a lower grade of functional performance? In other words, is it in the best interests of the child to attempt to make it ambidextrous? According to Noble Smith, this is already being attempted by the school authorities of Philadelphia and it will be of interest to note their success.

DIED AT HIS POST.

The death of Dr. Jesse W. Lazear, noted elsewhere, is another sacrifice on the altar of professional duty. Dr. Lazear's work in the investigation of yellow fever was such as demanded a man of his ability and qualifications, and he fearlessly devoted himself to it, rendering services that are spoken of in the most appreciative way by his superior, the head of the army medical department. If any man ever gives his life for others it is the physician who dies the victim of disease contracted at the post of duty. It is to the honor of our profession that such cases are not rare.

THE TEXAS MEDICAL LAW.

The medical examining board for the Texas judicial district including Houston, recently resigned in a body for good and sufficient reasons. While the law provides for such a board to examine diplomas and undiplomated candidates for the practice of medicine, recent judicial decisions have declared that the diplomas of any one legally incorporated institution for medical education are as valid as those of any other. Thus, the most fraudulent concern is placed on the same level as the best, and, as a defense of the public against quacks, the law is nullified. No self-respecting physician would care to hold an office the function of which is to license the diploma-holders from the Armstrong succession of chartered frauds. Hence, the board very properly resigned. The members of the other Texas boards would do well, if indeed they have not already done so, to follow their example. The Texas State Medical Association has elaborated a bill for a medical practice act corresponding in the main with those of other states that require an examination as a preliminary to the issuance of a license. It is to be hoped that it may soon become a law, and it will if the members of the medical profession in Texas do their duty and exercise the influence they possess.

¹ British Medical Journal, September 1.

THE RAW MEAT FAD.

Twenty-three men and women of Chicago, where Dowie throve and Schweinfurth sprung, have organized themselves into a "Raw Food Society" and propose to start a propaganda. The basal idea of this organization is best explained by the resolutions adopted, in which they state that it is their firm conviction that life will be lengthened, pestilence and contagious disease wiped out of existence, and men will become giants physically, intellectually and morally by abstinence from cooked food. It was never intended, said their president, "that man should eat food that has been cooked, that he should take into his system dead cells to replace the worn-out cells cast off from the body." Just how these reformers are to get along with the ordinary conventionalities of civilization in very many ways is hard to understand; perhaps, they will consistently throw civilization overboard and get along without it. At any rate, civilized man who can not do without cooks will very probably have to contrive to exist with them for some time to come. No one will object to such extremists taking their food raw if they want to, but if they make further steps toward the simian golden age and begin to do without clothes they may have to be interfered with.

MALODOROUS THERAPEUTICS.

It is not often that a sensorially very obtrusive public nuisance is defended on sanitary grounds by medical men, but such appears to be sometimes the case, if we are to trust the newspaper reports of a recent occurrence in New York. The health officers of a village on Long Island, in support of an application for an injunction by interested parties against a dumping-ground for the city's stable refuse, described it as a menace to health, with an odor permeating the atmosphere for miles around, affecting even the slumbers of the inhabitants and ineradicably abiding in their draperies and habitations. Against this strenuous denunciation the offending contractors furnished the affidavits of two presumably prominent New York physicians. One of these, said to be a specialist in nose and throat diseases, averred, it is alleged, that he had "carefully observed the effects of the exhalations and gases arising from fermenting stable refuse upon the respiratory organs and deemed them conducive to health," and that he had advised his patients to expose themselves as much as possible to such odors and gases. A member of the offending firm was perhaps one of these patients, as he claimed that he had entered the business because he had been thus advised and his health had profited. Of course, he may have only followed lay advice, for it is well known that the notion of the salutary therapeutic effects of animal ordure in one form or another is widespread in a certain class, but we have heretofore considered it only as a very vulgar superstition. Now, that it has the sanction of a learned lecturer it is to be hoped that the laboratory of his school will soon send out some published results of researches on the subject.

QUACKERY AND THE POLITICIANS.

The osteopathy propaganda, failing in any scientific endorsements that would be impressive to the

public, is sending out the alleged opinions of politicians in regard to their pseudoscience. One of the latest sent out is a selection of utterances purporting to come from eleven governors and ex-governors of several states in favor of osteopathy. One of these from the governor of Missouri is superfluous; his deeds speak louder than words and he has amply demonstrated his mental idiosyncrasies. Another, however, purports to come from Governor Tanner, of Illinois, whose record is somewhat different. He is made to say: "There is no doubt in my mind that osteopathy will reach and cure many chronic troubles that medicine would have little or no effect upon." This may be sarcasm, though as such it requires a little second thought to see it, and it is not taken as such by the osteopaths. Altogether, considering his previous sensible action in this matter, we will accept it as irony. One or two others of the statements quoted, if not quite non-committal, at least do not commit their makers very strongly as partisans, and may have been merely the complaisant answers of lay politicians to requests that they did not care to directly refuse. Some, however, "slop over," to use a vulgarism, like Governors McMillan and Taylor, of Tennessee, who consider osteopathy as the epoch-making discovery of the century, and ex-Governor Altgeld, of Illinois, who poses as one relieved by osteopathy while drugs and prescriptions "were as ineffectual as empty words." It is not surprising that out of the hundreds of living governors and ex-governors of states any set of quacks or system of quackery should find a short dozen of endorsers, and, of course, they are utilized to the utmost. It would not be a bad plan if the profession would keep in mind the politicians who endorse quackery; if this were done they might not be so ready to give it their good word.

THE SERUM TREATMENT OF TUBERCULOSIS.

The paper of Mircoli, abstracted elsewhere in this issue,¹ seems worthy of at least passing comment. The striking results with so large a series of cases, nearly 3000, from the use of the Maragliano antitoxin in the different forms of tuberculosis are better shown in his tabulated statements than in our abbreviated report. Over 14 per cent. of the cures added to nearly 50 per cent. of "improved" is a good showing. When we analyze the figures further and find that the disease progressed during the treatment in only about 18 per cent., and that the disease in the cases rated as improved tends to be permanently checked, it is still better. Even in the advanced cases with cavities already formed, only in about one-third was the disease still progressive during the treatment. Besides these results, which, it must be said, were attained with the additional aid of general hygiene and dietetic treatment, the paper reports other facts of great interest. One of these is that while blood-serum of the normal individual has an antitoxic action toward the tuberculous toxins and that of the tuberculous patient has not, the latter regains this after a month or so of treatment with the Maragliano serum, thus showing that the latter puts the system into a condition to assist in defending itself. Mircoli's opinions as to tu-

1. See p. 914.

berculin are also noteworthy. He holds that it directly increases the amount of toxins already in the organism, and in tuberculous individuals it may need "only the fraction of a gram to overthrow the already unstable equilibrium." When we remember that the use of tuberculin is being advocated by some for a diagnostic purpose, these statements are deserving of careful consideration. If we accept, with Mircoli, the views of Naegeli that practically all persons are or have been infected and still carry the latent foci in their bodies, this possibility of stirring them up to activity is a very serious one. While all the views and facts contained in Mircoli's article are not new, yet it is worthy of careful attention as an important contribution on the therapeutics of tuberculosis. Something must be allowed, however, for a possible enthusiasm in such a paper, and it may be perhaps considered as somewhat of an *ex parte* view of the method.

Medical News.

CALIFORNIA.

THE SPANIARD who brought smallpox to Chico has died; another case has appeared, and quarantine has been established.

THE PASADENA MEDICAL SOCIETY, on September 11, passed resolutions commending the local board of trustees for its action in sewerage of the city.

OAKLAND'S death-rate for August was the lowest on record, 9.76 per thousand per annum. More than 20 per cent. of the deaths were from consumption.

DR. JUNIUS D. YOUNG, Stockton, was reappointed first assistant physician at the State Hospital, September 13. Under the new regulations this gives him a life position from which he can be removed only for cause.

THE GIBBS BUILDING, the first of the brick structures which are to replace the frame buildings of St. Luke's Hospital, San Francisco, had its cornerstone laid, September 19. The building will be 135 feet long, 44 feet wide and two stories and a basement in height.

LOS ANGELES parents are being forced to obey the vaccination law. One opponent has had his five children refused admission to school for want of certificates. The health officer is vaccinating the children by fifties and is also supplying virus and certificates to local physicians.

THE QUARANTINE OFFICER of San Francisco, who applied for a mandamus to compel the audit of his demand for salary, has had his application denied by Judge Seawell, on the ground that the duties of quarantine officer do not extend to any part of the city and county and that efficient quarantine and inspection is already maintained at that port by the United States Marine-Hospital Service.

GEORGIA.

THE CHARTER MEMBERS of the Georgia Pasteur Institute and Laboratory met in Atlanta September 21 and organized by electing the following board of directors: Drs. Charles D. Hurt, Claude A. Smith and James N. Brawner, Atlanta; Dr. Henry R. Slack, La Grange; Dr. James H. McDuffie, Columbus; Dr. St. Joseph B. Graham, Savannah; and Dr. Ernest P. Ham, Gainesville. The following officers were then elected: Dr. Henry R. Slack, president; Dr. James H. McDuffie, vice-president; Dr. Claude A. Smith, secretary; Dr. Charles D. Hurt, treasurer. The directors propose to have in connection with the institute the best equipped pathological and bacteriological laboratory in the South and expect to open before November 1.

ILLINOIS.

DR. JOHN E. TUTE, Rockford, has moved to Chattanooga, Tenn.

DR. WILLIAM R. PARKES has been appointed commissioner of health of Evanston, to succeed Dr. A. B. Clayton, deceased.

DR. HENRY HATCH and family, Quincy, sail for Europe on the *Campania* to-day. They expect to be gone some months.

THE CITY HOSPITAL is the name given to the new emergency hospital, Quincy. The health officer reported 39 deaths in the city during the month.

A SUIT for \$25,000 for false detention and brutal treatment has been entered by Daniel W. Storms against the Illinois Eastern Hospital for the Insane, Kankakee, to which he was committed in 1895, and from which he was discharged "improved" July 3, 1899.

Chicago.

DR. FENTON B. TURCK has returned from Europe.

DR. MOREAU R. BROWN has returned from the South, and resumed practice. He has associated with him his son, Dr. James M. Brown.

DR. AUGUST F. LEMKE has accepted a position in the department of didactic medicine in the Northwestern University Medical School.

ILLINOIS MEDICAL COLLEGE held its sixth annual commencement at Handel Hall, September 27, when nineteen men and one woman received degrees in medicine.

DR. GEORGE F. BUTLER, of the Alma Sanitarium, will be at the Columbus Memorial Building every Wednesday afternoon until June 1 next.

THE FOLLOWING CHANGES have been made in the faculty of the Chicago Policlinic; Dr. Norval H. Pierce has taken the chair of otology; Dr. J. Rawson Pennington, that of diseases of the rectum, and Dr. Otto T. Freer, that of laryngology and rhinology.

ON THE PETITION of the attorney-general, Judge Haney issued an injunction on September 27, restraining the officers of the Metropolitan Medical College from conducting its business in violation of the terms of its charter. The court is also asked to dissolve the corporation, which is declared to have conducted a fraudulent business and abused and violated its charter since its organization, in 1896. The basis of the petition is the allegation that the college, while advertising itself to be a legitimate institution, did not require the attendance of applicants before conferring on them the degree of doctor of medicine.

HEALTH DEPARTMENT.

THERE has been such a remarkable decrease in the prevalence and in the mortality of the contagious diseases since June 1 that the department has made it the subject of special study. Up to the close of May the aggregate number of deaths from the two typical contagious diseases, diphtheria and scarlet fever, was very nearly the same as for the corresponding period of last year, namely, 584 in 1899 and 557 in 1900. Between June 1 and September 22 these deaths numbered 320 in 1899 and 191 this year—a decrease of 109, or more than 34 per cent. in the last four months. The reduced prevalence of the contagious diseases is shown by the decreasing calls for disinfection. During the first five months of this year 2665 disinfections were called for, as against 1704 in the corresponding period of 1899, an excess of 36 per cent. this year. Since June 1 the proportions have been nearly reversed, 759 this year and 1099 last year, or 31 per cent. fewer.

THE HEALTH COMMISSIONER has received a report from Mrs. Clara Doolittle, sanitary inspector, which shows that there are more than forty asylums in Chicago where babies are taken care of for a consideration. She condemns the manner in which most of these "baby farms" are conducted and believes that some regulation of the system should be required whereby none but suitable persons should be in charge, and a limitation would be placed on the number of children in an asylum. By these means, properly enforced, the present extremely high death-rate might be reduced materially.

The total mortality for September, despite the unusually trying weather of the month, was only slightly in excess of that of September, 1899. The uncorrected total of deaths reported up to midnight of September 30 is 1885—being 63 more than for the month last year and 94 more than the aver-

age September mortality of the previous five years. During the closing week of the month 458 deaths were reported—an excess of 18 over the previous week and of 43 over the corresponding week of 1899. The excess is mainly among infants and children, to whom the recent sudden and extreme changes of temperature have proved particularly trying. To these changes is to be attributed the increased mortality from the acute intestinal diseases, and not to the character of the water-supply. With the solitary exception of the samples collected on the morning of September 25 the water has been continuously usable or good for 23 days. The results of this good quality of the water are seen in the lowest typhoid-fever mortality for any September in fifteen years. The death-rate for the week ended September 29 was 14.05 per thousand. Of males 254, females, 204; infants under 1 year, 116; between 1 and 5 years, 66; and over 70 years, 78 died. The principal causes of death were: Acute intestinal diseases, 90; consumption, 49; heart diseases, 33; nervous diseases, 29; pneumonia, 27; violence, 17; cancer, 16; Bright's disease, 16; convulsions, 15; diphtheria, 14; bronchitis, 13; typhoid fever, 9, and suicide, 9. During the week 570 births were reported. In the laboratory 340 samples of milk and cream were examined, 8.29 per cent. of which were below grade.

INDIANA.

DR. JOHN E. OWEN, Evansville, was seriously injured in a runaway accident, September 24.

THE CENTRAL COLLEGE OF PHYSICIANS AND SURGEONS, Indianapolis, began its twenty-second annual session September 20.

DR. CHARLES HOLTZENDORFF, Plymouth, has returned, after a summer spent in his old home in Germany.

DR. ROBERT N. C. COOK, Boswell, was married to Miss Gertrude L. McClure, a trained nurse, of Vincennes, at Spencer, August 18.

DR. WILLIAM B. McDONALD, New Augusta, suffered fracture of two ribs and injuries to the left leg and head in a runaway accident September 19.

DR. THEODORE A. HOCH, Michigan City, has gone to Worcester, Mass., to enter on his duties as house physician at the Massachusetts State Insane Asylum.

THE MEDICAL COLLEGE OF INDIANA, Indianapolis, held its entrance examination for freshmen September 25, and the fall term opened on the following day.

PROF. GEORGE W. HUFFORD, principal of Shortridge High School, Indianapolis, has been appointed by the State Medical Board of Examination and Registration to act as examiner of the literary qualifications of applicants for admission into the freshman classes of the local medical colleges.

IOWA.

THE NEW \$10,000 addition to the Dallas County Hospital, near Adel, is now completed and ready for occupancy.

TWO HOSPITAL PROJECTS are under consideration in Waterloo. The first contemplates the establishment of a general public hospital open to patients of all qualified physicians and governed by a lay board of trustees. The second scheme is the formation of a stock company, composed of physicians, to build and equip a hospital. Between \$5000 and \$6000 has already been pledged in stock subscriptions.

KANSAS.

DR. O. PORTIS DAVIS, Topeka, was married on September 19 to Miss Mabel Glendennell, also of Topeka.

DRS. M. R. MITCHELL AND C. HAMMOND, Topeka, have opened a hospital in North Topeka called "Riverside Hospital and Maternity."

DR. JOSIAH P. LEWIS has been made professor of gynecology in Kansas Medical College, Topeka, in succession to the late Dr. S. E. Sheldon.

DR. S. B. CHILCOTE, on account of failing health, has sold his practice in Onaga to Dr. Frank W. Randall. Wheaton, and expects to settle in California or the South.

THE KANSAS STATE BOARD OF HEALTH has declared war on

the Independent Medical College of Chicago, and will not permit those holding its diplomas to practice in the state.

PLANS are now in the hands of local contractors for the erection of a large private hospital in Ellsworth, to be owned and operated by Drs. Henry Z. Hissen and H. O'Donnell, of Ellsworth.

MARYLAND.

DR. CHARLES F. DAVIDSON will move from Queenstown to Easton.

THE BOARD OF HEALTH of Baltimore County met at Towson September 20 and discussed the quality of vaccinia virus supplied to the vaccinating physicians, received reports of seven cases of diphtheria and decided that the secretary should receive the fee of 20 cents for the registration of each birth and death in the county.

Baltimore.

DRS. WILLIAM OSLER AND THOMAS C. GILCHRIST have returned from Europe.

DR. B. MERRILL HOPKINSON was re-elected president of the Atlantic Association of the Amateur Athletic Union at Philadelphia on September 17.

THE BALTIMORE UNIVERSITY opened October 1 with an address by Prof. J. A. Melvin on "Medical Folk Lore."

THE WOMAN'S MEDICAL COLLEGE opened October 1 with an address by Prof. Claribel Cone.

DR. G. MILTON LINTHICUM, professor of physiology and rectal surgery in the Maryland Medical College, who has been studying abroad, will return to his duties this month.

DRS. JOHN RUHRAH AND MELVIN S. ROSENTHAL, who served as resident and assistant physician, respectively, at the local quarantine station, are in Europe pursuing studies in their specialties, internal medicine and skin diseases.

MARYLAND MEDICAL COLLEGE opened for the fall session September 17. Prof. Richard L. McNeer made the introductory address. Dr. Harry Gross has been appointed professor of operative and clinical surgery and Dr. Ernest E. Quandt professor of chemistry and toxicology.

THE BALTIMORE MEDICAL COLLEGE opened on the evening of September 27 with an address by Prof. William E. Moseley on "Medical Education from the Standpoint of the Unendowed Medical College." Dr. J. M. H. Roland has been made professor of obstetrics. Mr. Archibald H. Taylor has resigned the chair of medical jurisprudence and has been succeeded by State Senator Olin Bryan.

MICHIGAN.

THE FALL TERM of Saginaw Valley Medical College, Saginaw, commenced September 19. The addresses of welcome to the new students were delivered in the college auditorium.

DR. K. H. MALLARIAN, a recent graduate of the Detroit College of Medicine, was refused admission to his native country, Armenia, by the Turkish authorities because he had become an American citizen, and has returned to Detroit.

THE TRIAL of "Dr." Haley, at Niles, for the illegal practice of medicine resulted in the ex-branchman being fined \$25 and costs. The defendant is said to have left town to avoid serving 30 days in jail in default of payment of the fine imposed.

MINNESOTA.

THE BOARD OF CONTROL of the City Hospital, St. Paul, has accepted the offer of Dr. Mabel Austin, mentioned in the last issue of THE JOURNAL, and has appropriated \$300 for the equipment of the bacteriological laboratory.

THE COLLEGE OF MEDICINE AND SURGERY of the University of Minnesota, Minneapolis, opened its school year, September 25. At an informal meeting on the previous evening in the amphitheater, Dr. Richard O. Beard, dean of the college, spoke upon "The Hospitality of Scientific Medicine."

DR. JOHN B. BRIMHALL, St. Paul, secretary of the State Board of Medical Examiners, is investigating the death of a patient from appendicitis who was under treatment by an unlicensed physician for a trivial complaint. He intends to prosecute the unlicensed practitioners of medicine in the state to the full extent of the law.

MISSOURI.

DR. C. LESTER HALL, Kansas City, has been sued for \$15,000 because, as the petition relates, he set a broken leg, and when it healed, it was shorter than the other.

FOUR CASES of suspected smallpox were reported in one block in Kansas City, September 24.

THE ECLECTIC MEDICAL UNIVERSITY, Kansas City, has been ordered by Judge Henry, of Independence, to issue a diploma to Minnie B. Lang, who had paid her fees, taken her course and complied with all legal requirements. As the state board of health had instructed this college to issue no diplomas until spring, it remains to be seen what the board's action will be when this diploma is presented with a request for a license to practice.

NEBRASKA.

THE OMAHA MEDICAL COLLEGE held its opening exercises September 25. Dr. William B. Ely, Ainsworth, delivered the address.

DR. HOWARD M. CASEBEER, Lincoln, has been appointed first assistant superintendent of the State Insane Asylum, to succeed Dr. Dearing, transferred to the superintendency of the Institute for the Feeble-Minded, at Beatrice.

CREIGHTON MEDICAL COLLEGE, Omaha, began its seventh annual session, September 24. The opening address was made by Dr. Frank E. Sampson, Creston, Ia., on "The Evolution of Medicine."

NEW JERSEY.

THE WOMEN of Asbury Park are trying to raise sufficient money to build and equip an isolation hospital for contagious diseases.

THE FRIENDS and relatives of Dr. George Yardley Taylor have been apprised of his death in China. He was massacred in Pao-Ting-Fu with the Hodges and Simcoxes. Dr. Taylor was a graduate of the University of Pennsylvania and formerly resided at Burlington.

MEDICAL INSPECTION of schools is now proposed for Newark and Paterson. In the former city it is estimated that the cost will not exceed \$1500 per year. Under the law any board of education is empowered to employ medical inspectors, fix their salaries and define their duties.

NEW YORK.

APPLICATION has been made to the State Board of Charities by the Herkimer Emergency Hospital, for permission to incorporate.

THE CORNING HOSPITAL received 47 patients during the first three months of its existence. The attending surgeon for the coming quarter will be Dr. Charles W. Hayt; attending physicians, Drs. John L. Miller and Willis S. Cobb.

A HOSPITAL is to be erected in Johnstown, by Alden M. Young, New York City, who has already donated twelve lots on Pennsylvania avenue for the building. The hospital, when finished, will be presented to the city.

DR. EDWARD A. PARKER, Brooklyn, has been appointed junior assistant physician at the Long Island State Hospital, and Dr. James L. Devlin, Sonyea, medical interne at the Manhattan State Hospital.

VIOLATORS of QUARANTINE in Rochester will be liable to a year's imprisonment, or both, in virtue of a section of the code which provides this punishment for violation of any rule lawfully passed by a health board. The attorney for the health department gives warning that this law will be enforced rigidly.

THE ALBANY MEDICAL COLLEGE resumed its sessions, September 26. The introductory lecture was delivered by Dr. Hermon C. Gordinier, Troy. Dr. Andrew MacFarlane has been made adjunct professor of medical jurisprudence and physical diagnosis, and Dr. Arthur G. Root, clinical professor of diseases of the throat and nose.

ZETA PHI, SYRACUSE, was announced in THE JOURNAL of September 15, page 697, as the first and only medical sorority in the country. In this our informant erred, and in a recent letter asked that the correction be made that a medical sorority

had existed in the West for some time. From another source we learn that the Alpha Epsilon Iota "fraternity" was organized in 1890, with chapters in several universities.

THE SARATOGA COUNTY MEDICAL ASSOCIATION was organized at Saratoga Springs, September 28. The Code of Ethics of the American Medical Association was adopted, and a resolution was passed requesting to be admitted to the New York State Medical Association as a subordinate county association. The officers elected were: Dr. F. J. Sherman, president; Dr. G. F. Comstock, vice-president; Dr. J. F. Humphrey, secretary; Dr. W. E. Swan, treasurer.

NEW YORK STATE MEDICAL ASSOCIATION.—The approaching meeting promises to be one of unusual interest. It will take place on October 15 to 18 in the Academy of Medicine building, New York City. Considerable interest centers in the meeting of the Council and Fellows on October 15, at which time the committee on reorganization will make its report. There will be a symposium on "Obstetrics," one on "Blood," with lantern slide exhibition, and another on "Special Surgical Tuberculosis." Many prominent men from out of the state, as well as from the state itself, will take part.

Buffalo.

THE MEDICAL DEPARTMENT of the University of Buffalo opened its fifty-fifth session September 24. Dr. Eugene Smith, the speaker of the evening, discussed the ethical and intellectual advantages to a city and community to be derived from a university. Dr. Frederick Busch succeeds Dr. Julius Pohlman as professor of physiology.

New York City.

DR. EMIL MAYER has been ill with typhoid fever for the past five weeks, and is still in a serious condition.

THE BROOKLYN HEALTH BOARD has made complaint against Dr. Henry W. Haskell for failing to report a case of consumption, as required by the law, which went into effect two years ago, but until now has not been enforced.

BECAUSE he turned out a consumptive patient from the Metropolitan Hospital, Blackwell's Island, Commissioner John W. Keller suspended the superintendent, Dr. Clyde E. McDonald, for thirty days. This was done notwithstanding the statement by the acting superintendent that the hospital was overcrowded and it was necessary to let the man go.

A HOME for convalescents is to be established at Yonkers. Adrian Iselin, of New Rochelle, has purchased the old Hartley homestead, a pretentious colonial mansion in the outskirts of the city, and has set about remodeling it so as to provide proper accommodations for about 150 convalescents. When completed, the house will be a three-story stone structure, having a piazza on three sides, and surrounded by extensive grounds.

AN INTERESTING CASE of acute general emphysema has been recently observed at the Harlem Hospital. The patient was a man who had fallen from a five-story building and fractured three ribs. The fragments of bone penetrated the lung, and thus opened a channel through which the air could escape from the lungs into the cellular tissue. Within three hours the man had swollen to an enormous size, and the skin was very tightly stretched over the inflated tissues. Temporary relief was afforded by incision and massage.

THE OBSEQUES over Dr. Lewis A. Sayre were held Sept. 23 in Grace Church. Members of the medical profession and numerous lay friends crowded into the church to pay their last homage. The coffin was decorated with large floral pieces from the faculty of the medical school with which Dr. Sayre had been so long connected, and upon his breast were pinned some of his treasured decorations. The interment was in Trinity Cemetery. Dr. Sayre's will, which was filed for probate on the 25th, disposes of an estate of \$50,000 in real and \$3430 in personal property. The old family residence at 285 Fifth avenue will go to his two surviving children, Dr. Reginald H. Sayre and Mary Hall Sayre. He leaves to his son his medical books, instruments and specimens, and his insignia of the Order of Wars, given him by the King of Sweden.

AT A SPECIAL MEETING of the executive committee of the New York County Medical Association, held September 24,

1900, the following resolutions were unanimously adopted: Whereas, it is our sad duty to announce the death, on September 21, 1900, of our late associate, Dr. Lewis Albert Sayre, one of the founders of THE AMERICAN MEDICAL ASSOCIATION, and its president in 1880; therefore, be it resolved, that we place on record our high appreciation of the valuable services which he has rendered to medicine and surgery during his long and useful life; resolved, that his daring originality, his freedom from surgical traditions, along with his unflagging enthusiasm and interest in everything pertaining to his beloved profession, constituted him a teacher of rare excellence, whose pupils will cherish his memory long after the voice of their preceptor is hushed; resolved, that we extend, in the name of the members of the New York County Medical Association, our heartfelt sympathy to the afflicted relatives, and direct that a copy of these resolutions be sent to the family and to the medical journals.

THE STATE BOARD OF CHARITIES has made public a report by Dr. Robert W. Hill of his inspection of the hospitals and almshouses of the city. He urges that increased and better accommodations be provided in most of the institutions visited, and calls special attention to the lack of adequate protection against fire. He complains that there is a lack of provision for helpless and crippled children, these unfortunates being left wholly without accommodation except what may be provided by private charities. He is in favor of utilizing Blackwell's and Randall's islands permanently for the city's charitable institutions, adding that Blackwell's island is not the most suitable place for a prison. The isolation of consumptives in the City Hospital is advised. As was to be expected, he characterizes Harlem and Fordham Hospitals as utterly inadequate and unsuitable for the work they are required to do. Concerning Bellevue Hospital, the report says: "There can be no doubt that from foundation to roof it is full of the germs of disease, and this in spite of all the efforts of science to dislodge them." He thinks the old hospital should be torn down and replaced by a modern structure worthy of New York City. He suggests that, in connection with the out-door department, a bureau be established for the enrollment of applicants for work in the hospitals. This would secure a better class of help, and at the same time give needed aid to many of those discharged from public institutions.

THE WATER FAMINE in New York City threatens to assume serious proportions. Malaria and typhoid fever are reported as being rapidly on the increase in the Borough of the Bronx, and already there are forty fever patients in the Fordham Hospital. This hospital, which is situated on Fordham Heights, has felt for some time the full force of the scarcity of water. A few weeks ago it was reported that a surgical operation had to be deferred until evening because no water could be obtained at the hospital. For a week past not a drop of water has been drawn in the hospital buildings or on the grounds, and the needs of this institution have been met only by establishing a bucket brigade and bringing the water from a hydrant in the valley, half a mile distant. The hospital will soon have no room for more patients, and, in any case, if some relief is not obtained quickly from the water department, it will be compelled to close its doors. The water famine is equally serious in the Borough of Brooklyn.

OHIO.

THE TOLEDO MEDICAL COLLEGE opened on September 27. Rev. F. D. Kelsey made the annual address.

DR. CHARLES O. PROBST, secretary of the State Board of Health, sailed for the United States September 16.

TWO CANTON PHYSICIANS, Alonzo B. Walker and Austin C. Brant, have returned from an extended trip on the Continent.

DR. JOSEPH F. FOX, New Philadelphia, has returned after a two months' absence, spent chiefly in study in London, England.

DR. DARLINGTON J. SNYDER, Columbus, has been selected as the incumbent of the chair of psychologic medicine recently established at the Ohio Medical University.

EXAMINATIONS for the freshman classes of the medical colleges of the state were held in Columbus, September 25, 26 and 27, by Profs. E. W. Coy, Cincinnati; Edward L. Harris, Cleveland; H. J. Eberth, Toledo, and Charles E. Albright, Columbus, the examiners appointed by the State Board of Medical Registration and Examination.

THE CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS opened its fortieth annual session in its new building, September 19. Addresses were made by Rev. John B. Hillman and Dr. Charles B. Parker, dean of the college, who gave a historical review of the college and university.

THE CLEVELAND MEDICAL SOCIETY passed the following preamble and resolutions brought before it by the committee on hygiene: Whereas, a resolution has been introduced into the school council providing for the appointment of three medical inspectors of buildings, such inspectors to be appointed by the director of schools; and, whereas, such inspection properly belongs to the department of hygiene already established and in operation for five years, and is essentially a function of the educational rather than the executive department of the schools; resolved, that we, the members of the Cleveland Medical Society, hereby recommend that the school council give to the supervisor of hygiene a sufficient number of medical assistants, not less than two, to enable the department to more effectively conserve the health of teachers and pupils by giving more frequently practical instruction in all matters pertaining to hygiene and by more frequent and thorough inspection of the physical condition of the children and of the condition of the buildings as to heating, lighting, ventilation, cleanliness, particularly of closets, and the like.

Cincinnati.

DR. EDWIN W. MITCHELL has returned from a three-months' trip in Europe.

THE DEATH-RATE for the week ended September 22 was only 10.40 per thousand. The total number of deaths was 91, of which 86 were white and 5 colored; 16 were over 65 years of age, and 16 were under 1 year; 50 females and 41 males. There were 11 deaths from violence.

THE PLAN of obtaining filtered drinking water for the use of public school children will be tried first in the new school buildings, numbering about a dozen. This plan has been used in the city hospital for several months with great success and without additional expense. It is purposed eventually to supply all school buildings with filtered, previously sterilized water.

PENNSYLVANIA.

DR. WILLIAM W. KEEN returned September 25 from Europe.

THE NEW hospital for the insane at Woodville was opened September 26.

MAJOR GEORGE H. HALBERSTADT, Pottsville, brigade-surgeon, N. G. Pa., was shot at from ambush September 29 while on duty near Shenandoah, but fortunately was not wounded.

DIPHTHERIA is still prevalent in Carlisle, and on September 24 two more houses were quarantined on account of the disease. The outbreak is attributed to a polluted spring.

TYPHOID FEVER is said to be more prevalent than usual at Stowe, a suburb of Pottstown. On examination of the water obtained from a well it was found to be polluted and has been condemned.

DIPHTHERIA is still prevalent in Carlisle, and on September district of Millville, near Altoona, and the State Board of Health has been asked to control matters there. Fourteen cases were found on that day, making a total of 32 cases so far reported.

A COMMITTEE of the board of trustees of the State Hospital at Fountain Springs laid before the State Board of Charities the plans for the proposed addition to the hospital. They hope to secure an appropriation of \$50,000 for the purpose from the next legislature. The addition is urgently needed, as the hospital has been overcrowded for several years.

SUPERINTENDENT LANCE, of the Spring Brook Water Company, was, on September 28, arraigned before Mayor Nichols, of Wilkesbarre, on the charge of supplying impure water to the citizens of that place. The city ordinance provides for a fine of \$100 a day when impure water is allowed to run through the mains. Dr. Walter Davis, the city inspector, had pronounced the water unfit for domestic purposes.

Philadelphia.

Dr. W. W. KEEN has returned from his trip to Europe.

Dr. HARRY W. CATTELL has gone to Europe for a few weeks vacation.

THROUGH THE BEQUEST of Emmeline Maurdy, who died at Mt. Holly, N. J., recently the sum of \$5000 has been left the Episcopal Hospital.

Dr. HORATIO C. WOOD, who has been for the past three months in Japan, arrived home on September 24, bringing with him a large collection of cures.

THE PRESIDENT of the Free Hospital for Poor Consumptives reported that during the first six months of the year, 116 patients were cared for, at an expense of \$4584.97. It now has 31 patients under its care.

THE FALL SESSIONS of the Medico-Chirurgical and of the Women's Medical College have begun. At the Women's Medical College the chair of surgery has been divided into surgery and clinical surgery.

THE NUMBER OF DEATHS which occurred during the week ended September 29 was 347, a decrease of 9 over that of last week and is less than the corresponding periods of the last three years. The principal causes of death were: Apoplexy, 14; nephritis, 31; cancer, 19; cholera infantum, 12; tuberculosis, 51; heart disease, 19; pneumonia, 12; peritonitis, 6; septicemia, 5; and diphtheria, 10.

JEFFERSON MEDICAL COLLEGE opened on October 1. The total enrollment shows an increase of 100 over that of last year and makes a total of 700. The principal addresses were delivered by President William Potter and Prof. Francis X. Dercum. Only one change has been noted in the faculty, that of Dr. H. F. Harris, who was formerly associate professor of pathology, but has resigned to accept the chair of pathology in the Atlanta (Ga.) Medical College.

VICTOR B. HALL, of London, Ont., has been on trial in that city, charged with causing the death of a woman by withholding from her medicine which should have been given during her last illness, but was finally acquitted. He formerly lived in this city, was the founder of what is known as "The Vital Friends," and was known in his neighborhood as the "Doctor of Vital Science." According to his teaching all diseases are due to indiscreet eating, and can be cured by a proper diet.

THE UNIVERSITY OF PENNSYLVANIA opened its one hundred and sixtieth annual session on September 28. The medical department began its session on October 1. Several changes have been made in the faculty since the last term: Dr. William J. White becomes John Rhea Barton professor of surgery; Drs. Edward Martin and Charles H. Frazier become professors of clinical surgery; Dr. J. Francis Walsh has been appointed professor to the professor of anatomy; Drs. Brooke M. Anspaeh, instructor in clinical gynecology; Collins C. Stewart, demonstrator of physiology; Richard M. Pearce, demonstrator of pathology, and William F. Hendrickson and Frederiek H. Howard, assistant demonstrators of pathology. A new system of instruction has been inaugurated in the first and second year classes in both the medical and dental departments. Under the new system anatomy will be taught the first year, while the whole of physiology will be completed in the second year. Materia medica and therapeutics, which were formerly taught in the first and third years respectively, will be changed so that materia medica will be taken up in the second year, and therapeutics the third year.

PROFESSOR JOSEPH LEIDY, the celebrated anatomist and naturalist, was especially famous for his skill in the study of animal parasites. His discovery in 1846 of the trichina spiralis in the hog, and the subsequent association of the disease now

known as "trichinosis" with this infected pork, brought him an international reputation as a helminthologist. A consequence of this was a large correspondence from all parts of the country in regard to parasitic worms. His correspondents were not always careful and trained observers, and though considerably annoyed, he was at the same time greatly amused by some of the "specimens" sent to him for diagnosis. At one time he was sent a peculiar "worm" vomited by a child in Washington, D. C., that proved on examination to be the undigested fiber of an orange. A particular instance of his ready wit is seen in the following anecdote: Some years ago he was sent a specimen, believed to be a segment of a tape-worm, that had been passed by a woman with a history of progressive emaciation, and who had not improved under feeding with highly nutritious foods and juices, and the administration of tonics. Dr. Leidy sent word that the segment passed was that of a tape-worm, but of an unusual type, and, moreover, that it was more than likely that the physician himself was responsible for the lodgment of the parasite. This most extraordinary statement brought a speedy visit from the physician in question. Dr. Leidy explained that the parasite resident in the bowel of the patient was of the species *Tania saginata*, which commonly infests beef, and he had inferred that the most likely mode of infection in the case was in the administration of the juice of raw beef, which was commonly prescribed to invalids at that time. The physician at once acknowledged the truth of Dr. Leidy's supposition, and never ceased paying tribute to his keen wit.

TEXAS.

THE SITUATION at Galveston has so improved that the State Board of Health, which has been in almost continuous session, adjourned indefinitely September 21.

THE DALLAS POLYCLINIC AND UNIVERSITY has been incorporated by Drs. Samuel E. Milliken, Jesse B. Titterington and Lawrence Ashton, with a capital stock of \$3000. The object is the establishment of a school of medicine and surgery, and a dispensary.

Dr. LEVINGSTON L. SHROPSHIRE, San Antonio, proposes to remove the debris from Galveston, by pressing 2000 convicts into the work, who, he says, can do as much work as 5000 ordinary laborers. Meanwhile, convictless, Galveston is being cleaned.

ARRANGEMENTS have been perfected for the immediate repairing and refurbishing of the medical college at Galveston, recently injured by the storm. The session will be opened Thursday, November 15, and will close Saturday, June 29, 1901. A careful consideration of the situation enables the Board of Regents to announce that the college will be opened on the above-named date with the same faculty as heretofore.

WISCONSIN.

THE WASHBURN HOSPITAL is nearly completed and will soon be ready to receive patients.

SMALLPOX is reported to exist in epidemic form in six of the large lumber camps in the northern part of the state.

THE HOSPITAL at Merrill was opened September 22 under the direction of Dr. Michael Ravn, and was filled with patients on the first day.

MENASHA is threatened with an epidemic of diphtheria. On September 26, 7 new cases were reported. During the previous month 17 cases with 13 deaths occurred. Oshkosh also fears an epidemic of diphtheria.

THE HOSPITAL built by Dr. Horace M. Brown, Milwaukee, has passed into the hands of the superintendent of the Wisconsin General Hospital. It will be repaired, equipped and opened as a general hospital.

THE MADISON HOSPITAL ASSOCIATION has decided to accept the offer of Mrs. Wayne Ramsay of a tract of four acres at Greenbush, for a new city hospital. The offer is conditioned on the erection of a hospital within two years. The directors are now making efforts to raise the \$10,000 required for the construction of the building.

OSTEOPATHS in Milwaukee have been arrested on warrants sworn out by the assistant district-attorney, acting under instructions from the State Board of Medical Examiners. The charges preferred are the unlawful use of the title of doctor and the practice of medicine without a license from the state board. The osteopaths propose to contest and make this a test case.

CANADA.

THE PROVINCIAL BOARD OF HEALTH of British Columbia has issued a proclamation to the profession in that province regarding precautions to be taken in connection with the introduction of bubonic plague. It requires all physicians to notify their city and municipal health officers of any and every disease appearing among Chinese and Japanese residents, within six hours from the date of call.

REPORTING on the offer of the National Sanitarium Association of \$20,000 toward a free Consumption Sanitarium for Toronto if the city would contribute an equal amount, Dr. Sheard has advised the board of health to recommend to council its acceptance, provided the municipal act is complied with.

THE PROVINCIAL BOARD OF HEALTH of the province of Quebec has taken prompt measures to offset any probability of the plague reaching and obtaining a foothold in that province, from Glasgow or elsewhere. Five hundred bottles of antipest serum have just been received from the Pasteur Institute at Paris. All vessels that can not produce a clean bill of health, or where anything suspicious is noted, will be detained at Grosse Isle until twelve days have elapsed from the time at which they set out from the port of embarkation.

During the progress of the meetings of the Canadian Conference of Charities and Correction, which assembled in Toronto the past week, Dr. Gilbert Gordon, president of the Toronto Medical Society, read a paper on the "Treatment of Inebriates," giving a very lucid description of the proposed legislation to be introduced into the Ontario legislature at the coming session. The details of this measure have already appeared in the columns of THE JOURNAL. At the conclusion of this convention, three medical men were elected to prominent offices therein: Dr. W. L. Herriman, Lindsay, president; Dr. A. M. Roseburgh, Toronto, Secretary; and Dr. J. T. Gilmour, Warden of the Central Prison, Toronto, chairman of the executive committee.

DR. MONTIZAMBERT, director-general of public health, has returned to Ottawa after an extended trip of inspection to Dawson, British Columbia and other points West. He will at once take charge of the situation created in Canada by the existence of bubonic plague in Glasgow. Referring to his tour of the Yukon and the West, which was taken to inspect the quarantine stations in British Columbia and along the United States boundary line, as well as to report on the outbreak of smallpox at Dawson, he says he found seven cases of the latter disease quarantined down the river from Dawson, and that there had not been reported a single new case since July 20. On his return to the Pacific province from the Yukon, he inspected the quarantine station at William's Head, which he found thoroughly equipped. The medical officers along the frontier of the tier of northern states from Montana westward, he found had been exceedingly vigilant in keeping out of Canada suspected cases of smallpox, so much so, that in his opinion, inspection of incoming trains was now no longer necessary.

FOREIGN.

THE LEOPOLD ORDER OF KNIGHTHOOD has been conferred on Prof. R. Chrobak, of Vienna.

PROFESSOR GEGENBAUR of Heidelberg is to retire in April. Max Fürbinger, now at Jena, has been appointed his successor.

KRAFFT-ERLING, of Vienna, and Eulenburg, of Berlin, editor of the *Deutsche Med. Woch.*, each celebrated his sixtieth birthday in August.

DR. C. L. SCHLEICH, the inventor of infiltration anesthesia, has been placed in charge of the Gross-Lichtenfelder Hospital at Berlin, with the title of professor. He has never been connected with the faculty before.

MAX NITZE, the inventor of cystoscopy, has been appointed to the newly created chair at Berlin of diseases of the urinary passages. This is the first time that urology has been thus distinguished at a German university.

A MEETING of over a hundred members of the Italian legislature was held recently at Rome with Bacelli presiding, and resulted in the determination to erect people's sanatoria for consumptives in different parts of the country, all to bear the name of King Humbert and be under the special patronage of Queen Margherita. A committee of thirty members was appointed, which set to work at once to carry the resolutions into effect.

THE SURVIVOR of the united twins illustrated in THE JOURNAL of September 16, 1899, has been taken to Europe. As mentioned recently, Chapot-Prevost performed the operation to separate the xiphopagi, which Alvaro Ramos had declared impossible, when, on incision, he found that the twins had but a single liver between them. One of the twins died a few days after the separation. The operation had been preceded by a long systematic constriction of the uniting tissues as a preliminary measure.

FEMALE MEDICAL STUDENTS have been admitted to the German universities this year and 618 have attended the lectures, but only nine have thus far entered as regular students. The women are even favored above the men at present, as certain work at a foreign university is credited to them in the state examinations. In Austria the authorities have decided to admit women also, on the same terms as men in every respect, with the new scholastic year. Among the 850 students at Zürich, 214 are women and 128 of these are studying medicine.

NONE OF THE PERSONNEL of the seven Red Cross ambulances sent into the haunts of malaria in Italy have contracted the disease, owing, it is supposed, to the precautions against mosquitoes. They have had occasion to treat 1772 patients, including 1329 with malaria, in their rounds through the Roman Campagna and Tuscan Maremma, where the workmen have been gathering in the harvest. The experiments instituted on three railroad lines have been equally successful in proving that protection against mosquitoes is practically synonymous with immunity against malaria in most cases.

LONDON LETTER.

INVESTIGATION OF TYPHOID FEVER AND DYSENTERY IN SOUTH AFRICA.

The government has dispatched an important commission of experts to investigate the nature, cause and prevention of dysentery and typhoid fever, which has been so fatal among the soldiers in South Africa. The commission consists of Dr. W. J. Simpson, professor of hygiene in King's College, London; Professor Notter, of Netley, and Major Bruce, R.A.M.C. Professor Simpson is a distinguished Aberdeen man of which town he was medical officer of health for five years. His attainments as a sanitarian speedily became known, and he has served on several important commissions. In 1883 he went to Egypt and reported to the government on the cholera epidemic. In 1886 he was appointed medical officer of health for Calcutta, a post which he held with conspicuous success for eleven years. The government, against the advice of Sir Walter Foster, in the first instance refused to appoint a sanitary commission to assist the army medical staff in the prevention of epidemics in the South African campaign, but has now appointed one to investigate the epidemic which has been so extensive and so disabling to the troops.

THE GLASGOW PLAGUE.

There are now 24 cases of plague in hospital, and 2 suspected cases, and 28 persons are being kept under observation. Three deaths have taken place in hospital and 3 outside. The local government board have issued an order requiring the imme-

diate notification to the local sanitary authorities of all cases of plague which may occur in England. The order also requires the sanitary authorities to send circular letters to all the medical practitioners in their respective districts informing them of their duties under the regulations, and it imposes on every medical officer of health the duty of forthwith reporting to the board any case of plague notified to him. The Dublin corporation, as a precaution against the plague, have established an isolation hospital at some distance from the city. It is fitted up with 24 beds, which can easily be increased to 100. As to the progress of the Glasgow outbreak from September 10 to 14, no fresh cases occurred. Then on the 15th a fresh case occurred in a ward-cleaner in the hospital. On September 17, 5 other cases were reported. Four of these occurred in a family which had been in contact with previous cases, and the patient in the fifth was the wife of a worker in the hospital. Yersin's antiplague serum has been used and appears to have had a distinctly beneficial effect. The dose was 40 c.c. subcutaneously injected. All the cases seem to have originated from those which occurred first in one house, but whence the contagion has been derived is still a mystery.

THE HOSPITAL COMMISSION.

Very important evidence has been taken by the hospital commission in South Africa. Sittings have been held at Bloemfontein, where General Kelly-Kenny paid a tribute to the conduct of the orderlies, who did a great deal of work in addition to their own. They even carried a number of Boer wounded across a river, wading up to their arms, which was a purely voluntary service. The most important evidence was that of the commander-in-chief, Lord Roberts. He said that on entering an unknown, sparsely populated and hostile country, it was absolutely necessary to take large food-supplies, and the number of mules and horses and the amount of forage for these were limited. Rapid movement was possible only by cutting down the equipment of the field hospital and other details, as every day's delay put more heart into the enemy. The whole question was one of limitation of transport and the first consideration was the supply of food and ammunition. In Bloemfontein everything possible was done for the care of the sick and an unlimited order was given to commandeer everything obtainable. The enormous difficulties were shown by the fact that from March 13, when Bloemfontein was reached, till March 28 not a single truck was able to cross the Orange River. For 16 days, therefore, there were no supplies, and but few medical comforts. From March 29 till April 7 the trucks sent to Bloemfontein were 105 less than the number required to supply the food actually necessary. The troops were only just fed, and not one day's reserve was accumulated. At Kroonstadt everything obtainable was commandeered, and ladies came crying that mattresses and beds were taken from under them. Lord Roberts thought that no blame attached to the home authorities in reference to the supply of military stores and equipment. The campaign had been an extraordinarily difficult one from the hospital point of view. In his opinion the Royal Army Medical Corps, assisted by the civilian surgeons had met the difficulties magnificently. Lord Kitchener declared that the cutting down of the hospital transport under the order of January 29 was absolutely necessary in order to quickly relieve Kimberly. The problem was what could be carried with the number of mules available. He deprecated placing the transport altogether in charge of the field hospitals. Surgeon-Gen. Stevenson explained that the men had to lie in the field hospitals in their khaki uniforms, as no provision was made for supplying the field hospitals with clothes. In Bloemfontein everything was taken that was capable of being worked by the personnel. He admitted that there was a shortness of utensils, milk, bedding, etc., and overcrowding of the general hospital. There was also, for a short time, a lack of drugs and utensils in Kroonstadt and Pretoria. He had permission from Lord Roberts to purchase everything obtainable, and he spent several thousands of pounds.

LONDON'S LUNATICS INCREASING.

The annual report of the county council shows that there

are more pauper lunatics in London than ever. The only consoling feature is that the rate of increase last year was not so great as usual. At the beginning of this year the number of lunatics was 21,393 against 21,060 last year. There is a high proportion, 1 in 6, of mania from alcohol and more than double the number of women than men have been admitted from this cause. It is found that women relapse and are readmitted with greater frequency than men. Drink was a more prolific cause of insanity than hereditary taint, and much more so than "business worries," "love affairs," etc. Single patients outnumbered the married. This last year the admissions were 1804 married, 2063 single.

Correspondence.

A New Remedy for Whooping Cough.

CALUMET, MICH., Sept. 24, 1900.

To the Editor:—In the *Berliner Klinische Wochenschrift* for Dec. 11, 1899, appeared an article by Dr. Max Heim, of Düsseldorf, in which he recounted such successful results in the treatment of pertussis with a new remedy, "antitussin," that I was impelled to obtain a small amount of the remedy for trial. The results of this trial are, I think, sufficiently interesting to be worthy the notice of those who may not have seen Dr. Heim's original article or any abstract of it. It is an ointment, consisting of 5 parts difluordiphenyl, 10 parts of vaselin and 85 parts of lanolin, and is administered by innunction. The back, chest or abdomen of the patient is thoroughly washed with warm soap and water and rubbed dry with a rough towel. On the skin thus prepared the ointment is applied, a small portion at a time, and rubbed in until the greasy feeling has disappeared. This usually requires from twenty minutes to half an hour. The amount applied at one time varies with the age of the patient; for a child a year old I used a quantity of the ointment as large as the end of my thumb, and for one 5 years old about twice as much. I think, however, that slightly larger amounts would give still better results. I have treated six cases in all, and have been furnished with the data of one other, which was treated by my associate, Dr. Bourland. These ranged in age from four months to six years. In all of them the treatment was not commenced until the paroxysmal stage had been reached, and in most of them this had proceeded about two weeks. In general, the cases were treated in the manner above described daily for the first week, and thereafter every other day until the conclusion of the case. In all an immediate improvement was noted from the very first application of the ointment. The number of the paroxysms rapidly diminished. In four of the cases in which an accurate count was kept of their number, they diminished as follows: In Case No. 1, from 16 paroxysms on the first day of treatment to none on the thirteenth; in Case No. 2, from 27 on the first day to none on the thirteenth; in Case No. 3, from 18 on the first day to none on the sixteenth; in Case No. 4, from 25 on the first day to none on the fifteenth. In another case in which very severe paroxysms, though few in number, had existed for over a week, there was not a single severe additional attack after the first application of the remedy, and the attacks entirely disappeared after the fourth application. In one of the cases there was a relapse about a week after a cure seemed to have been effected.

The severity of the paroxysms, as well as the number, rapidly diminished from the time of beginning the treatment. They were neither so long nor so exhausting; the vomiting which usually followed them became less frequent and the children improved in appetite and in getting their normal amount of sleep. At night the greatest improvement seemed to be manifested. In fact, from the beginning of treatment, the patients all steadily improved, and progressed to a complete recovery, save in the one case of relapse mentioned. They were receiving no other medication during the time of this treatment. The patients all seemed to take kindly to the method of medication, and the younger babies in particular seemed to get a great deal of pleasure out of the process of innunction. In no case

were any unfavorable symptoms, visceral or otherwise, observed which might have been due to the use of the remedy.

In a disease like pertussis, for which so many remedies have been proposed, and most of them untrustworthy, any one which approaches the nature of a specific would be given a hearty welcome. While my limited experience with the remedy does not warrant my making any too extravagant statements concerning it, I do feel justified in expressing the belief that it is of great value in pertussis, and well worthy of a trial by any who are called on to treat this disease.

FREDERICK T. WRIGHT, M.D.

The Kernel of Listerism.

FORT RENO, OKLA., Sept. 21, 1900.

To the Editor:—Your editorial entitled "Pathologic Asepsis" on page 691 of THE JOURNAL of Sept. 15, 1900, helps to answer the query: What, after all, does the good residuum consist of when Listerism has been boiled down, filtered, and, in general, freed from all extraneous and worthless ingredients? That there will be a good residuum is beyond doubt. It has long been known that germs are necessary for digestion, for producing fermentation, and for bringing about useful decay of dead bodies, vegetable or animal. In other words they promote progress. The best garden-soil recks with germs, poisonous and non-poisonous. Sterilized soil plus sterilized water will bring forth nothing, whether sown or not sown. Your editorial implies that, without the little organisms, wounds will not heal. In other words, life—for germs represent, and the word "germ" primarily means, life, or the first principle—is needed everywhere we wish to maintain or to increase life. Furthermore, wounds not infrequently healed by first intention before asepsis was dreamed of; and during the last few years in Cuba, the Philippines and South Africa, it seems to have been the rule rather than the exception that the simpler wounds healed that way—and certainly asepsis or antisepsis was not usually carried out—could not be, in fact.

But cleanliness was enforced. Gross handling, the application of dirty substances, and the probing with dirty instruments, was not allowed. In most cases a clean bandage was immediately placed over the wound—though the latter was but imperfectly cleansed—and kept there.

Is it not entirely pertinent, then, to ask: Does not the condensed extract of Listerism—the solely useful part to the patient—consist merely in the cleanliness involved? It would appear that had surgery forty years ago been the cleanly art it is to-day Listerism would never have seen the light. The old saying, "cleanliness is next to godliness," receives new force. Very respectfully,

J. D. POINDEXTER, M.D.,

Capt. and Asst.-Surgeon, U. S. Army.

Deaths and Obituaries.

JESSE W. LAZEAR, M.D., U.S.A., who died from yellow fever in Quemados, Cuba, September 26, was born in the suburbs of Baltimore, in 1866. He took a course of study and his B. A. degree at Johns Hopkins University, and his M. D. degree with honors at the College of Physicians and Surgeons, New York, 1892. He served as interne for two years in Bellevue Hospital and then went to Germany for a year to pursue special studies in bacteriology. In 1895 he became demonstrator of clinical microscopy in Professor O-Jer's service, and one of the house physicians at Johns Hopkins hospital until the spring of 1900, when he entered the Medical Department of the Army as acting assistant-surgeon. He was at once assigned to duty at Quemados, Cuba, made a member of the board appointed for the study of yellow fever, and placed in charge of a laboratory at that place. His work since then can be best described by quoting from the letter sent to the surgeon-general of the army, by the chief surgeon, department of western Cuba: "Dr. Lazear has for the past four months exposed himself with absolute fearlessness in the discharge of his duties. He has

examined the blood of every case of yellow fever which has occurred at Columbia barracks and in Marionao during that time; has immensely aided in the making of prompt diagnoses, which has been so important an element in our preventing the spread of the disease and in the success of the treatment of our cases. In the investigations of the board he has shown the same courage, earnestness and ability which characterized all his work. Dying at the age of 34, he leaves a wife and two children, the youngest of whom he never saw, as his son was born in the United States while he was in Cuba this summer."

PRESTON BROWN SCOTT, M.D., died in Louisville, September 24, of typhoid fever contracted while at Mount Clemens, Mich. He was born in Frankfort, September 12, 1832; his father was the first school commissioner in Kentucky, and on his own farm in 1841 erected the first public school, and there Preston Scott, when 9 years of age, became enrolled as the first public-school pupil in Kentucky. He was graduated from Georgetown College in 1849; from the medical department of the University of Louisville in 1856. He settled in Hickman County, Ky., but later removed to Bolivar, Miss. When the war broke out, Dr. Scott was appointed surgeon in the 4th Kentucky Infantry, C.S.A., was promoted to brigade surgeon under Gen. Ben Hardin Helm, and later was transferred as surgeon to the staff of Gen. Jos. E. Johnson at Jackson, Miss. At the conclusion of the war Dr. Scott went to Louisville, where he practiced continuously, enjoying one of the largest general practices in the city. He was possessed of a particularly broad and versatile mind, and kept thoroughly abreast with the times. He was one of the medical directors of the Episcopal orphanage and was physician in charge of the Masonic Widows' and Orphans' Home. At the last meeting of the Confederate veterans in Louisville he was elected president of the Surgeons' Association.

JAMES HART CURRY, M.D., of Shrub Oak, N. Y., where he had been in practice for nearly fifty years, died there September 24. He was born in New York City in 1827 and was graduated in 1852 from Yale Medical College. At the time of his death he was the oldest member of the Westchester County Medical Society, in which he had held every office. During the Civil War he served as surgeon of the 18th N. Y. Volunteer Infantry, and subsequently on the staff of the 5th Division, N.G. S. N. Y.

JAMES WILLOUGHBY PHILLIPS, M.D., superintendent of the Burn Brae Sanatorium, Clifton Heights, near Philadelphia, died September 20, aged 53 years. He was born in Montreal, attended the University of Toronto, and afterward studied medicine for three years at Guy's Hospital, London. He obtained his M.R.C.S. in 1874. He came to Philadelphia in 1876, and was a member of the College of Physicians and various medical societies.

SAMUEL N. PIERCE, M.D., a graduate of Vermont Medical College, Woodstock, surgeon of the 13th Iowa Infantry in the Civil War, and one of the oldest physicians as regards length of practice in Iowa, died at Cedar Falls, September 23, from paralysis, aged 68 years.

J. F. MOSER, M.D., while burning brush on his farm near Silverton, Ore., was pinned down by a falling tree and burned to death, September 13. He was 44 years of age, a graduate of Willamette University medical department, Salem, and had served as physician at the Warm Springs Indian Agency.

JAMES A. PADDOCK, M.D., a native of Princeton, Ill., a graduate of Bellevue Hospital Medical College in 1874, one of the pioneer physicians in the Black Hills and surgeon to the Burlington Railroad, died suddenly from apoplexy at his home in Deadwood, S. D., September 16, aged 52 years.

REUBEN SWARTZ, M.D., who died suddenly in Lebanon, Pa., September 16, was born in Ilancock in 1842, was graduated from the Medico-Chirurgical College, Philadelphia, and practiced in Myerstown until 1882, when he moved to Lebanon.

ROBERT F. FORREST, M.D., a native of Watertown, Mass., and a graduate of Harvard Medical School in 1898, died at his home September 18. After his graduation he practiced in Cambridge until last June, when he was obliged to go to Colorado for his health.

W. SCOTT WOLFORD, M.D., Philadelphia, died of nephritis after a long illness, September 18, aged 53 years. He was graduated with honors from Jefferson Medical College in 1873, practiced in Philadelphia and was coroner's physician for a time.

HENRY B. WILSON, M.D., a native of Bonboro, Md., who had practiced for ten years in Omaha, Neb., died near Aberdeen, Harford County, Maryland, September 20, aged 35 years. He was graduated from the University of Maryland in 1889.

JESSE H. NAFTEL, M.D., county physician of Montgomery County, Alabama, died suddenly from heart disease at Montgomery, September 17, aged 39. He was graduated from the Medical College of Alabama, Mobile, in 1887.

GEORGE A. BRECKENRIDGE, M.D., St. Joseph, Mo., who was graduated from the Central Medical College in that city last year, died at his home, south of Stewartsville, Mo., September 19, aged 30.

JAMES R. POWELL, M.D., Tipton, Ind., was found dead by the roadside, five miles from his home, September 21. He was graduated from the Central College of Physicians and Surgeons, Indianapolis, in 1894.

J. HERBERT ELLIS, M.D., one of the successful contestants for an internship at the Cincinnati Hospital, died at Asheville, N. C., September 25, of pulmonary hemorrhage. He would have entered upon his duties at the hospital October 10.

THOMAS BAILEY LEWIS, M.D., Turnersville, Ky., a graduate of the College of Physicians and Surgeons, New York, in 1859, and surgeon of the 6th Kentucky Cavalry, C. S. A., died from phthisis, September 16.

OTIS K. CHAMBERLIN, M.D., who was graduated from Albany Medical College in 1845, died September 20 at Dayton, Ohio, where he had practiced for many years, aged 84.

DEATHS ABROAD.

PROF. EDUARD ALBERT, whose fame as a surgeon, teacher, lecturer and medical writer is world-wide, died in Vienna, September 26, aged 59. He was born in Bohemia, studied in Vienna, became assistant in the surgical clinic in 1867, professor of surgery at Innsbruck in 1873, and in 1881, after the death of Damreicher, assumed the chair of surgery. Students in Vienna used to attend Albert's lectures and Billroth's clinics. As a lecturer he was unsurpassed. His knowledge of the literature was remarkable. Among his pupils are such men as Hochenegg, Lorens, Maydl, C. Ewald, Hobart and Ullmann. He demonstrated before the International Medical Congress in August the architecture of the long bones, showing how their construction is regulated by the same laws that man has laboriously evolved in the architecture of bridges, etc., to ensure support and strength. His "Lehrbuch der Chirurgie" was the first manual to appear inspired by antiseptic principles. His works include several on the history of medicine and surgery, and on the treatment of various surgical affections. Among his contributions to science may be mentioned his artificial ankylosis for flail-joints, tenopexis, osteoplastic method of neurotomy of the mandibularis, and arthrectomy synovialis. He was the first to make a transplantation of the nerves on man, and to call attention to sciatic scoliosis and to painful papilloma of the tongue.

DR. J. A. DE LOS RIOS, professor of therapeutics, died at Lima, Peru, July 25. He was president of the Medical "Union Fernandina" and formerly editor of *La Cronica Medica*.

Miscellany.

MARINE HOSPITAL NOTES.

IMMIGRATION STATION AT HAVANA.

The prevalence of yellow fever in Havana this summer, mainly among recent non-immune arrivals, has suggested to the Governor-General of Cuba the advisability of establishing a camp outside of the city of Havana where non-immune immigrants may be detained pending their distribution among

the plantations of the island, thereby avoiding contact with infected foci in the city of Havana. A board has already been appointed for the purpose of carrying this idea into effect. The site recommended by the board is on the hills some distance back of Triscornia, a place across the harbor from Havana proper. Large, comfortable and well-arranged barracks are to be built. On arrival of a vessel with immigrants, she will be boarded and inspected as usual by a medical officer of the Marine-Hospital Service, and then all immigrants not disqualified at this inspection will be sent to Triscornia and from there passed on to the immigration station. There the immigrants will be cared for until they can be safely transported to the country districts. Heretofore these immigrants have entered the city of Havana and lived sometimes for weeks in the overcrowded and infected districts while awaiting employment. It is contemplated that a medical officer of the Marine-Hospital Service will be detailed in charge of this immigration station.

THE GALVESTON FLOOD.

Surgeon Peckham, in charge of the Marine-Hospital Service at Galveston, Tex., has written an interesting report on the tornado, detailing the facts, which are corroborative of the press dispatches. He places the loss of life at more than five thousand, and states that 500 dead bodies drifted ashore at Virginia Point. He has been nearly over the island and has not seen a house that was not damaged. The aerometer at the weather bureau broke down when eighty-four miles an hour was reached, and it is estimated that 100 miles an hour was the velocity of the wind at one time. Water was over the whole island; at the highest point of the island the water was 5 feet deep. At the house where he boarded the water was 7 feet deep. He was instrumental in saving seventeen persons, and, immediately after the storm, began the work of furnishing surgical relief. At the request of the local board of health, Surgeon Peckham established two camps intended for the care of sick and homeless, and had to assist him P. A. Surgeon Wertenbaker, Sanitary Inspector Lea Hume and Hospital Steward Peck. The material for the camps was taken from the contributions so generously sent in. It is understood that they are now used simply as refuge camps under the local authorities.

STATUS OF BUBONIC PLAGUE IN GLASGOW.

The latest reports received from the medical officer of the Marine-Hospital Service on duty in Glasgow show that there have been a total of thirteen cases to September 7. There have also been one or two cases in the suburbs of Govan. The authorities have defined a wide area about the houses where the original cases occurred and special sanitary supervision is exercised inside of this line. The infected premises have been cleaned, fumigated with sulphur and the walls and floors washed with carbolic acid solution and whitewashed. All infected clothing and bedding has been steamed or destroyed. The medical officer and his assistant have been inoculated with Yersin serum, as they have been exposed to the disease. They are inspecting all vessels, their cargoes and passengers leaving for the United States or Canada. Dr. Thomas states that the crews are the most dangerous and difficult feature, but that every facility is being given by the officers of the various vessels in their inspection and in all the precautionary measures.

Suturing the Sigmoid Flexure to the Bladder in Gynecologic Operations.—There are no means of covering the raw surfaces left after removal of extensive portion of the peritoneum in certain operations on the small pelvis. Amann stated at the International Medical Congress that he remedies this by drawing forward the sigmoid flexure and fastening it to the posterior surface of the bladder. The meso-colon is thus stretched across above the small pelvis, completely isolating the field of operation from the large abdominal cavity. Supplemented by drainage into the vagina it enables the peritoneum to be resected with comparative impunity. The procedure is harmless, with no inconveniences of any kind, and is proving a new and valuable resource in pelvic surgery, as Joinnesco confirmed from his experience.

Therapeutics.

Carbolic Acid in Mastoiditis.

W. C. Phillips, in *Med. Record*, states that he has found carbolic acid to be without a peer in treatment of suppurative conditions about the ear. He applies it with a cotton swab or with an atomizer, and permits it to remain for thirty or sixty seconds and neutralizes it with alcohol. With this treatment unhealthy granulations become normal, the discharge ceases and often operations are avoided.

—*Med. Progress.*

Epithelioma (Cutaneous).

R. Orthoformi	ʒi	4
Acidi arsenosi	ʒi	4
Alcoholis	ʒv	160
Aque destil.	ʒv	160

M. Sig. As a local application.

The above combination is recommended by Ginestoux in the *Philadelphia Medical Journal*. The orthoform possesses marked anesthetic properties.

Colorless Iodin Ointment.

R. Iodi	gr. xx	133
Potassii iodidi	gr. iv	25
Aque destil.	m. vi	36
Adipis	ʒi	32
Sodii sulphatis	gr. xl	266

M. First rub the chemicals with the water till colorless, then add the lard. Sig. Use as a local application. —*Ex.*

Cholera Morbus.

R. Acidi carbolici	gr. viiii	48
Glycerini	ʒv	20
Tinct. opii camphoratae	ʒiii	64
Aque cinnamomi	ʒiii	96

M. Sig. One teaspoonful after each movement for an adult.

—*Med. News.*

R. Acidi sulphurici aromatici	ʒiii	8
Extracti hematox. fluidi	ʒiii	8
Spts. chloroformi	ʒss	16
Syrupi zingiberis, q. s. ad	ʒiii	96

M. Sig. Teaspoonful every two hours.

—Hare: *Texas Med. Jour.*

Convulsions in Children.

R. Moschi	gr. ii	12
Chloralis hydratis	gr. ivss	30
Camphoræ	gr. xv	1
Yolk of egg	ʒiiss	10
Aque	ʒiii	96

M. Sig. As an enema when the child is unable to take treatment by the mouth.

J. Simon: *Med. Record.*

Hyperhidrosis.

R. Tinct. belladonnæ	ʒi	4
Eau de cologne	ʒi	32

M. Sig. Mix a few drops with a little vaselin and rub into the skin freely, after washing with soap and water.

Dysentery—To Relieve Tenesmus.

R. Tinct. nucis vomice	ʒi	4
Liq. potassii arsenitis	ʒi	4
Tinct. opii, āā	ʒi	4

M. Sig. Two or three drops every hour or two in a tablespoonful of hot water.

—Geo. H. Chandler: *Med. Summary.*

Puerperal Convulsions.

R. Potassii bromidi	ʒiii	12
Potassii iodidi	gr. x	60
Syr. tolutani	ʒi	4
Aque destil. āā	ʒi	64

M. Sig. One tablespoonful three times a day.

—Benjamin.

Acute Alcoholic Delirium.

R. Chloralamid	gr. xv	1
Hyoseine hydrobromatis	gr. l 100	0006

M. Sig. At one dose. —D. R. Brower.

Hematemesis.

The *Medical Record* advises the following:

Rest in bed, hypodermic injection of ergotin over the epigastrium and ice locally to the same region. Internally, give opium, 1 or 2 grains, and the following mixture:

R. Ergotin	ʒi	4
Acidi gallici	gr. x	66
Ext. opii	gr. ii	12
Syr. terebinthinae	ʒi	32
Aque destil.	ʒiv	128

M. Sig. One teaspoonful every two hours.

In cases of syncope, employ horizontal decubitus, injections of ether, flagellations, mustard leaves to legs. If perforation of stomach occurs, with resulting peritonitis, give morphin hypodermically.

—*Exchange.*

Rebellious Chilblains.

R. Sol. plumbi subacetatis	ʒi	4
Tinct. sodii iodidi	m. xx	133
Tinct. opii, āā	ʒss	2
Amyli	ʒv	20
Glycerini	ʒv	20

M. As a local application. —*Exchange.*

Removal of Superficial Epithelioma.

R. Wheat flour	ʒii	64
Pulveris amyli, āā	ʒii	64
Acidi arsenosi	gr. xv	1
Cinmebar (hydrarg. sulphid)	ʒi	32
Ammonii chloridi	ʒi	32
Hydrargyri chloridi corros, āā	gr. lxxxv	5
Solutionis zinci chloridi	ʒviii	256

Rub each ingredient separately, and then together in an earthen vessel and finally add the solution of zinc chlorid drop by drop.

The above paste is by Bougard, and is said to be superior to Marsden's preparation for the removal of superficial epithelioma.

—*Am. Jour. of Surg. and Gyn.*

Mumps—Parotitis.

R. Iethyolici	ʒi	4
Plumbi iodidi, āā	gr. xlv	3
Ammonii chloridi	gr. xxx	2
Adipis	ʒi	32

M. Sig. Apply to the parotid gland three times a day.

—*Interstate Med. Journal.*

Scabies and Prurigo.

R. Epiearin	ʒii	8
Creta alb.	gr. xxx	2
Vaselin alb.	ʒi	32
Lanolini	ʒss	16
Adipis	ʒiiss	48

Pfeiffenberger, in *Klin. Ther. Woch.*, recommends the above containing epiearin in treatment of scabies and prurigo in children.

—*Therapist.*

Lotion for Burns.

Dr. Nikolsky, in *Journal de Méd. de Paris*, recommends the following:

R. Acidi tannici	ʒii	8
Alcoholis, āā	ʒiii	64
Etheris sulphurici	ʒi	32

M. Sig. Use as a local application.

—*N. Y. Med. Journal.*

Goiter.

R. Hydrarg iodidi rubri	gr. x	66
Atropine sulphatis	gr. ss	03
Unguenti simplicis	ʒi	32

M. Sig. A piece the size of a pea to be well rubbed into the skin over the tumor two or three mornings in succession, and then repeated once a week.

—*Uk. Clinic.*

Lumbago.

R. Linimenti camphoræ	ʒxii	48
Olei terebinthinae	ʒii	8
Saponis mollis puræ	ʒiv	16

M. Sig. Rub the parts well night and morning.

—Gould and Pyle.

Ringworm of the Scalp.

The following outline for treatment of ringworm is laid out by Jamieson, in the *Edinburgh Med. Jour.*:

1. Shave the hair from the scalp.
 2. Keep the scalp clean by washing twice a day with soap and warm water.
 3. Apply the following ointment:

R. Sulphuris preep.		
Acidi salicylicii		
Betanaphtholi		
Hydrargyri ammoniati, āā	..... gr. x	66
Lanolini, q. s.	.....	3i
		32
- M. Sig. To be rubbed into the scalp thoroughly twice a day.
—*Exchange.*

Rheumatoid Arthritis.

According to *La Presse Médicale*, Dr. Mussey employs the following ointment, with asserted good results:

- | | | |
|--------------------|--------------|-----|
| R. Ext. belladonnæ | | |
| Ext. hyoscyami | | |
| Ext. conii | | |
| Ext. opii, āā | gr. xv | 1 |
| Adipis | ..... | 3ii |
| | | 64 |
- M. Sig. Apply locally night and morning.
—*Theor. Gazette.*

Emetic for Children.

- | | | |
|----------------------------------|-----------------|----|
| R. Pulv. ipecacuanhæ | gr. viiss | 5 |
| Antimonii et potassii tartaratis | gr 1/6 | 01 |
| Aquæ destil., q. s. ad | ..... | 3i |
| | | 32 |
- M. Sig. One teaspoonful every ten minutes until vomiting is produced.

Shingles—Herpes Zoster.

- | | | |
|------------------------|-------|-----|
| R. Ichthyolici | | |
| Magnesii carbonatis | | |
| Zinci oxidii, āā | ..... | 3ii |
| Aquæ destil., q. s. ad | ..... | 3iv |
| | | 128 |
- M. Sig. Spread over the affected part and cover with a bandage.
 Ichthylol—5 per cent.—in collodion may be used, and where rheumatism is present the salicylates may be given in large doses.
—*Lusk: Postgraduate.*

Loss of Hair.

Baril, in *Jour. de Méd. de Paris*, recommends the following application for the arrest of the falling of hair:

- | | | |
|------------------------|---------------|-----|
| R. Acidi hydrochlorici | m. lxxv | 5 |
| Aleoholis | ..... | 3v |
| | | 160 |
- M. Rub the scalp well every night with the solution.
—*N. Y. Med. Journal.*

Constipation in Women.

Lutaud, in *Journal de Méd. de Paris*, recommends the following for constipation in women:

- | | | |
|--------------------|---------------|------|
| R. Res. podophylli | gr. xxv | 1'66 |
| Euonymin | gr. v | 33 |
| Ext. belladonnæ | gr. x | 66 |
| Ext. hamamelidis | gr. xx | 1'33 |
| Saponis | gr. xxx | 2 |
- M. et ff. pillule No. 50. Sig. Take one or two pills after the evening meal.
—*Theor. Gazette.*

Glycerin in Fever Mixture.

The *Clinica Moderna* recommends the following mixture as beneficial in allaying thirst and fever:

- | | | |
|------------------------|--------------|-----|
| R. Glycerini puri | 3viiss | 30 |
| Acidi citrici | 3ss | 2 |
| Aquæ destil., q. s. ad | 3xxv | 100 |
- M. Sig. One to two tablespoonfuls at one dose to allay thirst and fever.

Chronic Eczema of the Hands.

- | | | |
|-----------------|---------------|----|
| R. Iodi | gr. iss | 1 |
| Potassii iodidi | gr. iv | 25 |
| Glycerini | 3iii | 12 |
- M. Sig. Apply the paint to the hands every evening and then envelop them in lint.
 Edelfsen, in *New Eng. Med. Monthly*, states that he has adopted this treatment with success where other remedies have

failed. The irritation is always relieved and a cure effected in about two weeks. In more obstinate cases he uses a boracic ointment applied in the morning and the above combination in the evening.
—*Am. Jour. Surg. and Gyn.*

Nutrient Enema.

The *Medical Sentinel*, in commenting on treatment of ulcer of stomach, states that the best treatment consists of complete rest in bed, no food by the mouth, and that the nourishment should be given entirely by the rectum. The enemata should be administered four hours apart, first cleansing the bowel with an enema of warm water by means of a high injection. The following formula is recommended by J. B. Herrick:

- | | | |
|-----------------------------|----------|---|
| R. Somatose | 3i | 4 |
| Egg—one-half | | |
| Sodii chloridi—small amount | | |
| Spts. frumenti | 3i | 4 |
- M. Sig. At one feeding per rectum.

Medicolegal.

Insane Person's Estate Liable for Necessaries.—The Court of Appeals of Kansas holds, in *Palmer vs. Hudson River State Hospital*, that, to charge the estate of an insane person with the expense of maintenance and for necessaries furnished, it is not requisite that there be an express promise to pay therefor, either by the insane person or guardian. In other words, it holds that the estate of an insane person is liable for necessaries furnished him upon an implied contract. Nor does it consider that any statute is necessary to create a liability on his part, binding his estate, for such benefits received by him. Besides this, it holds that where an insane married woman was a citizen of Kansas, where her husband and children were domiciled, who were able to support her, as it was their duty to do, and she went on a visit to relatives in New York, where she was admitted to a hospital as an indigent insane person, it was the duty of the agents of the hospital, on discovering that they had been providing an asylum for a person not entitled thereto as a lawful right, and that the recipient was able to refund to the state its expense therein, to sue, in the name of the hospital, to recover it.

Not Authorized to Burn Buildings for Smallpox.—In *Prichard vs. Commissioners of Morganton*, brought to recover for the burning of a dwelling as a health precaution, the Supreme Court of North Carolina holds that the board of commissioners of the county, as representing officially the county, were not liable, for the reason that there was no statute making them so, either expressly or by necessary implication. And the town commissioners, as representing the town community, it holds, were not liable: first, because the act complained of was for the interest of the state at large; and, second, because they unreasonably exceeded the powers conferred on them. True, the town charter authorized them to take such measures as they might deem effectual to prevent the entrance into the town, or the spread therein, of any contagious or infectious diseases; and under these powers they were permitted to cause to be destroyed or disinfected such furniture or other articles as should be believed to be tainted or infected with any contagious or infectious diseases, or which there should be reasonable cause to apprehend would generate or propagate diseases, and might take all other reasonable steps to preserve the public health, and for this purpose might use any money in the treasury. But, as the court construes it, that was no authority to burn or destroy any house or residence. Neither does it see the necessary authority in a statute providing that in cases where the county superintendent of health declared that a nuisance existed, it should be removed or abated at the expense of the town, city, or county, in case of the offender's inability to remove it, though the expense should not exceed \$100, particularly when the superintendent had not acted in the matter. Nor does it see authority to burn a dwelling in a statute conferring on boards of county commissioners power to make rules, regulations and by-laws for preventing the spread of contagious and infectious diseases.

A proper disinfection, it thinks, would be the extent of their powers in respect to property thus tainted or infected.

Must Take What Charitable Hospitals Have to Give.—The United States Circuit Court lays down the rule, in the case of Powers vs. the Massachusetts Homeopathic Hospital, that a beneficiary of a charitable corporation, as for example a patient in a hospital which is chartered or must be legally classed as a charitable institution, must take its bounty for what it is worth. In other words, it holds that no person who accepts the bounty of any charity, can maintain a suit on account of the method of the administration of the bounty which is accepted. It declares it absolutely inconsistent with the underlying idea of charities as recognized by the law, to hold that the same rule that applies to a person or institution employed for compensation to do a certain service applies to the distribution of charity. In its view, the person who enters a charitable hospital is not a contractor; neither is the hospital a contractor with that person. The person who enters is a mere licensee, like a guest who enters one's house, and who must take the service as he finds it. Assume that a stranger enters one's house, and is suddenly taken with a severe sickness. Can such householder, it is asked, be held responsible for the selection of an incompetent surgeon or physician, or for neglect on the part of a servant, with reference to the care of that person? He can not, it is answered, have higher rights than a member of the household of which he has for the time being become, as it were, a part. All he is entitled to is not to be led into a danger known to his host, and not known or reasonably apparent to himself. That, the court holds, is the precise rule that applies to a public charity. And, in this respect, it holds, private charity and public charity rest on exactly the same ground, and there is no basis in either case to hold that the person who receives bounty is a contractor, a person contracting for service, as one engages service when he ordinarily employs a surgeon. He is, in law, only a licensee. Nor does the court consider that the reception—the frequent reception—of money from patients changes the nature of the institution; and the following out of this proposition it says necessarily leads to the conclusion that the reception of money from any particular patient does not change the nature of the service rendered that patient, so far as anything said here is concerned. It looks at the money paid in such a case as a proper contribution to a charity on the part of the person who makes the payment and receives the benefit of the charity. It is not compensation in the sense of the law. Furthermore, the court holds that the officers of a charitable corporation have no power by contract to impose any liability beyond that which the law raises. If it is unsuitably or carelessly managed, the remedy is in the hands of the state. So, for the reasons adduced, it holds the hospital here sued not liable for an injury alleged to have occurred to a patient through the neglect of a nurse, even if it was a "pay" patient, it being, in law, a charitable corporation.

Injured Person's Duty to Employ Physician.—Texas & Pacific Railway Company vs. White is the title, in the United States Circuit Court of Appeals, Fifth circuit, of an action that was instituted by the latter party to recover damages for personal injuries alleged to have been sustained by him while a passenger on this company's railroad, through the negligence of its servants. He averred that he received a serious injury in the abdomen, resulting in causing him great pain and in producing a serious and painful disease of his bowels and sharp, severe and continuing pain in his spine or back, and in producing varicocele. But, for reasons which he afterward endeavored to satisfactorily explain, he did not at any time mention the fact of his having been hurt to any of the servants of the company. Besides, he proceeded on his journey with his car of cattle, which he was accompanying, riding on the top of that car part of the way, and even assisted in driving the cattle from the railroad to the ranch, traveling on foot a distance of thirty-seven miles, after which he did more walking, and some railway traveling. Nor did he, during the ten days thus consumed, before he reached home, employ a physician, his explanation thereof being that he had hopes of wearing it out,

and that it would pass off, and that he wanted to get back home where he could get his family physician. It should, perhaps, be added that a man who was on the train at the time of the alleged accident testified that the party claiming injury spoke to him about it, and showed him a bruised place on his side. On the trial, the judge who presided recognized the settled doctrine that it was the plaintiff's duty to use reasonable care not to aggravate, or suffer to be aggravated, so far as he could prevent it, the injury which he had received. Continuing, the court of appeals says that the application of this doctrine to the subject of the plaintiff's failure to promptly obtain professional medical and surgical assistance is not very clearly shown by the adjudged cases or text-writers, so far as it has been able to examine. Here the injured party believed that the exigency of his business required him to continue his journey with his cattle, and to continue his care of them until they reached the ranch, and, the court says, it was not unnatural or unreasonable that he should hesitate to employ physicians who were strangers to him while he could endure the suffering he experienced until he could reach home, to have the advice and attention of his family physician. It goes on to state, however, that, while these reasons for his action commended themselves to its experience and sympathy, yet if therefrom an aggravation of his injury resulted, from his active attention to his business or from his failure to obtain the advice and aid of competent physicians who were accessible, such aggravation, whether it resulted from his active exertion, or from his neglect or failure to obtain the needed medical or surgical assistance, could not, in justice, be charged against the railway company in addition to its liability for the original injury to the extent of the damage it necessarily caused. And it holds that it was an incumbent on him to procure the advice of a competent physician and surgeon, if accessible, as it was to refrain from such physical exertion as tended to aggravate his injury. There being proof tending to show that a part of the trouble could have been speedily cured, at a small expense and without hazard, by prompt proper surgical treatment, it holds that it was for the jury to say whether the conditions required a surgical operation, as also to determine the issues of fact raised by conflicting evidence as to the existence, nature, extent and likelihood of relieving the other troubles. Then, it says that, from the nature of the case, opinion testimony must be relied on, but in considering opinion or expert testimony the opinion of the jury is the chief factor in reaching ultimate conclusions.

Societies.

Coming Meetings.

- Wyoming State Medical Society, Cheyenne, Oct. 9-10.
- Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.
- Iowa State Association of Railway Surgeons, Des Moines, Oct. 11-12.
- Vermont State Medical Society, Rutland, Oct. 11-12.
- Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.
- New York State Medical Association, New York City, Oct. 16-18.
- American Public Health Association, Indianapolis, Ind., Oct. 22-26.
- Medical Society of Virginia, Charlottesville, Oct. 23.
- Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13-15.
- Oklahoma Territory Medical Society, Oklahoma City, Nov. 15.
- The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, Nov. 13-15.

THE JACKSONVILLE (Ill.) MEDICAL SOCIETY held a meeting September 15, at which Dr. Frank P. Norbury read a paper on "The Progress of Therapeutics."

THE TRI-STATE MEDICAL SOCIETY OF ALABAMA, GEORGIA AND TENNESSEE will hold its twelfth annual meeting in Chattanooga, Tenn., October 11, 12 and 13, immediately after the close of the Asheville meeting of the Mississippi Valley Medical Society. A rate of one fare or one and one-third fares, on the certificate plan, has been made for the meeting.

THE SAN JOSE (Cal.) MEDICAL ASSOCIATION met on September 20, when Dr. James R. Currow presented a paper on "Epilepsy," which was followed by a spirited discussion.

THE SKAGIT COUNTY (Wash.) MEDICAL SOCIETY effected a temporary organization September 13, at Burlington, with the following officers: Dr. M. B. Mattice, Sedro-Woolley, chairman, and Dr. Charles C. Harbaugh, Sedro-Woolley, secretary.

THE VANDERBURGH MEDICAL SOCIETY met at Evansville, Ind., September 18, and listened to a paper by Dr. Jacob H. Keith, in which he discussed the food-supply of Evansville, commending the hearts, but condemning much of the milk.

THE MEATFORD (Conn.) MEDICAL SOCIETY held its first fall session September 16, Dr. John F. Dowling in the chair. Dr. Arthur J. Wolff exhibited the new substance, "urein" (described in *THE JOURNAL*, XXXV, p. 711). Dr. Joseph E. Root presented a specimen of tumor and Drs. Michael A. Bailey and M. M. Johnson made reports as delegates to THE AMERICAN MEDICAL ASSOCIATION.

THE LYCOMING COUNTY (Pa.) MEDICAL SOCIETY met at the Williamsport Hospital, September 14. Dr. E. Roy Gastin, Williamsport, read a paper on "Skin Diseases"; Dr. Charles M. Heberton, Hughesville, spoke on "Poisons"; Drs. John A. Klump, Williamsport, and Joseph W. Albright, Muncy, discussed "The Treatment of Shock," and Dr. Charles E. Thomson, Seranton, considered "The Treatment of Congenital Club-Foot."

THE DELAWARE COUNTY (Pa.) MEDICAL SOCIETY held its regular meeting September 13 at Chester, Dr. H. Gallagher, Glenolden, in the chair. Dr. Robert S. Maison, Chester, spoke at length of the epidemic of typhoid fever at Trainer. He considered the epidemic due solely to milk from one dairy, the proprietor of which was himself ill with the disease. Drs. Samuel D. Risley, Media, and Samuel Trimble, Lima, reported cases, and Dr. William B. Ulrich, Chester, gave a description of Galveston Island.

THE SANTA FE RAILWAY MEDICAL AND SURGICAL SOCIETY held a special meeting in Colorado Springs, Colo., September 26. Papers were read by Dr. Charles G. Elliott, Blackwell, Okla., on "The Modified Form of Smallpox"; Dr. Luther D. Jacobs, Emporia, Kan., on "Infusion of Normal Saline Solution in Shock Without the Accompaniment of Hemorrhage"; Dr. J. Frank Connell, Las Cruces, N. M., on "Canodol as a Detergent in Surgery"; Dr. E. B. Shaw, Las Vegas, N. M., on "Typhoid Fever and its Treatment," and Dr. George R. Highsmith, Carrollton, Mo., on "Trauma an Etiologic Factor in Tuberculosis of Bones and Joints."

THE CENTRAL WISCONSIN MEDICAL SOCIETY held its quarterly meeting at Janesville, September 12, with an attendance of about one hundred, President Dr. John M. Evans, Evansville, in the chair. Papers were read by Dr. Lewis F. Bennett, Beloit, on "Fractures of the Condyles of the Humerus"; Dr. William E. Dold, Lake Geneva, on "Suggestions for the General Practitioner Concerning Certain Forms of Insanity"; Dr. John E. Allaben, Rockford, Ill., on "Treatment of Inoperable Sarcomas With Mixed Toxins of Erysipelas and Bacillus Prodigiosus"; Dr. Lawrence H. Prince, Palmyra, on "Anesthetics"; Dr. Samuel Moyer, Monroe, on "Appendicitis and the Country Doctor"; Dr. Thomas W. Nuzum, Brodhead, on the converse "The Country Doctor and Appendicitis," and Dr. Arthur C. Helm, Beloit, on "Who Shall Operate." Dr. John F. Pember, Janesville, reported a case of pyonephrosis. At the banquet, held between the sessions, Dr. James Mills, Janesville, was toastmaster.

THE DETROIT MEDICAL AND LIBRARY ASSOCIATION held a regular meeting September 17, at which Dr. Henry R. Varney read a paper entitled "Treatment of Lupus." Excision has been used with good results, but is objectionable when the lesions are on the face. The most satisfactory treatment is curettage. With the common dermal curette one is able to distinguish, with but little experience, the healthy tissue from the broken down, cheesy degeneration of the tubercle. Freezing mixtures should not be employed. Linear scarification is slow and objectionable. Electrolysis as advocated by Dr.

Jackson is satisfactory, the effect of the electricity on the tubercle nodule is two-fold, the heat destroys the germs and the electricity stimulates cell change. Mechanical measures consist of caustics and caustic pastes. Nitrate of silver stands first as a caustic. It penetrates and destroys the isolated tubercle, but spares healthy tissue. Arsenical pastes act more quickly than silver nitrate, but are more painful and can be applied only to small areas. The stronger acids, with the exception of pyrogallic acid, are objectionable, as they destroy all tissues. A comparatively new treatment for lupus is the X-ray exposure. Dr. W. A. Pusey, Chicago, discovered that a number of exposures would blanch the hair, stimulate nutrition of chronic indurated lesions, reduce inflammation and destroy the hair bulb. On these observations the treatment of chronic skin affections is based. Treatment is painless, the exposures are short in duration, the area can be controlled and there is no scarring, but its antiseptic power is as yet unsettled.

Medical Society of the Missouri Valley.

Annual Meeting, Council Bluffs, Ia., September 20, 1900.

GOAT'S LYMPH.

DR. T. L. PUTNAM read a paper on this subject. He described its preparation, composition and uses, and spoke of its use in his hands.

The discussion was most extraordinary. Dr. Macrae thought that Dr. Putnam had been deceived. The lymph was a good thing to quack with, but it was by no means new, Dr. Brown-Séquard having brought it out years ago. It had been used by thousands of French, German and American physicians, who had found such lymph utterly useless; and it had been again introduced by an insignificant Missouri doctor, exploited by a company organized by a Chicago doctor in the most mercenary manner, of which he personally knew, because they had tried to work him for \$30 a month for the good-will of the thing.

DR. C. B. WALLACE, St. Joseph, felt that it was very unfortunate that such a paper had been read, that it came originally from the degenerate mind of Brown-Séquard.

DR. B. B. DAVIS was sorry the paper had been read. The society could not go on record as encouraging such a preparation, and protested against it.

CONTUSION OF THE BRAIN.

DR. J. CAMERON ANDERSON read this paper. It was a plea for more careful study of cases of contusion, pure and simple, without fracture. He related the symptoms in detail and cited two interesting cases. The first was completely unconscious for four days, and partially so for two more. The second was totally unconscious for eight days, and partially so for sixteen more. Somewhat later there was great improvement in the mentality, which soon became clear, but without memory of recent past events. He had received the best results in treatment from the use of cathartics, then laxatives, medicines which were vasomotor dilators, and liquid diet; also from the use of the iodids.

DR. B. B. DAVIS was of the opinion that cases of concussion are rare, those of contusion frequent; the injuries from concussion are usually minor, those from contusion are often serious, delayed and their general results permanent. The prognosis should be very guarded.

DR. C. C. ALLISON felt that cases of pure contusion gave a very narrow field clinically; uncomplicated cases were very rare. Hemorrhage and fracture were much more often seen. Contusion affected the blood-vessels, because they were not well supported; small extravasations were present; often a laceration, which added to the shock.

DR. ANDERSON, in closing, said that in contusion there was always a laceration of the vessels; the medulla was greatly damaged. The character of the heart's action and the respiration showed the damage. Many cases supposed to be fractures were not, and the trophine proved it.

CANCER OF THE UTERUS.

DR. B. B. DAVIS made a strong plea for the education of the women of the country to the necessity of a knowledge of their

condition after child-birth, as to laceration of the cervix, etc. They should be taught the danger of leucorrhœa, erosions, lacerations, irregular hemorrhages, and especially when occurring between 40 and 50. While most tears heal, they are too often a source of irritation and tend to malignancy. Nulliparous women often suffer from erosions, and these need care as well as the multipara. Cancer is always local at first, and early clean removal entirely eradicates it. No recurrence takes place. Early knowledge is imperative. Physicians are seriously to blame when they do not insist on an examination, and when they make light of the symptoms present.

DR. M. F. WEYMANN urged greater care on the part of physicians in the preparation of specimens to be sent to the microscopist.

DR. DANIEL MORTON said that he never failed to investigate all cases of irregular hemorrhage, and especially in women between 40 and 50 years of age. He felt that the profession was much to blame for neglect in this matter. He was very careful to treat in the most thoughtful manner those patients doomed to death because too late for operation.

DR. C. B. WALLACE made a strong plea for all practitioners to make more careful examinations.

DR. J. M. KNOTT said that he had been repairing cervixes for many years and had been on the watch for early cases of cancer, but had never seen one; he had had the misfortune to always see them when inoperable. Not one of his cases that were operated on had ever developed cancer to his knowledge.

STAB WOUNDS OF THE LIVER.

DR. DANIEL MORTON, St. Joseph, reported a case of a man who had been stabbed over the liver. The external wound had been sewed up and patient sent home. Grave symptoms coming on, he sent to Dr. Morton, who opened up the wound. At this time shock was profound, jactitation present, heart feeble and internal bleeding certainly indicated by the conditions. On cutting the sutures the bleeding was profuse and welled up from beneath the liver. The wound was felt under the lower surface of the liver; five yards of 2-inch iodoform gauze were crowded beneath the liver and the hemorrhage ceased. A gallon of clots was removed; coffee and salines were freely used. In twenty-four hours the man was out of danger; the gauze was removed, a yard at a time each day after the third, and recovery took place. He was much impressed with the value of hypodermoclysis in such cases.

CONTUSIONS OF THE EYE WITH HEMORRHAGE INTO AQUEOUS.

DR. M. F. WEYMANN made a report on four cases of trauma, two being from a stick striking the eye and one from a ball ricocheting and striking the eye. In these cases glaucoma and iritis were almost certain. In some of them the lens was dislocated. As regards the treatment, drawing off the blood is not practical; atropin is demanded. Glaucoma is best relieved by the knife and hot compresses are very useful. The prognosis should be very guarded until the clot disappears, as synechia, iridocyclitis and cataract are often produced.

MARCY-BASSINI OPERATION FOR INGUINAL HERNIA.

DR. C. B. WALLACE said the restoration of the normal obliquity of the inguinal canal was taught by Marcy, of Boston, long before it was by Bassini, and yet the operation is commonly known as the Bassini operation. He felt that Marcy's name should be associated with Bassini's in the name of the operation. This restoration, the isolation of the sac and the suture of the transversalis and internal oblique to Poupart's ligament are universally followed. He is strongly in favor of isolation of the sac by dissection from its neck to its extremity, rather than the reverse, as is often done.

DR. B. B. DAVIS expressed himself as happy in the thought that herniotomy was not a destructive operation, but one in which the patient's condition was radically improved as regards comfort and great danger prevented. He now used the original Bassini method more than formerly. He never saved the sac, as done by Macewen and Kocher, but ligates and cuts it off. For a long time he used the Marcy tendon, but now uses the chemicised catgut. He thinks that surgeons tie the sutures

too tightly sometimes; if the tension is too great he ties loosely and uses more sutures. In his experience patients who have the injection treatment have adherent omentum. He dresses children with cotton and iodoform-collodion, not reinforced. He condemns the Halsted method.

DR. MORTON feels less and less sure of his results with the Bassini method, has had some recurrences, and uses silk-worm gut for suture.

SARCOMA OF THE KIDNEY.

DR. ARNOLD JOLLY said it was the most frequent tumor seen, often congenital and rapid in its course. The symptoms are swelling, hematuria in about one-half of the cases, pain in about one-fourth the cases, with jaundice and nervous condition.

DR. JONAS said that a few words could cover all that was needed to be said. All reports are discouraging; shock of operation is very great; especially if the operation is done on the left kidney death is certain.

CASE OF DOUBLE URETER.

DR. J. E. SUMMERS, JR., Omaha, said the condition is rare. It may be found on both sides or on but one, usually on the left. Two pelves, not connected, are usually found; the ureters may join or may enter the bladder separately. He has seen one double case, each of the four ureters entering the bladder separately. His own case was one of double ureter on the left side. Patient was a girl of 2½ years. The child had been troubled for a long period with irritability of the bladder, and had wet the bed at night. Tubercle bacilli were found in the urine. On laying bare the left kidney a most puzzling condition was found. A tube, soft, collapsible, almost as large as an intestine, was seen; examination showed it to be a ureter of tuberculous character. Further examination showed the other ureter, normal in size; there were two pelves. The kidney was plainly tuberculous. He removed the kidney, cutting off the enlarged ureter close down to the pelvic brim, and the other near the kidney. The ureters entered the bladder separately. Recovery from the operation was uneventful; irritability of the bladder persisted, however, and fewer bacilli were found as the child recovered. Urotropin and methyl blue were found very useful for the irritability. He desired to impress the society with the importance of the necessity of proving the presence and condition of the supposed sound kidney in all cases requiring a nephrectomy. He makes a button-hole incision and palpates the kidney.

THE MASTOID SEASON OF 1900.

DR. HAROLD GIFFORD stated that the season of 1900 has been more productive of mastoid troubles than he had ever seen before. Those patients who begin with simple middle-ear trouble do not reach the specialist until late spring or early summer. He related the case of a physician who developed ear trouble. Instead of coming and undergoing treatment, he kept on with his hard country work, driving many miles daily, for a month. Dr. Gifford operated on both mastoids; pus was found, and he seemed better, but relapsed. Two days later he was operated on again. No communication was made with the subdural space. Aphasia followed, and later delirium. The conditions seemed to point to a cerebral abscess in his judgment and that of two surgical consultants. He opened again over the temporo-sphenoidal, but no pus was found. Death took place the next day. The autopsy showed no abscess anywhere, no pus between dura and skull, nor exudate. It was a serous meningitis, infection passing through the superior and posterior mastoid cells. He has reached the conclusion that many mastoid cases present neither tenderness nor swelling over the mastoid, and yet mastoid disease is present. He makes it a rule that, with or without the ordinary symptoms of mastoid disease, if no improvement takes place in two weeks, to operate. He regards the presence of discharge and sleeplessness alone as showing the necessity for operation.

DR. STONE related the history of a patient aged 65 who had double mastoid disease; she was under observation by him and Dr. Gifford in consultation for three weeks. Most careful observation could discover no symptom of meningitis up to

when operation was done. Pus was found on both sides, although the patient had talked apparently clearly up to the day of operation.

DR. WEYMANN felt that mastoid pain, tenderness and confusion of intellect were sufficient grounds for operation.

DR. LORD thought that the leucocyte count gave the best possible guide for operation. In mastoid cases requiring operation it ran from very low to very high.

THE TREATMENT OF FEVER IN INFANTS.

DR. H. M. McCLANAHAN read this interesting and useful paper, which was a plea for greater care and less medicine in the treatment of such a condition. Many are much over-treated. The degree of fever alone is not to be considered, as its continuance is of greater importance. He advises against the new remedies designed to reduce fever, and much prefers the old ones; he uses cold and thinks the method of prime importance. He avoids scaring the children by having them placed on the mother's lap on a rubber sheet. He irrigates the intestinal canal through a No. 8 or 10 catheter, with the fountain syringe about 4 feet high; uses warm water first, then cool, then cold, and gets a half-pint of the cold in the bowel and leaves it there. He also uses the wet pack, first warm, then cool, then cold, and rubs the body while wet. In convulsions use cold to the head and heat to the feet. Food is often withdrawn for hours; it sometimes acts as an irritant. He seldom uses drugs; phenacetin is his favorite when one is needed—one grain an hour. He gives chloral in the rectum— $\frac{1}{2}$ grain for a child of 6 months, a very valuable remedy when there is great restlessness. When the urine is high-colored and very acid he finds that the citrate of potash is most valuable, and uses large doses well diluted.

The Society voted to send \$25 to the Rush Monument Fund. The following officers were elected: President, Dr. V. L. Treyner, Council Bluffs; first vice-president, Dr. B. B. Davis, Omaha; second vice-president, Dr. F. E. Sampson, Creston; treasurer, Dr. T. B. Lacey, Council Bluffs; secretary, Dr. Charles Wood Fassett, St. Joseph.

Next meeting in March, 1901, at Omaha.

American Association of Obstetricians and Gynecologists.

Thirtieth Annual Meeting, Louisville, Ky.

Sept. 18-20, 1900.

(Concluded from page 842.)

Dr. Rufus B. Hall, Cincinnati, in the chair.

FIBROMA OF THE OVARY.

DR. L. H. LAIDLEY, St. Louis, Mo., contributed this paper. After giving the pathology of fibromata of this organ, the author reported the following case: Mrs. H., aged 29, married, usually enjoyed good health, with the exception of almost complete deafness due to a specific disease, for which she was treated some fifteen years ago. She became pregnant and was delivered of a healthy child about two months before the removal of the tumor. She had noticed a tumor in the region of the left ovary about two years ago, hard and slightly movable, which continued to grow to the size of two fists. In the development of pregnancy it was pressed upward on a line with the umbilicus and could readily be felt in her left side. There was no pain nor discomfort with its presence up to the tenth day after her delivery. She had a favorable "getting-up," when, on the fifteenth day, she had fever, with pains, causing her to again take to her bed. These continued until he saw her, two months later. There could be readily felt and seen a hard, immovable tumor in the left umbilical region, with considerable ascitic fluid in the cavity. On January 20, an abdominal section was made, revealing a solid tumor adherent to the anterior wall of the abdomen, which was detached. Posteriorly the folds of the bowel were adherent to that portion, which were also dissected off, the tumor freed, kidney-shaped, hard, with short pedicle, one inch in diameter by two inches in length, which was ligated and the tumor removed. In tying the ligature it readily cut through its peri-

toneal covering, but secured the stump from hemorrhage. On examining the remaining organs, the stump of the pedicle occupied the location of the ovary; the tube remained distinct and separate from the tumor; the opposite side showed a healthy tube and ovary; there was considerable hemorrhage from the surface, bleeding following the operation, but with that exception there was no difficulty encountered. The patient made an uninterrupted recovery. The tumor weighed 32 ounces and measured 6x5x3 inches. A histological report accompanied the recital of the case.

DR. LAIDLEY also reported a case of "Hernia or Diverticulum of the Chorion."

DIFFUSE NON-MALIGNANT PAPILLOMA OF THE VULVA.

DR. EDWARD J. ILL, Newark, N. J., read this paper and showed a specimen which he removed from a patient aged 68. The growth had been of over three years' standing. The inner surfaces of the vulva were thickened, at some places appearing horn-like, white and smooth; at other places there were heavy papillæ, which rose considerably above the surrounding tissue and were from 3 mm. to 15 mm. in diameter at their base. The disease extended from the beginning of the vulva above down to the posterior commissure. It covered the whole vestibule except the tissue immediately surrounding the external meatus of the urethra, and was well defined, but stopped at the vaginal mucous membrane. The vulva as a whole stood out far beyond its normal elevation. The whole vulva was excised. The structure of the tumor corresponds with that usually found in papillomatosis of the skin. A second case was spoken of by the writer.

THE EDUCATION OF THE LAITY ON SEXUAL MATTERS; WHEN SHALL THEY BE TAUGHT, AND TO WHAT EXTENT?

DR. RUFUS B. HALL chose this for his Presidential Address. The family physician should be the educator of the people in sexual matters, and when he gets the endorsement, and is sustained in his position by the specialist, his influence will be greatly strengthened and widened. He advises that during the last year in high school, in every school in the land, a textbook be employed embracing embryology, hygiene, anatomy and physiology, including sexual physiology, and that these subjects be taught to every student, both male and female. He believes that this could be accomplished without shocking the morals of the most fastidious individual by dividing the classes so as to separate the sexes. A female teacher should instruct the girls and a male teacher the boys. This is the very time in life when individuals should be taught to know the functions with which Providence has endowed them, and how to care for their bodies as well as their minds. It would be a revelation to them to know that the sexual organs in animals as well as the human race are among the first centers to be formed, and can be recognized as such early in intrauterine life. When the laity become educated on this subject as they should be and understand the meaning of pelvic inflammation in young wives as gynecologists understand it, the parents and guardians of young girls will realize that they owe them a duty before consenting to their marriage.

PRIVATE HOSPITALS AND THEIR MANAGEMENT.

DR. JOSEPH PRICE, Philadelphia, said that the well-organized private hospital, managed by such distinguished men as Marion Sims, T. G. Thomas, Thomas Addis Emmet, William Goddell, Stone, of New Orleans, and a few institutions of the present time doing the best work, offer advantages that are not given by the schools or the political hospitals. The political hospital is not the only corrupt institution; a few of the well-endowed general hospitals, managed and handed down in families to the third, fourth and even the fifth generations, are the most dangerous institutions in the medical profession. It is always a misfortune to an endowed charity or public hospital for a family to be in full possession of the funds or endowments, in that it results in impairing or destroying its usefulness. No one has ever, to the speaker's personal knowledge, made money and accumulated wealth out of a private sanatorium. He may out of the fees, but never out of the board, care and nursing

of patients. The board of patients rarely pays 5 per cent. on the money invested. A good number of these institutions have been financial failures and have closed. Private hospitals give the operator the best opportunity for doing good work. In well-managed private institutions the patient has one or more attendants with well-regulated relays. In public institutions the speaker rarely finds a nurse in large wards, the only attendants about the patients being a convalescent patient or an old pelican of an attendant. Professional care, one or many visits daily, favor a speedy convalescence. The early and late assurance that a patient is doing nicely does a world of good. Fresh beds, and the numerous little attentions from young, intelligent nurses favor comfort and confidence. It is surprising how much more cheerful patients are in private hospitals than in general, public or school institutions. The surroundings of general hospitals are generally depressing. Patients are eager or impatient to get home prematurely. In a well-managed private institution they are easily controlled and are willing to remain until they are fully convalescent. Hurrying patients out of general hospitals, one, two or three weeks after serious operations results in accidents and complications, post-operative sequelae, difficult to correct. In private institutions there is added a well-directed rest-cure treatment, which gives pleasing results.

POSTRECTAL OR PRESACRAL GROWTHS.

DR. JAMES F. W. ROSS, Toronto, presented this paper, in which he reported four cases of postrectal tumors, excepting the osteomata. He discussed benign and malignant growths in this region; also their etiology, symptomatology and diagnosis and prognosis, and treatment. No novice should undertake the removal of a postrectal growth. It can only be done by one who has become familiar with pelvic surgery, and who is fully master of the situation. The operator must be full of resource and should be rapid in his movements. In making his incision into the abdominal wall he should always remember that it should be made high up and enlarged downward after the position of the bladder has been ascertained. The author has had no experience with the removal of such postrectal growths by enucleation from above. He is well aware that many thoughtful, prudent and daring surgeons do not hesitate to close the abdomen when this condition is met with. What should the technique of such an operation be? Should the mesorectum be incised close to or far away from the bowel? Should not the incision always be parallel to the vessels and not across them? How is the surgeon to accurately determine the situation of the ureter and, when discovered, how can he avoid it? How can he best guard against injury to the large vessels? In dealing with branchial cysts in the neck the speaker has followed them almost to the spine, but has then left the deep portion of the cyst wall, if it could be called a wall. It seems to him that he would have been forced to deal with the last case he reported of presacral cyst in exactly the same manner because the peritoneum and so-called cyst wall were so intimately connected. It would not be wise to drain such a cavity into the peritoneal cavity, but would be more prudent to attack such cysts through the postanal tissues, perhaps with the removal of the coecum. The solid tumors should always be attacked from the front.

THE LIGATURE AND THE VALUE OF DRY STERILIZED CATGUT.

DR. J. HENRY CARSTENS, Detroit, described a modification of the Boeckmann method of preparing catgut. The ligatures are prepared in the following manner: Catgut is put in ether for a few days, or a week, until the fat is all removed, and then cut in strips 18 or 20 inches long. Three of these are wrapped in fine tissue paper, then placed in a small envelope. The latter is closed and placed in a Boeckmann sterilizer and subjected to dry heat for three hours. A thermometer is kept in the apparatus, so that the heat is at least 300 F. At the expiration of that time the heat is shut off and the ligatures remain in the sterilizer without disturbance for twelve to eighteen hours, which gives any spores that may be present an opportunity to develop. The heat is again used, and the ligatures are again subjected to 300 F. They are now sterile.

They are put in an envelope and can be carried that way in a satchel. When ready for use the end of the envelope can be torn off and the ligature, with the tissue paper, dropped into alcohol, the tissue paper removed and the ligature can be threaded and used. These ligatures are not slippery or greasy, as is the catgut prepared with different oils. The following points were emphasized: All buried sutures ought to be absorbable, and absolutely sterile. Chemicalized sutures are no more sterile than plain sutures. A chemicalized suture is harder and remains longer in the tissues. This latter is a disadvantage. If in a special case it is desirable that a suture should remain longer, dry sterilized kangaroo tendon can be used.

DR. FRANK F. SIMPSON, Pittsburg, Pa., read a paper on "Some Contraindications to the Intra-peritoneal Use of Normal Salt Solution After Abdominal Section."

SIMPLE METHODS IN PELVIC SURGERY.

DR. JOHN B. DEEVER, Philadelphia, said that simplicity is the sine qua non of good surgery. It means safety, surety, confidence, neatness and a great saving of time, which is an essential factor in the success of many operations. The abdominal route is by far the more rational and therefore the best method of operating on the pelvic organs in the majority of cases, and offers several advantages that render it preferable to the vaginal. Radical operations per vaginam are, with few exceptions, the author thinks, to be discontinued for several good and sound reasons: 1. The limited area for manipulation. 2. The impossibility of inspection without destruction and removal of the uterus, which should not be removed except for good and sufficient disease of that organ itself. 3. The marked increased liability to hemorrhage, both primary and secondary. 4. Increased danger of injuring ureters, bowel, bladder and large blood-vessels. 5. Danger of doing incomplete surgery. 6. Inability to repair satisfactorily injuries to bowel or bladder, etc. 7. Inability to deal safely with an inflammatory mass which involves the vermiform appendix.

THE TREATMENT OF FIBROIDS IN THE NON-PREGNANT UTERUS.

DR. E. F. FISH, Milwaukee, Wis., discussed the advisability of operating in all cases of fibroids of the uterus as soon as discovered, and leaves it an open question. He emphasizes the necessity of radical interference whenever the tumor or tumors are productive of pain, hemorrhage, pressure, constitutional impairment, unless there be existing disease, such as nephritis, diabetes, tuberculosis, etc. Of radical treatment, he thinks that myomectomy is the operation of choice, whether subserous, interstitial or subcutaneous, if it is single and can be enucleated without loss of tissue and the cavity closed and covered with peritoneum. Where several tumors exist the judgment of the operator comes into play. Many nodules mean many foci, and the author opposes myomectomy on the ground that some of these may not be discovered and later develop and demand another operation. He thinks, too, that under such circumstances the condition might, and likely would, call for future operation. The vaginal route is favored for small tumors, the abdominal for large ones. Hysterectomy is favored when the tumor involved so much uterine tissue that a proper closing of the tumor cavity is not possible, when the organ is studded with small tumors or nodes, when coexisting pelvic disease is present, when the growth is degenerating, when there are adhesions, when the tubes and ovaries are involved to such an extent that they must be sacrificed, when the disease is no longer local, when the change of life has occurred. He favors supravaginal amputation, leaving the cervix when sound, and panhysterectomy when the cervix is lacerated or diseased. He leaves the ovaries if sound, or if only one is sound he leaves that, or if only part of one, he leaves the healthy part. He believes in ignipuncture for small pea-like cysts, and leaves ovary. He is convinced that it modifies the nervous symptoms which usually follow complete removal.

ACUTE SENILE ENDOMETRITIS.

DR. L. H. DUNNING, Indianapolis, read a paper with this title, it being the second written by him on this subject, and in

which he reaffirms his belief that it is a distinct lesion that has not heretofore been adequately described. Since his previous paper he has encountered three more cases, two of which were attended by sanguineo-purulent discharges from the uterus, and one in which there was a large pelvic abscess. The inflammation tends to spread beyond the endometrium into the Fallopian tubes, ovaries and pelvic peritoneum, resulting in much suffering and ill-health, and not infrequently leading to so serious involvement of these structures as to demand operative procedures, such as extirpation of the uterus and appendages, or vaginal incision and drainage of a pelvic abscess. The chief cause of the lesion is infection. It is not definitely self-limited, but tends to become chronic and to lead to marked degenerative changes within the uterus. The treatment recommended is, in cases where the appendages are not involved, dilatation, curettage, the application of a mild caustic and prolonged drainage. When the uterine appendages are involved in the inflammatory process, extirpation of the uterus and appendages is advocated.

TUBO-OVARIAN ABSCESS AND HOW TO DEAL WITH IT.

DR. EDWIN RICKETTS, Cincinnati, Ohio, said that tubo-ovarian abscess is frequently caused by the proximity of the ovary to an infected Fallopian tube. The disease may be complicated by normal or ectopic pregnancy, intestinal, vaginal or vesicle fistula, and by appendicitis. In the dormant stage the author operates by the abdominal route; in the acute stage he explores by the abdominal route, and then decides between completing the operation in one or two sittings. Following abortion or delivery at full term, vaginal drainage, in his opinion, often puts the patient in better shape for an abdominal section later on.

The following officers were elected for the ensuing year: President, Dr. W. E. B. Davis, Birmingham, Ala.; first vice-president, Dr. Edwin Walker, Evansville, Ind.; second vice-president, Dr. A. Goldspohn, Chicago; secretary, Dr. William Warren Potter, Buffalo; N. Y., re-elected; treasurer, Dr. X. O. Werder, Pittsburg, Pa., re-elected. Cleveland, Ohio, was selected as the place for holding the next annual meeting; time, second Tuesday in September, 1901.

Omaha Medical Society.

RETRO-COLONIC ABSCESS.

DR. B. B. DAVIS reported a unique case of retro-colonic abscess. The patient presented the following history: He was eating pork, when he seemed to swallow a bone, which stuck in his throat and was apparently dislodged by copious draughts of water. He was comfortable for three or four days, but then had considerable pain in the right abdomen, with constipation, which resisted cathartics, and vomiting then ensued. Physical examination showed general tympanites with marked dullness on deep percussion from McBurney's point to the floating ribs. Further questioning brought out the fact that he had been feeling very poorly for several weeks and had progressively emaciated. Malignant trouble was suspected and an exploratory operation advised. Incision was made in the right linea semilunaris; the colon seemed normal, but a hard mass was found behind it and apparently intimately attached to it. After much manipulation, pus and fecal matter welled up from a large cavity. An opening was found in the colon. Drainage was used and the sinus entirely closed in about three weeks. The bone which had been swallowed was not found. The appendix and ileo-cecal junction were examined carefully and found normal. Recovery was uneventful.

GANGRENE FROM MILD CARBOLIC DRESSINGS.

DR. DAVIS also reported a case illustrating the danger of gangrene from mild moist carbolic dressings. A little girl of 7 or 8 had pulled off a "hang-nail." It gave her pain and she took a solution of carbolic acid which had been used to wash the wood-work of a sick-room, moistened a cloth with it and wrapped her finger in it. The dressing was kept on over night only. Dry gangrene took place, the bones of the finger were

necrosed and amputation was necessary. Investigation showed that it was probable that not stronger than a 2 or 3 per cent. solution had been used. He felt that great caution should be used as to the use of moist carbolic dressings.

Drs. Lord and Gifford spoke of similar cases. Dr. Summers felt that most of the cases arose probably from carelessly-made solutions, in which even crystals of the acid got on the dressings.

HYSTERICAL CILIARY ALOPECIA.

DR. HAROLD GIFFORD reported three cases of this condition. Three years ago, two little girls were brought to him about the same time with eyelashes almost gone, and yet there was no ciliary blepharitis. He thought there was some trophic trouble, was much puzzled to explain it, and did nothing for them. Recently he saw one of them; the hairs were almost gone and the lids red and painful. It occurred to him that there might be hysteria in the case. He accordingly sealed up one eye with collodion; dressed it daily, used vaselin on both lids and found, after several days' observation, that a new crop was coming on the sealed-up lid. He was satisfied that the girl had continued to pull them out from the unsealed lid. The girl would not confess, but went home and had no further loss of hairs. He met with two similar cases a little later. One of these girls, 11 years of age, was entirely removed from the appearance of hysteria. The other girl, of 14, pulled out the lid-hairs and the eyelashes also. She confessed that she had seen her father pulling out "wild-hairs" and imitated him.

In the discussion which followed the question was raised whether pulling out hairs was a "habit" or an evidence of hysteria. Dr. Gifford was of the opinion that it was not a habit because it was painful. It could be stopped without difficulty, merely by telling the patients how wrong and harmful it was and threatening to notify the parents if it was not stopped.

PLACENTA PREVIA.

DR. J. E. SUMMERS, JR., said that he had been called on by a doctor who reported himself as completely worn out and needed surgical assistance, and asked him to come prepared to do a Cesarean section. He went, found a woman in profound shock and pulseless; the bed soaked with blood. Examinations showed the os dilated sufficiently to admit the tips of two fingers and a centrally-implanted placenta beyond. He dilated rapidly, probably for six or eight minutes, went through the placenta, grasped a foot, brought it down, delivered the trunk, put the forceps on the after-coming head and had the satisfaction of saving the mother, but the child was dead.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

- Philadelphia Medical Journal, September 22.**
- 1 Multiple Metastatic Sarcoma of the Lungs. Stephen S. Burt.
 - 2 *Gynecology, Its Present, Past and Future. Howard A. Kelly.
 - 3 *The Chemical Examination of Feces for Clinical Purposes. A. E. Austin.
 - 4 *Chronic Ear-Vertigo (Meniere's Disease); Its Mechanism and Surgical Treatment. Charles H. Burnett.
 - 5 *A New Hemoglobinometer for the Examination of Undiluted Blood. Arthur Dare.
 - 6 Acute Scaminal Vesiculitis. Henry H. Morton.
 - 7 The Injured Tramp; Who Is Responsible for Him? F. Julian Carroll.
- New York Medical Journal, September 22.**
- 8 *The Treatment of Chronic Cystitis in the Female by Curettement of the Bladder and Installations of Corrosive Sublimate. Charles G. Cumston.
 - 9 *Generalized Tuberculous Lymphadenitis, With the Clinical and Anatomical Picture of Pseudo-leukemia; The Study of a Case. (Continued.) Thomas R. Crowder.
 - 10 *Report of Three Cases of Ascending Urinary Infection Due to the Bacillus Pyocyaneus and the Proteus Vulgaris. George Blumer and August Jerome Lartigau.
 - 11 Membranous Enteritis. H. F. Siffer.
- Boston Medical and Surgical Journal, September 20.**
- 12 *Treatment of Pott's Disease After the Development of the Deformity. Edward H. Bradford and F. J. Cotton.

- 13 *Joseph W. England's Fat-Free Tincture of Digitalis. Elbridge G. Cutler.
- 14 *Knee-Joint Surgery for Non-Tubercular Conditions. Joel E. Goldthwait.

Medical News (N. Y.), September 22.

- 15 *Studies in Surgical Technique, With a Report on Operative Surgery at the City Hospital for 1898 and 1899. George Emerson Brewer.
- 16 *Toxicity Versus Septicity in the Infectious Pathogenic Bacteria. Eugene Wasdin.
- 17 *Total Extirpation of the Ureter. Willy Meyer.

Medical Record (N. Y.), September 22.

- 18 *The Phelps Operation for Hernia and Method of Closure of Abdominal Wounds. A. M. Phelps.
- 19 *To What Extent Does "Rheumatic and Gouty Diathesis" Enter Into Traumatic Joints (Sprains and Bruises) Septic and Gonorrhoeal Joints, Acute Articular Rheumatism, Neurophatic Joints, Arthritis Deformans (Osteoid, Rheumatoid), as an Etiologic Factor? What is the Scientific Basis for Such a Term? William H. Porter.
- 20 *Primary Carcinoma of the Parovarian. B. S. Talmey.
- 21 *Simple Fracture of the Shaft of the Femur, With Report of Two Cases of Delayed Union. William H. Shipp.

Cincinnati Lancet-Clinic, September 22.

- 22 *The Diagnosis and Treatment of Metatarsalgia. Albert H. Frelberg.
- 23 *Alkaline Saliva. M. H. Fletcher.
- 24 *Oceipito-Posterior Presentations. H. V. Sweringen.

St. Louis Medical Review, September 22.

- 25 Relation Between Parturition and Gynecologic Diseases. Hugo Ehrenfest.

Medical Age (Detroit), September 25.

- 26 Ulceration of the Rectum, With External Piles; Combined Internal and External Piles. Joseph M. Mathews.
- 27 Gastric Disorders Producing Constipation and Diarrhea. John P. Sawyer.
- 28 Carbuncle, With Report of a Case. George W. Griffiths.

Pediatrics (N. Y.), September 15.

- 29 Peritonissilar Abscess in Children, with Report of Case. L. T. Royster.
- 30 The Lewis Memorial Cottage for St. John's Guild, at New-dorp, Staten Island, N. Y. Walker and Morris.
- 31 A Neglected Case of Pott's Disease of the Spine Under Treatment with a New Spinal Brace. Edward A. Tracy.

Iowa Medical Journal, September 15.

- 32 Some of the Indications for and Sequelæ of Hysterectomy. E. E. Dorr.
- 33 Suppurating Cervical Lymphatics. F. L. Rogers.

Archives of Pediatrics (N. Y.), September.

- 34 *Enteric Fever in Childhood. A. D. Blackader.
- 35 *Exclusive Soup Diet and Rectal Irrigations in Typhoid Fever. A. Seibert.
- 36 Two Cases of Fatal Lead Poisoning. Allen Baines.
- 37 *General Subcutaneous Emphysema. A. C. Cotton.
- 38 A Case of Hysteria with Laryngeal Manifestations in a Boy of Eleven Years. C. Herman.

St. Louis Medical and Surgical Journal, September.

- 39 The Value of the Vegetable Digestive Ferment in the Treatment of Chronic Alcoholism. John McDonald.
- 40 The Bloodless Treatment of Congenital Dislocations of the Hip-Joint. Adolph Lorenz.
- 41 Alopecia Areata. Norman Walker.
- 42 Diagnosis and Etiology of Beri-Beri. Albert S. Ashmead.
- 43 Artificial Food. A. Jacobl.

Annals of Surgery (Philadelphia), September.

- 44 *Cubitus Varus; or "Gunstock" Deformity Following Fracture of the Lower End of the Humerus. Lewis A. Simson.
- 45 *The Results of "Castration and Vasectomy" in Hypertrophy of the Prostate Gland. Alfred C. Wood.
- 46 *Massage in the Treatment of Recent Periarticular Fracture. George Woolsey.
- 47 *Excision of the Wrist by a Modification of Mynter's Method. William J. Taylor.
- 48 The Hæocecal Orifice and Its Bearing on Chronic Constipation, with Report of Two Cases Relieved by Operation. William J. Mayo.
- 49 Hernia of the Bladder Through the Pelvic Floor from the Traction of a Subperitoneal Fibroma. Francis E. Harrington.
- 50 *On the Influence of Anæsthesia on the Effect Produced on the Circulation and Respiration by Irritation of a Sensory Nerve. Simon Pendleton Kramer.
- 51 *The Pathology of Fracture of the Lower Extremity of the Radius. (Concluded.) Frederic J. Cotton.
- 52 *Tetanus. (Continued.) Alexis V. Moschowitz.

American Medical Compend (Toledo, Ohio), September.

- 53 Infection from Bacillus Aerogenes Capsulatus, with Report of a Case. J. H. Jacobson.
- 54 *The Case System in Teaching Gynecology. Byron Robinson.

Brooklyn Medical Journal, September.

- 55. *Some Problems Concerning Nervous Disease. F. W. Langdon.
- 56. Abdominal Section: Some Points in the Management of Difficult Cases. L. Grant Baldwin.

Austin Flint Medical Journal (Hason City, Iowa), September 15.

- 57 Etiology and Prophylaxis of Typhoid Fever. Elmer G. Dennis.
- 58 Homeopathic Department of State University. J. W. Kime.
- Chicago Medical Recorder, September.**
- 59 *On the Surgical Treatment of Gall-Stones. Maurice H. Richardson.
- 60 *On Latent Infection and Subinfection, and on the Etiology of Hemochromatosis and Pernicious Anæmia. (Concluded.) J. George Adami.
- 61 The Good Nurse. James H. McBride.
- 62 *The Modern Treatment of Face Presentations. Gustav Kolscher.
- 63 *The Nature of Neurasthenia: A Study of the Recent Literature. Rosalie M. Ladova.

Medical Sentinel (Portland, Ore.), September.

- 64 Diagnosis of Smallpox. Wallace W. Potter.
- 65 Mastoid Diseases and the Mastoid Operation. Arthur H. Coe.

The Laryngoscope (St. Louis), September.

- 66 *Vibratory Massage in the Treatment of Progressive Deafness, with Especial Consideration of My Elastic Pressure-Probe. A. Lucca.
- 67 *A Plea for an Early Operation in Bilateral Abductor Paralysis of the Vocal Cords. Norton L. Wilson.
- 68 *Slight Irregularities of the Nasal Septum. Edwin Pynchon.
- 69 *Nasal and Post-Nasal Synechia. J. Price-Brown.
- 70 Some Remarks on the Etiology of Retropharyngeal Abscess, with Report of Cases. M. R. Ward.
- 71 Sarcoma of the Naso-Pharynx Cured by Injections of Formalin. John A. Thompson.

Woman's Medical Journal (Toledo, Ohio), September.

- 72 Purpura Hemorrhagica Attended with Hematidrosis Complicating Pregnancy—Report of Case. Alma L. Rowe.
- 73 A Study of Heredity among the Women in the State Hospital at Clarinda, Iowa. Anne Burnet.

Medical Council (Philadelphia), September.

- 74 *The Use of Hot Normal Salt Solution to Cause Absorption of Pleural Effusions. John A. Robinson.
- 75 *Hallux Valgus. Lester Keller.
- 76 *Common Food Adulterations. A. H. P. Leuf.
- 77 The Telephone in Country Practice. J. Beverly Deshazo.
- 78 Preliminary and Minor Railway Surgery. (To be continued.) J. M. Salmon.
- 79 On Suggestive Therapeutics, Magnetic Healing and Osteopathy. T. H. Line.
- 80 Treatment of Diseases of the Nose, Throat and Ear by the Family Physician. E. B. Gleason.

Richmond Journal of Practice, August

- 81 The Care of the Bowels Prior and Subsequent to an Abdominal Section. Hunter Robb.
- 82 *The Angiotribe in Abdominal Surgery. Hugh M. Taylor.
- 83 Some Cases of Erysipelas at Southwestern State Hospital. Z. V. Sherrill.

Texas Medical Journal, September.

- 84 Some Surgical Cases. J. S. Price.
- 85 The Old Man Must Go. F. M. Davis.
- 86 Scarlatina or Something Similar. W. T. Evans.
- 87 Post-Partum Hemorrhage. S. Merriwether.
- 88 Neurasthenia. Virginia W. Gayle.
- 89 Uric Acid Toxicæmia. Arch Dixon.

Medical Herald (St. Joseph, Mo.), September.

- 90 *New Method of Performing Trachelorrhaphy. P. C. Palmer.
- 91 The Leucocytes in Cytodieresis, Leuco-Cytogenesis and Leucocytosis. L. H. Warner.

Medical Bulletin (Philadelphia), September.

- 92 Psoriasis—Epithelioma. John W. Shoemaker.
- 93 *The Recognition of Syphilis by Examination of the Blood. Berj. F. Gilmor.
- 94 Myomectomy During the Sixth Month of Pregnancy—Recovery. Eugene R. Lewis.
- 95 Acute Hepatitis, Cirrhosis of the Liver and Leucocythæmia Successfully Treated by Abdominal Section. Emory Lanphear.
- 96 Two Factors in the Etiology of Uterine Cancer. Thomas Barker Eastman.
- 97 Stricture of the Esophagus. C. P. Thomas.
- 98 *Perforation in Typhoid Fever from an Operative Standpoint, with a Report of Cases. Gwylim G. Davis.
- 99 Wiring Patella, Excision of Upper Jaw, Removal of Appendix. (To be continued.) Henry A. Barr.
- 100 Injuries of the Scalp. H. C. Fairbrother.

American Therapist (N. Y.), August.

- 101 *Effect of Normal Serum, Antitoxin and Diphtheritic Poison Upon Blood and Tissue. Geo. F. Cott.
- 102 *Feeding vs. Starvation in Diseases of the Stomach. Frank H. Murdoch.

Southern Medical Journal (La Grange, N. C.), August.

- 103 *The Angiotribe in Abdominal Surgery. Hugh M. Taylor.
- 104 Pyrexia in Infancy. J. W. P. Smithwick.
- 105 The Development of Chemical Synthesis. J. W. Wainwright.
- 106 The Antiseptic Treatment of Typhoid Fever, with Clinical Reports. J. W. P. Smithwick.

AMERICAN.

2. **Gynecology, Its Present, Past and Future.**—Kelly reviews the past of gynecology, shows how we have lived through the various fads and theories, what discoveries have been epoch-making and beneficial and thinks that in the immediate future diseases of the urinary tract will first take our attention and later will follow the better understanding of diseases of the rectum and gall-bladder. There will be a closer connection between gynecology and surgery in the immediate future.

3. **Chemical Examination of Feces.**—The methods of chemical examinations of the feces are elaborately described by Austin, who shows what is likely to be found and its significance.

4. **Meniere's Disease.**—According to Burnett, chronic ear-vertigo or Meniere's disease is due to a mechanical cause consisting chiefly in impaction of the stapes in the oval window, and removal of this impaction and liberation of the stapes will cure the disease. The removal of the incus breaks the retractive force of the tensor tympani and malleus exerted through the incus upon the stapes, and the latter bonnet is liberated. In chronic purulent cases it is necessary to excise the remnants of the diseased membrana and the malleus and incus with their synchial bands in order to liberate the stapes. This incision of the diseased ossicles also has the effect of curing the chronic suppuration and preventing antrum and mastoid disease. His operation in brief consists, after sterilizing the auditory canal and membrana, and illuminating with electric light, in making, when the membrane is intact, the initial incision close behind the short process of the malleus and following the periphery closely backward and downward to a point below a line drawn horizontally through the umbo of the membrana. It is usually followed by little or no bleeding. The flap which is thus made is turned inward toward the promontory with a probe armed with sterilized cotton. If there is no bleeding, the incus-stapes joint is seen as soon as the flap is pushed aside; if there is bleeding, it should be checked with a sterilized mop. The incus being now in plain sight, it should be gently disarticulated from the stapes by drawing the former outward and downward by means of an incus-hook knife passed behind its long limb. When this is done the long limb of the incus should be grasped by special forceps and drawn very cautiously downward and outward into the auditory canal and then removed entirely from the ear. When this is accomplished the operation is finished. The slight bleeding that sometimes occurs in the chronic catarrhal cases requires no attention. The meatus should be stopped with sterilized cotton and the ear let alone for 24 or even 48 hours, unless the cotton in the meatus gets moist with blood or serum. If this occur the cotton should be removed and dry cotton inserted. There is to be no after-treatment in such cases, as all is accomplished when the incus is removed. As a rule there is no reaction in these cases, and the wound in the membrana heals by first intention. Sometimes a slight reaction has occurred, shown by a little pain and some mucopurulent discharge. But this is healed in a few days by simply mopping the ear with sterilized cotton and a solution of formalin—1 to 1000—and such reaction has never had any bad effect upon the result of the removal of the incus in checking the vortiginous attacks in any of his cases. He has never encountered a serious reaction after the operation, either in the chronic catarrhal or in the chronic purulent class. In purulent cases the operation is somewhat different, the ossicles are usually plainly visible. The incus should be detached and removed and the remnant of the diseased membrane and malleus completely incised. Hemorrhage is apt to be somewhat troublesome and constant mopping may be required. After the operation the ear requires syringing with bichlorid solution—1 to 500—and the ear should not be stopped with cotton, but allowed to discharge. The subsequent treatment may be that indicated in a case of chronic purulent otitis media. Burnett has performed this operation in twenty-seven cases of chronic ear-vertigo and in no instance has it failed to give relief.

5. **New Hemoglobinometer.**—Dare describes a new instrument for determination of hemoglobinuria, the advantages of which he briefly recapitulates as follows: An immense amount of labor is saved by dispensing with dilution and its possible errors; leucocytosis can not influence the results; adjustment is made for the color curve; the color shades for comparison are made more decided; the pipet is absolutely cleaned; and, most important of all, the readings are uniform and accurate and depend upon principles which allow the best analysis of color shades in the shortest time. Results within 1 or 2 per cent. are obtained with a certainty hardly obtainable with other instruments. Clinical patients who took a lively interest in the examination of their own blood, when asked to make comparisons, rarely exceeded a variation of 2 per cent. in successive trials. In the case of shop-girls who were accustomed to match colors the variation was still less. In considering this instrument, its simplicity, its compact construction, lightness, and portability, as well as the accurate results obtainable with it, should be taken into account.

8.—See abstract in THE JOURNAL of September 29, p. 838.

9. **Tuberculous Lymphadenitis.**—Crowder concludes his paper by reviewing the literature and finds that while we are not warranted in assuming that all pseudoleukemias are tuberculous, it is at least established that tuberculous lymphadenitis may give rise to their symptom-complex and anatomical findings. Enough examples have been recorded to show that it is not altogether an infrequent condition.

10. **Ascending Urinary Infection.**—Blumer and Lartigau report cases showing the ascending infection by the bacillus pyocyaneus of the urinary passages, a condition which has not been previously reported, nor has the association of proteus vulgaris with the bacillus pyocyaneus been heretofore noted. Several cases are reported in detail; in the first, the main symptoms were referable to the nervous system, the most important of these being partial paraplegia, loss of reflexes, anesthesia and analgesia, without any cord lesions to account for them. The subsequent development of a bed-sore and its infection by the bacillus pyocyaneus is of interest. It seems probable that this was due to urinary infection. Case 2 is a simple case of ascending urinary infection following stone in the bladder. Case 3 gives a clinical picture of hemorrhagic septicemia probably incidental to the puerperal streptococcus infection. In these cases one striking feature was the comparative non-virulence of the isolated bacillus pyocyaneus, which the author attributes to the fact that the process was essentially chronic. In the ordinary pyocyaneus infections, which are acute, it is rare to find non-virulent forms.

12. **Pott's Disease.**—Bradford and Cotton report experiments on the effect of forcible attempts to reduce deformity in Pott's disease performed on cadavers and models, including also the questions of retention after correction, and discuss the subject. They also show the effects of treatment as personally observed in the practice of the late Dr. C. F. Taylor. In conclusion, they remark that the correction or rectification of the curve in Pott's disease is to be considered in every case of active disease with a deformity. The employment of force should depend on the pathologic conditions and not on the extent of the curve. Force should be used with great reserve. Improvement of the curve is to be attempted wherever the spinal column can be made straighter without great force. The main dependence, however, for ultimate success remains in the surgeon's careful, continued, and thorough employment of retention appliances which hold the spine in the straightest possible position for a sufficient length of time for consolidation of the diseased bony structures. Success is to be won more by careful attention to detail than by an operative attempt.

13. **Digitalis.**—Cutler calls attention to the fat-free tincture of digitalis devised by Joseph W. England, chief druggist of the Philadelphia Hospital, to meet the serious drawbacks in the use of infusions of digitalis when large doses are required

to produce the desired action on the heart and kidneys. For the past five years this preparation has replaced the official tincture in the wards of the Philadelphia Hospital, and Cutler here reproduces the clinical statements as to its non-irritating properties by Dr. D. E. Hughes, chief resident physician. Several cases are reported and in all the fifteen cases the fat-free was compared with the official tincture under the observation of Mr. England and Dr. F. A. Sherer. The author himself has not used the preparation long enough in the Massachusetts General Hospital to obtain any new data in regard to its action, but his opinion has been confirmed with reference to its usefulness. This tincture does no more than the official tincture will do therapeutically, but it does not produce the nausea and digestive disorders so frequently observed with the latter. He believes it fills an important place and reproduces Mr. England's observations to call attention of the profession to its value.

14. Knee Joint Surgery.—The title of this paper is self-explanatory, it being a report of thirty-eight operations for synovial fringes, injured semilunar cartilage, loose cartilage, coagula, exploratory incision, etc. The purpose of the paper is to show that operations on joints need not be feared more than operations elsewhere and to urge their importance not only to relieve a definitely recognized condition, but also for exploratory purposes in doubtful cases.

15. Surgical Technique.—The results of advances in the surgical technique during the past five years in the city hospital are given by Brewer as follows: First year, number of operations, 147; deaths, 8; mortality percentage, 5.4 per cent.; infection occurring in clean cases, 39 per cent. Second year, number of operations, 109; death-rate, 8.2 per cent.; percentage of infection in clean cases, 9 per cent. Third year, number of operations, 165; death-rate, 9 per cent.; percentage of infection in clean cases, 7 per cent. Fourth year, number of operations, 191; death-rate, 6.2 per cent.; percentage of infection in clean cases, 8.5 per cent. Fifth year, number of operations, 168; death-rate, 7.1 per cent.; percentage of infection in clean cases, 3.2 per cent. From these observations the writer thinks that he is justified in saying that, if our technique is perfect, no unfavorable suppurative is to be expected and, while he is willing to admit the decreased resistance of the class of patients received and their greater liability to infection, still he thinks that by a perfect, though perhaps somewhat exaggerated, system, the results are as good as in any other hospital.

16. Toxicity Versus Septicity.—The action of bacterial infection is discussed by Wasdin, who divides it into two types, toxic and septic, the former including those cases which are due to toxicity from the seat of infection and the latter, those where there is actual presence in the blood of the bacteria themselves. Of the former type, diphtheria, tetanus and cholera are characteristic, and in diphtheria the colony rests always at its primary seat, disposing of its toxin through the system, and there is a wonderful local reaction, the leucocytes quickly forming a barrier of protection in the so-called "false membrane." In tetanus and cholera there is no such local reactionary collection of leucocytes, but there is no invasion of the circulation, no true septicaemia. Influenza most probably is to be classed with these, though the isolation by Pfeiffer of his bacillus from the blood in some cases may require it to be classed with the modified septicaemias. The infections which develop septicaemia more or less primarily are lobar pneumonia due to the pneumococcus, typhoid fever, bubonic plague, tuberculosis and yellow fever. The author shows how each of these is produced, but doubts whether there are any purely septic infections as clearly septic as diphtheria is toxic. He especially discusses plague and yellow fever and maintains that both toxicity and septicity coexist in many of the infectious pathogenes. The law which governs the formation of the types of cases encountered in all of them is that the infection having taken place, the type of the disease must depend upon the development in the infecting organisms of the inherent qualities of toxicity and septicity; that if

toxicity preponderate, there will result the toxemias, and if septicity be the more pronounced, the septicaemias will be produced, since these qualities coexist in each infective germ, the one or the other being exhibited in greater perfection according to environment. He calls attention to the fact that this infection characterized by mixed toxicity and septicity responds but slightly to sera, while the most toxic, such as diphtheria and tetanus, and the most septic, such as plague, have been thus benefited. He thinks it likely that until it is possible to separate these qualities and to utilize the one desired, it will be impossible to produce a serum of anything like the beneficence of diphtheria antitoxin.

17. Extirpation of the Ureter.—This, as advised by Willy Meyer, is the complete removal of the entire ureter from just below the pelvis of the kidney to its entrance into the vesical wall. The difficulties of the operation are noted and the indications recognized for it are discussed. 1. In malignant tumor of the kidney. As far as he had learned, no such case of total ureterectomy has been reported, and it will generally, in such cases, be a partial one. 2. In tuberculosis of the kidney he doubts whether primary total ureterectomy is often indicated, though a few cases have been reported in which it was seen during nephrectomy that the ureter was very seriously affected and its partial removal would have been an incomplete operation. In the majority of these cases, however, he thinks the ureter will take care of itself if nephrectomy is performed early enough in the disease. He believes that the cystoscope might often furnish the best means of determining the indication for secondary ureterectomy. 3. Another indication would be where the original wound breaks open again and a sinus establishes itself. 4. Pyonephrosis and pyonephrotic stone kidney. It was a case of this kind which led to the origin of this paper. The case shows what mischief can be produced by a single renal calculus which can not pass the ureter, and also demonstrates the necessity of always testing the patency, especially when performing nephrotomy and nephrectomy. If the stone can be reached by the lumbar wound the surgeon should try to push it up and extract it, but if at the lower end of the ureter the organ ought to be exposed extraperitoneally if the patient's condition permits. If it does not it will probably have to be done later. He does not believe that stricture without the presence of stone which was the original cause will often necessitate the extirpation of the ureter after the removal of the kidney. In conclusion he says: "By making it a rule always to test the patency of the ureter down into the bladder when doing a nephrotomy or a nephrectomy, and then, according to the result of the examination, adding immediately or later the necessary treatment of, or operation on, the ureter, many a kidney will be saved from extirpation and much trouble be spared our patients."

18. Hernia.—Phelps illustrates his method of operating for hernia with the silver-wire pad. He thinks it necessary to make up for the loss of resistance that has resulted from the chronic pressure and distention by the hernia, and the material required must be one that will not be absorbed and be so elastic that it will bend with each movement of the body. The wire mattress which he puts in place is left and becomes encysted and makes that portion of the abdomen even stronger than the rest. If the wire mattress becomes infected, which seldom happens, he would fill the wound with pure carbolic acid, after curetting out the infected part, and afterward wash it with pure alcohol, which is a perfect antidote, and then allow the wound to heal by granulation.

19. Rheumatic and Gouty Diathesis.—According to Porter, the predisposing factors in the development of so-called gout or rheumatism, are that the intake of nutritive pabulum is larger than the system can properly oxidize or a condition that so reduces the oxidizing capacity of the animal economy that the small amount of food taken could not be properly oxidized. Added to this, in determining the special type, are the action of the bacilli and proteids in the alimentary canal and the formation and absorption into the system of toxic products. These factors together determine the nature of the

lesions, the symptoms, abnormalities and biproducts from which we are able to differentiate the different forms of these suboxidized conditions. There are also a few other things that can not be overlooked, as changes in temperature, hygienic surroundings, nervous disturbances, etc. His arguments are elaborate and he goes into the subject in detail, especially as regards the different forms of rheumatic and gouty affections.

20. Carcinoma of Parovarian Body.—From a study of a specimen that was thoroughly examined microscopically and otherwise, Talney concludes that the growth found was certainly a primary cancer, and he argues to show how any connective-tissue proliferation in the broad ligaments may give rise to cancerous growths. He believes that malignant parovarian tumors are not rare and that if all the so-called ovarian tumors were systematically examined under the microscope a great part of them would be found to be of parovarian origin.

22. Metatarsalgia.—This disorder, which was described by Morton in 1876, has been a subject of discussion as to its exact pathologic mechanism since the first. The author rejects Morton's explanation that it is due to pressure on branches of the external plantar nerve between the heads of the fourth and fifth metatarsals, and argues at length in favor of the following propositions: 1. That metatarsalgia is a symptom of several pathological conditions of the foot, and sometimes possibly of constitutional disorder. 2. That it is possible to completely relieve many cases without operative interference by establishing an exact diagnosis of the underlying condition and directing the treatment accordingly.

23. Alkaline Saliva.—The gist of this article appeared in THE JOURNAL, August 25, p. 484.

34. Enteric Fever in Childhood.—Blackader reports the results of observation of 100 cases of typhoid in infants, pointing out the peculiarities and the agreements with the disease as noted in adults. As a rule, the typhoid is milder under the age of 15, the duration in the great majority of cases being less than three weeks. Above 15 it generally follows the course in adults. The treatment which he advises in the majority of cases is the systematic use of water, but he does not think it necessary or desirable that so low a temperature should be employed as in the case of older persons, nor should this treatment be confined, as directed by Brand, to cases where the fever reaches 102.4 F. All sudden and severe shocks should be avoided. Even if the pulse falls below 102, he thinks the regulated use of the cool bath once or twice a day strengthens the heart's action and helps to more rapid convalescence.

35. Soup Diet and Rectal Irrigations in Typhoid.—On the ground of the probability that milk favors germs, Seibert has attempted the use of other fluids, such as soups. At the beginning of the attack he gives plain cold water for twenty-four hours after the initial purge, then soups made of meat-broth, containing oatmeal, barley, rice and peas, strengthened, of course, with spices, and later lentil soups with eggs. Five meals in all were given during the day preceded by 5 to 15 drops of diluted hydrochloric acid, unless hyperacidity prevailed. No other medication was employed, but two to four warm-water enemata were given daily. The results were the disappearance of headache, delirium, nausea, insomnia, tympanites, vomiting and fur on the tongue; the appetite returned frequently on the fourth day of treatment, even when considerable temperature existed. Excessive diarrhea even disappeared invariably within one week. In all uncomplicated cases the temperature began to decline within twenty-four to forty-eight hours after the beginning of treatment, and invariably reached the normal within ten to twelve days. In cases complicated by pneumonia, nephritis or phlebitis, the temperature generally remained in accord with this condition until it disappeared, while the cerebral, gastric and intestinal disturbances subsided as rapidly as in uncomplicated cases, excepting only the anorexia. Complications, when not present at the start, were very rare, usually appearing in the first two days. Intestinal hemorrhage was noticed in three cases,

none ending fatally; perforation did not occur. In all of the 153 cases treated in this manner there were seven fatalities; three patients were brought in moribund and four had complicating bilateral pneumonia.

37. General Subcutaneous Emphysema.—Cotton reports a case of this condition and remarks on its rarity and its fatality. He suggests that relief of the cough and the restriction of respirations were indicated and that incision and drainage are possibly advisable.

44. Cubitus Varus.—This condition, which consists in marked permanent adduction of the forearm, has been studied by Stimson, both in specimens and by skiagrams. He says he can not escape the conclusion that the close resemblance in a chance collection of six cases and their easy experimental reproduction, with almost total absence of specimens showing lesions of another kind, justify the belief that the common anatomical cause of cubitus varus is not ascent of the internal or descent of the external condyle after fracture extending into the joint, but that on the contrary it is an angular displacement of the entire lower end of the bone after a supracondylar fracture, or of its lower portion after a fracture which is practically a partial separation of the cartilaginous epiphysis, especially on its outer side. He suggests for the correction of the deformity pressure outward and downward against the olecranon in rectangular flexion of the joint, or adduction of the fully extended forearm and maintenance of the latter position for a week or two, which would probably be the surest means of preventing recurrence, but it should be combined with confinement to bed.

45. Castration and Vasectomy.—Wood has collected a large number of cases where castration or vasectomy was performed for prostatic enlargement, from which he concludes that there is ample reason for advising and performing one of these operations in suitable cases.

46. Massage in the Treatment of Periarticular Fracture.—Woolsey has used this method in a number of forms of periarticular fracture and with his increasing experience he is more than ever satisfied with the results. He says he has seen no advantage in discarding splints in the early part of the treatment, as they give a sense of security. We should pay particular attention to the position of the limb in carefully reducing any deformity, and keeping it reduced during massage and between the periods of massage when the limb is in the splint. If this is not possible from the outset, after a preliminary massage, a plaster cast should be applied and kept on from eight to fourteen days, when massage should be commenced. The results in these cases are better so far as position is concerned, equally as good functionally and nearly, if not quite, as quickly obtained as when massage is employed from the first. If, again, after massaging for some time, the position is not found to be correct, or, if after three weeks quite firm union has not taken place, he believes in using the plaster splint for from eight to fourteen days, though the functional result may suffer some delay. He thinks the treatment of fractures, especially articular and periarticular fractures, with the above restrictions, by massage and passive motion gives the best and quickest results as to bony union and function of any method in vogue.

47. Mynter's Method of Wrist Excision.—Mynter's method is slightly modified from that originally proposed by Studsgaard, and consists in making a longitudinal incision between the third and fourth metacarpal bones, thus opening up the wrist-joint between the os metacarpal and unciform bones and between the semilunar and cuneiform bones. Mynter's modification consists in splitting the hand between the second and third metacarpal bones and thus entering the wrist between the trapezoid and os magnum and between the scaphoid and semilunar bones. The dorsal incision reaches up to the radius and the palmar incision not farther than the base of the thenar of the thumb. Taylor has tested this method and reports a case, with skiagrams and photographs of the results, which seem very good.

50. Anesthesia and Circulation and Respiration.—Kramer has experimented on animals as to the effect produced on the circulation and respiration by irritation of a sensory nerve during anesthesia. The methods are described, and in one dog, where no anesthesia was employed, the cardiac respiration was increased by 50 per cent., and the inspiratory effect was greatly increased. The cardiac rhythm was also increased approximately to the same extent and the blood-pressure invariably rose. This experiment was not repeated, as others had found the same results. When the animals were deeply anesthetized, so that there was no corneal reflex, the results were very different. In most cases the irritation of the central end of the cranial nerve was without effect either upon the circulation or respiration. When the animal, however, was only partially anesthetized, the respiration became greatly accelerated and increased in amplitude, while there was a marked fall in the blood-pressure, which may possibly have been preceded by a slight rise. The conclusion drawn from these experiments is that severe vasomotor shock is more liable to follow operation with partial anesthesia than when done under complete insensibility.

51. Fracture of the Lower End of the Radius.—This paper by Cotton, which is concluded from a former number, is too detailed to be abstracted satisfactorily and the reader is referred to the original.

52. Antitoxin Treatment of Tetanus.—Moschowitz's article gives additional cases, ending with No. 290, of tetanus reported which were treated with antitoxin. He finds a mortality of 40.33 per cent. Of the cases with a period of incubation of less than 5 days, 9 recovered and 41 died—a mortality of 42.42 per cent.; of 114 cases with a period of incubation from 5 to 10 days, 52 recovered and 62 died—a mortality of 54.38 per cent.; of 64 patients with a period of incubation from 10 to 15 days, 52 recovered and 12 died—18.75 per cent. mortality; of 24 cases with a period of incubation over 15 days, 20 recovered and 4 died—20 per cent. mortality, and of 55 cases with unknown or unreported incubation, 30 recovered and 25 died—a mortality of 45.45 per cent. The total number treated by intracerebral injections was 48, of which 23 recovered and 25 died, or a mortality of 52.08 per cent.

53. Some Nervous Problems.—Langdon first notices the neuron theory, the utility of which he points out, and also the fact that it was somewhat anticipated in 1874 by a personal friend of his, Dr. Samuel Spahr Laws, of Bellevue Hospital Medical College, in a graduation thesis. The first problem which he offers relates to locomotor ataxia and its causation. This, he suggests, may be only a result of heredity or acquired vulnerability of the peripheral sensory neuron system. The tabetic type of individuals has impressed itself upon him. There is a marked similarity in the build, temperament and nutritional defect in the great majority of these patients. He reasons that some other factor than syphilis must be predominant and suggests, rather ingeniously, the assumption of the upright position by man requiring greater delicacy and equilibrium and consequent tax on the neurons, with the special conditions of civilization as making greater strain upon the organs. His theory as carried out involves the idea that chronic degeneration or tabes must commence high up in the cord or in the oblongata. Another disease where motor neurons are especially affected is primary lateral sclerosis, of which he recognizes a purely acquired form occurring in late maturity. He applies the rule "late to develop, early to decay" and thinks that, according to this, it should be more common, and the reason of its rarity is man's indisposition to exert the neuron. All the cases he has observed were in men who had seen military service with its special fatigue and exertions. Another condition noticed is combined sclerosis. He concludes his article with two propositions which he thinks demand recognition: 1, that the most important problems we have to solve are those connected with the individual differences in patients and their environments; and 2, that since it is mainly through neurons that these differences are manifested, both in a psychic and somatic sense, in the expression and elucidation of symp-

oms as well as in the action of remedies, the solution of the corresponding problems rests largely with the neurologist and psychiatrist. The paper is difficult to abstract without great elaboration, but it is suggestive and interesting.

59. Gall-Stones.—Richardson's article is a very lengthy discussion of very many of the surgical aspects of gall-bladder surgery and is too detailed to be abstracted.

60. Latent Infection.—Adami takes up the subject of the existence and fate of bacilli in the blood and tissues, and from a thorough discussion of the researches that have been made comes to the following conclusions: There is a passage of leucocytes through the mucosa of the alimentary tract and these, while in part destroyed, in part find their way back, bringing with them food particles, among which may be bacteria present in the intestinal contents. During the active congestion which accompanies digestion the passing out and return of these cells is increased and the germs find their way either through the lymphatic canals or portal system. In either of these they tend to be destroyed by leucocytes. By the employment of adequate methods it can be demonstrated that even in the healthy kidney and liver, in a large number of cases, in rabbits at least, a certain number of microbes are living in any one moment, so that cultures can be obtained from the organ on its removal from the body. It is probable, further, that in health a certain number of bacteria which have not been destroyed by leucocytes pass through the liver into the systemic blood. These tend to be removed by the kidneys and possibly by other glandular organs. In any case the ordinary methods at present employed in making cultures from the blood are insufficient to detect their presence unless they are in such number or of such a nature that they are not altogether destroyed by the bactericidal action of the shed blood. From these conclusions he infers that there is a latent infection—what the French term a latent microbism—that is, a condition in which residing germs are, under favorable conditions, excited into activity. This seriously involves surgical operations as well as other pathologic conditions. He also concludes that at the moment of death these bacteria are multiplied and also that there is a condition of what he calls subinfection in which the tissues destroy germs, but from constant invasion become worn out and chronic or acute infection may supervene. He illustrates his views by the conditions of hemochromatosis and pernicious anemia.

62.—See abstract in *THE JOURNAL*, xxxiii, p. 1419.

63.—*Ibid.*, xxxiv, p. 363.

66. Vibratory Massage in Deafness.—Lucae describes an instrument contrived by him for massage, and the results of the treatment. The summing-up of his experience is given that the best therapeutic results will be obtained by the application of the simple hand masseur; although the number of vibrations are limited, yet it has the advantage that each stroke can be controlled by the hand and it is free from many of the objectionable features of other instruments.

67. Bilateral Abductor Paralysis.—This article is a plea for an early operation in case of bilateral abductor paralysis of the vocal cords. The author reports cases and has searched the literature, in which he has found 88 cases recorded. In addition to these he has learned of 30 more by letter, only a few of which had been published, making a total of 118. He would not have every case of abductor paralysis tracheotomized or intubated at once, but is against procrastination, as the patient may be lost. Of the 30 cases tabulated, 14 were operated on, while 13 had no operation, and 3 were lost sight of. Of the 14 cases operated on, 10 recovered, 1 died and 3 drifted away. Of the 13 not operated on, 7 recovered, 3 died and 3 were lost sight of. Four of the 7 recoveries were not true paralysis of the abductors, but occurred in neurasthenies, which leaves the percentage of recoveries very small.

68. Septal Irrigations.—The occurrence of slight septal abnormalities is so common that the teaching to operate upon them is not generally accepted. Pyncheon thinks, however,

that they are liable to make trouble, and advises their removal. He gives in conclusion his views as follows: Slight prominences of the nasal septum, which through heightened color of the lining mucous membrane give evidence of chronic inflammation, are to be reduced as nearly as possible to the normal plane of the septum.

69. Nasal and Post-Nasal Synechia.—Price-Brown thinks that these false bands are rarely congenital and nearly always traumatic. They are often due to surgical interference and he considers the galvano-cautery as the form of this most liable to induce their development. He reviews the various causes of this accident and refers to some cases in his own observation, and remarks as to prognosis that this depends largely on the width of the cavity traversed by the synechia. When it is not narrow, treatment may be unsatisfactory. In the bony forms he has found the saw the most useful instrument; for fibrous synechia he uses the knife, scissors or curved nasal knife. Any hemorrhage occurring at the time he considers as an advantage. He does not like gauze for tampons, but prefers absorbent cotton soaked in one of the hydrocarbon oils, and left *in situ* for several days. He does not use aqueous sprays at all, but hydrocarbon oils thrown through the atomizer by means of compressed air.

74. Normal Salt Solution for Pleural Effusions.—Robinson remarks that there is nothing so perplexing as to have to deal with cases of chronic non-tubercular pleurisy with effusion that do not subside after repeated aspirations. He has found in such cases injections of hot normal salt solution of great advantage not only in improving the general condition, but in aiding the carrying off of the effusions. The *rationale* of the treatment is simply: 1. To increase osmosis of the fluid into the blood vessels and the activity of the absorbent lymphatics. 2. It is also a solvent and antiseptic. 3. It has a stimulating effect on the pleural vasomotor nerves, dilating the capillaries and hastening the blood-current.

75. Hallux Valgus.—Keller operates on this condition in the following manner: Incision over the enlarged head of the metatarsal parallel to its axis, but not extending forward onto the phalanx, the cartilage of which is carefully preserved. All the structures are pushed aside, the joint opened and the end of the metatarsal removed sufficiently for the toe to come back to its place. About three firm catgut sutures are passed through the tissues adjoining the bone of the toe and metatarsal. These do not extend through the skin, but are entirely buried and, when properly adjusted, help to keep the toe in the correct position. The skin and outer structures are closed with interrupted silkworm gut sutures and gauze dressing applied. A light splint is placed on the inner side of the foot and the whole bandaged. No drainage is needed, and the dressing need not be changed for ten days, when the external stitches are removed and the dressing reapplied. If a sepsis is good—and one would better not operate without it—earlier change of dressing is not required. In two weeks the patient may be allowed to walk a little on the outer side of the foot slowly but gradually coming to the normal use of it. In his practice recovery has been complete in from six to eight weeks.

76. Food Adulteration.—The importance of food adulteration, especially as regards the health, is noted by Leuf, who details some of which he has learned. Mustard is adulterated in several ways, either by extracting the essential oil and deteriorating its quality, or by mixing it with foreign substances from 30 to 60, or even 75, per cent. The average adulteration is about 50 per cent., and this applies to spices as a class. Pepper, especially the white, is adulterated with cracker dust and a little cayenne pepper. In cinnamon we have wholesale adulteration by cassia bark, and when adulterated in the ground article they use cracker dust and cedar saw-dust. Ginger is first weakened and then adulterated, the principle is extracted by alcohol and then it is further weakened by the addition of cracker dust, starch and a little cayenne pepper. Cloves are sometimes deprived of their oil and then adulterated, and all-spice is not less so, since it is hardly possi-

ble to get anything better than half strength in the market. Together with the removal of the essential oil, the remaining product is mixed with the common adulterants. Nutmegs and mace in the powdered form are often adulterated in this way and artificial nutmegs powdered and scented to suit are also on the market. Cayenne pepper itself is also sophisticated, which he thinks must be done through general meanness, as it hardly pays for the trouble.

82.—This article has appeared elsewhere. See THE JOURNAL of August 4, p. 267.

90. Trachelorrhaphy.—Palmer here describes a new method of performing trachelorrhaphy, which consists in inserting the sutures and passing them around a broad ring encircling the cervix, which keeps the parts together, and tying the suture outside it. It is then held in place and proper coaptation thus kept up by uniform pressure around the entire circumference of the cervix.

96. Uterine Cancer.—Eastman calls attention to the importance of endometritis due to abortions, prevention of conception, and unnatural modes of life, and of cervical lacerations as favoring malignant disease of the uterus, but he does not consider these as the sole causes. He thinks, however, that attention to these will materially reduce the death-rate from this class of diseases.

98. Perforation in Typhoid.—After reporting several cases, Davis discusses the condition and the form of operation. He would make the incision obliquely to the internal side of the anterior superior spine of the ilium, where the cecum at once presents, and by drawing it out the ilium follows and can be examined. The summary of his paper is given as follows: The diagnosis of perforation is not always easy. A decided and sudden increase, especially of pain, in the abdominal symptoms, associated with an abrupt fall of temperature, is diagnostic of perforation. Leucocytosis is a confirmatory sign. Hemorrhage is accompanied by a sudden fall of temperature, but not by a sudden increase of abdominal symptoms. Dulness in the right iliac region is not to be expected in cases of perforation. Localized impairment of resonance may be due to free abdominal fluid; change of position causes it to disappear. Localized pain and dulness may be due to a plastic peritonitis around the site of perforation. This may be observed perhaps in one case in ten, possibly one in five. It is impossible to recognize that a perforation is about to occur. It is not necessary to operate before a perforation occurs, but operation must be done before collapse is marked. Typhoid-fever patients, when not in total collapse, are liable to die on the table. He knows of some such cases. Washing out the abdominal cavity with hot normal salt solution, even if no perforation is present, seems to improve the condition of the patient at the time of operation, and to favorably influence the subsequent course of the disease. Operate as soon as the diagnosis of perforation is made. It is less dangerous for the patient to run the risk of having an operation done during the first period of depression, than to wait and run the risk of having collapse preclude all operative measures. In operating incise as for appendicitis, and not in the median or semilunar line.

101. Serum Therapy.—First remarking that five deaths have been reported out of some millions of cases where antitoxin has been used, Cott discusses the observations that have been made as to the extreme amount that has been given and the occasional untoward effects. He calls attention to the effect upon the kidneys, and his argument is that this is probably due to the anti-septics in the antitoxin solutions. The least danger is apparently in those preparations where trikresol is the antiseptic and the greatest danger, probably, in those where carbolic acid is used. He thinks that in these cases the irritant which is largely excreted by the kidneys intensifies the destructive processes going on in an already existing nephritis and may cause the death of the patient.

102. Feeding in Stomach Disease.—Murdoch reports and illustrates a case of chronic dyspepsia with extreme emaciation which was caused from the fear of food. By careful feed-

ing with three solid meals of dry toast with plenty of water and chopped steak, and three liquid meals of boiled milk, the patient's condition was vastly improved, as shown in the illustrations given. To assure him that food was not his worst enemy, he washed out his stomach some few hours after a meal of solid food and when the patient saw the water returning almost clear, instead of being mixed with undigested food, he was convinced that his stomach was doing its duty.

103.—This article has appeared elsewhere. See THE JOURNAL of August 4, p. 267.

FOREIGN.

British Medical Journal, September 15.

A Discussion on Puerperal Fever in Relation to Notification.—The discussion was opened by Dr. D. Berry Hart, who stated the objections to the notification of puerperal fever. First among these he placed the difficulty of determining what is meant by the name, and in this connection he described three varieties: 1, the acute, rapid form due to a large amount of poison, and usually associated with severe injuries or extensive retention of the membranes; 2, the ordinary lymphatic form, which is the commonest one, and which usually yields to local antiseptic remedies, but may end in localized cellulitis, or in death if the sapremia be intense; 3, the venous form, which taxes the physician's diagnostic skill most. There is here a streptococcal infection of some clot in the uterine wall which causes the general symptoms without giving much, if any, local indication, and is followed by pyemic affections of the other parts. Typhoid, tuberculosis, scarlet fever or drain poisoning may all suggest themselves. The Widal reaction helps us as regards the typhoid fever, but as to the other conditions, he thinks there is still some chance for mistakes. He has not hitherto thought it right to demand bacteriologic diagnosis in private practice, but he mentions the sign given by Whitridge Williams, which may be of some use, viz., the roughening of the uterine walls indicating infection with putrefaction organisms, while if smooth the existence of streptococcal infection is rendered most probable. The risk of statistics being misleading from erroneous diagnosis he considers a minor matter, as physicians will not rashly diagnose puerperal fever, and the death certificate will give an additional check. The supposed unwillingness of the practitioner to report such cases when death does not seem probable is a much more serious objection, and he would make the notification a privileged communication, the local health officers not being required to visit the house unless the case be one in the care of a midwife. The advantages of notification seem to him most obvious, and he is, therefore, strongly in its favor. In the following discussion, Dr. W. J. Smyly thought the notification of puerperal fever might cause great injury to the attendant and Dr. A. V. Macean believed it impossible until it becomes the rule of the profession to inform the patients and their friends what is the matter with them. It is well known that this is not an invariable custom at present. The advantage of the notification is either for the good of the patient herself or to prevent the spread of the disease to others, and he asks how the notification can do the patient herself any good. On the other hand, how will it stop the spread of disease to others more than the ordinary precautions taken by the educated physician in such cases? In the case of midwives, they need instruction, and in his opinion the first step toward lessening the amount of puerperal fever is by the improvement of the education of the doctor and midwife, and not by compulsory notification. Dr. Helme, of Manchester, remarked that it has been so persistently explained that in every case of puerperal fever the physician is the sole and blameworthy cause, that at the present moment, in many districts, to tell the friends that the patient had the disease would permanently injure the medical attendant. He suggested, therefore, that if the rule of notification is to be followed, we should first correct the erroneous opinion of the public in this regard. There were other differences of opinion, but the following resolution was carried unanimously: "That it be a recommendation to the Council that, in the opinion of the meeting, it is desirable that notification of puerperal fever (septicemia) should be adopted generally."

Observations on Human Placentation in the Second Stage. CATHERINE VAN TUSSENBROEK.—The writer's conclusions are as follows: 1. The macroscopic form of the human placenta is accomplished about the sixth month of pregnancy. 2. At that period the decidua reflexa has almost totally disappeared. 3. The reduction of the decidua reflexa is the effect of mechanical pressure. 4. The reduction of the villi of the chorion leve is chiefly effected by the obliteration of the inter-villous spaces between chorion and reflexa.

A Discussion on the Natural History of Fibroids and Recent Improvements in Their Treatment.—Alban Doran, in opening the discussion, considered the following questions: 1. The natural history of uterine fibroid. It is not a fibroma. It is always more or less a myoma consisting of muscular fiber like the uterus, and while nobody would think of treating a fibroma with internal medication, it is a fact that ergot acts to some extent on the myomatous tissue as it does on the uterine muscle. It may, therefore, be very beneficial, but these forms are not rarely associated with cardiac disease and then ergot is contraindicated. A more important practical point is the relation of the ovaries to fibroid disease. While no definite changes have been detected in the ovaries the experience of a formerly popular operation shows that the removal in certain cases reduces the fibroid or checks the bleeding. The results, however, are not uniform, but are of some interest to us as bearing on the question whether the ovaries should be left in case of hysterectomy for this cause. 2. We are not quite clear as to the nature of the hemorrhagic discharge in fibroid disease. 3. One of the most puzzling questions is in regard to their growth; the prognosis on this point is extremely difficult. Undoubtedly spontaneous disappearance may occur or the tumor may at least remain stationary, while all other pelvic and abdominal tumors are clinically, if not also pathologically, malignant. The influence of the menopause is also of importance. It is generally believed that a fibroid ceases to grow after the change of life, but Kleinwächter finds from extensive clinical evidence that this is not absolutely true. It seems clear, however, that the menopause is apt to be retarded often until after the fiftieth year in subjects with fibroids. The majority give no trouble after the menopause, only a minority require further attention. The second subject which he discusses is the recent improvements in the treatment. He asks first if there are any recent improvements in expectant treatment. We have advocates of electricity, and the bromids, and he asks the opinion in regard to this matter. The majority of fibroids require no operative treatment, but where this is not so he discusses the various methods. Retroperitoneal hysterectomy is the most popular method in Great Britain at the present time, and he concludes with some remarks in regard to its merits and details. He objects to leaving intraperitoneal ligatures or sutures connected with the stump and finds it best to unite the cut edges of the peritoneal flaps with a continuous Lembert suture of fine silk. As regards the leaving of ovaries, he thinks it does not entail very formidable results and thinks the dread of removing the ovaries a fashion, though on surgical grounds he saves them if possible, not through fear of the consequences, but because the surgeon should remove only what is absolutely demanded. He thinks that retroperitoneal hysterectomy is the best of recent improvements in the radical treatment of uterine fibroids. Panhysterectomy entails more dangers at the time of operation and the ligatures can not be dispensed with.

On Dilatation of the Pupil from Stimulation of the Cortex Cerebri. JOHN HERBERT PARSONS.—The author offers the following as a summary of the principal results of his experiments: 1. Dilatation of the pupil, like other effects of cortical excitation, is best obtained with slight anesthesia. It often occurs without any movement either of the eyes or body, but most when the animal is struggling; it is never seen with deep anesthesia. 2. It is obtained only from those parts of the brain which are concerned in eye movements—that is, from the anterior part corresponding to the frontal motor area for the eye muscles, and from the posterior part corresponding to the

occipital "visual center." The frontal area in the dog and cat is in the neighborhood of the crucial sulcus, and the pupil effect is usually best obtained from the mesial surface of the hemisphere at this point. The occipital area is the posterior part of the second external convolution (Ferrier's). 3. When well marked, the dilatation of the pupil is accompanied by all the usual effects of stimulating the cervical sympathetic. 4. The effect is usually more marked upon the opposite eye. 5. The effect is diminished, but by no means abolished, by section of both sympathetic nerves in the neck. The other sympathetic effects are abolished. 6. The effect is abolished by section of the oculomotor nerves intracranially, subsequent to section of the cervical sympathetics. Under these conditions the pupils assume the position of post-mortem equilibrium and are immobile. Hence, I conclude that in the absence of the sympathetic channels the diminished effect is due to inhibition of the tonic action of the third nerves. 7. The effect is not abolished on either side by the section of the corpus callosum. Stimulation of the cut surface of the corpus callosum results in the usual bilateral pupillary reaction. 8. Stimulation of the central end of a cut afferent or mixed nerve—for example, sciatic—still causes dilatation of both pupils after section of both cervical sympathetics—that is, a reflex inhibition of the third nerves. 9. He has not as yet obtained unequivocal constriction of the pupils from stimulation of the cortex, but not much attention has been paid to this point hitherto.

The Lancet, September 15.

Heatstroke in India and Examination of Some Statistics Relating Thereto.—W. J. BUCHANAN.—This article is largely a criticism of a paper by Dr. Sambon on "Sunstroke as an Infectious Disease." Buchanan takes up the statements contained in said paper as follows: New arrivals are more liable to be attacked than natives or old residents. He admits this to be true, but claims that it only represents a part of the truth. Recklessness and carelessness are characteristic of new arrivals in any hot country, who neglect precautions, but grow more careful with length of residence. There is no acclimatization, as Sambon seems to think, and in spite of precautions, the individual seems to become more and more liable to the effect of the heat until in time his percentage liability, as shown by statistics, becomes equal at least to that of the inexperienced newcomer. The next statement of Dr. Sambon, that siriasis is not always to be found in the warmest regions, is erroneous, as Buchanan attempts to show by figures. He finds that the incidence of fatal cases of heatstroke is greatest in the parts of India where the night and day heat is fiercest, and is also the most prevalent in the months when the heat is greatest. He also found that altitude has not the effect claimed by Sambon; in fact, the danger of sunstroke is greatest in levels above the lowest and altitude enters into the matter only when we come to a point where the elevation is combined with coolness of the atmosphere, as in hill stations. There is no analogy in its distribution with yellow fever, and the statement that its altitude range is more restricted than that of the latter disease is not true. He thinks that it will require much more evidence than that which has been produced to make those who have had experience in India accept the microbial or any other theory which seeks to minimize the great and predominating influence of fierce and continuous heat.

Presse Medicale (Paris), September 15.

Cod Liver Oil in Tuberculosis. A. F. PLICQUE.—The fresh air rest cure is tolerated by tuberculous patients only on an extra amount of food, and especially of fats, to counterbalance the effects of the cold. The struggle in the organism against the bacilli is chiefly the task of the leucocytes, which derive their energy from phosphorus. Consequently the benefits of cod-liver oil in this disease may be attributed to the action of a very easily assimilated fat, to the special combination of phosphorus, to the liver antitoxins contained in the oil, or to all combined. It is utterly useless and only fatigues the stomach when administered in small doses. An adult should take at least 100 gm. a day to derive any real benefit. Jaccoud has been most successful with 200 to 250 gm. a day, commencing

with a small amount. It should always be taken in two doses, or, better still, in one dose, at the commencement of the midday meal or before breakfast, followed by a highly seasoned dish or an orange or lemon, if necessary. The oil should be fresh, and cooled if preferred. To disguise the taste a quarter of a glass of strong beer may be mixed with it, or a spoonful of syrup of ether, which assists in its digestion by stimulating the production of pancreatic juice. The addition of 1 or 2 gm. of strychnin may also facilitate tolerance. If the oil induces diarrhea or greasy stools, it is best to suspend it for a few days. It is useless to give it in large quantities are expelled unchanged. Ether or pancreatin may assist in the intestinal digestion. When percussion shows that the liver is becoming hypertrophied and soft, after long and successful administration of the oil, it is an indication of saturation and is soon followed by gastrointestinal intolerance. Remarkable tolerance for the oil during the hot weather has been observed in a few instances, but in general it should be replaced with butter, yolks of eggs, etc., at this season.

Progres Medical (Paris), September 28

Tunnel Treatment of Abscess in Bones. L. LONGUET.—Instead of the usual extensive evacuation and scraping of a circumscribed infected focus in a femur, Longuet drills into the abscess, thus making a well, as he calls it, about 25 mm. in diameter. He then drills through the bone from beneath, or low down on one side, until he enters the bottom of the well, thus tunnelling the bone completely and providing an outlet for the secretions at the lowest point. A rubber drain wrapped in gauze is passed through the tunnel. This method avoids all unnecessary mutilation of bone and soft parts; two longitudinal incisions in the skin are sufficient. The relief from pain is immediate, whether it is a case of ordinary abscess, of osteoneuralgia or of an unlocated abscess. In future cases he proposes to disinfect the tunnel with superheated air. One of his patients was cured completely by this treatment, without even a fistula; the remainder have been lost sight of.

Semaine Medicale (Paris), September 12.

Cyanosis of the Extremities in Brain Disease. F. LECLERC.—Cyanosis of the extremities is pre-eminently a nervous trouble and is usually observed alone or as an accident of hysteria. But in certain cases it appears in the company of other symptoms with which it has certain family traits, all originating in the vasomotor centers of the medulla and adjacent centers on the floor of the ventricle. In a case described, the patient was a man of 35, with a neuropathic heredity, who suffered from almost daily attacks of vertigo, distress and eructations, although free from organic disease. Occasionally the seizures were accompanied by extreme cyanosis of the extremities and transient glycosuria.

Centralblatt f. Chirurgie (Leipzig), September 18.

Restoration of Mobility in Ankylosed Joints. V. CHLUMSKY.—The production of a flail-joint is usually due to the insertion of some portion of the soft parts between the parts of the joint. If this could be artificially accomplished in a joint threatened with ankylosis, the latter might possibly be prevented. Chlumsky has been experimenting on animals to determine the feasibility of such a procedure and, although his research is not concluded, the results are so encouraging that he announces them without further delay. After resection of portions of the soft parts and bones of a joint on the hind leg of a dog or rabbit, he inserted a thin triangular plate, with rounded edges, to prevent the formation of adhesions, suturing it to the sawed surface of the tibia. The plates were made of rubber, celluloid, silver, tin, gauze or a coating of collodium. The joints healed well with normal flexion and only a slight restriction to complete extension. The celluloid and rubber plates were unaltered and only slightly displaced when the animals were killed, four and a half months later, but the silver and tin had become disintegrated. In another series he used absorbable material, chiefly magnesium. The functional results were equally satisfactory, but as the thin sheet of magnesium was absorbed so rapidly, the space left was small and threatened to become closed ultimately. Further experiments with thicker plates are now under way.

Deutsche Medicinische Wochenschrift (Leipzig), September 6 and 13.

Sieve for Feces. I. BOYS.—The little apparatus described screws on a faucet like a filter. The water as it enters spreads out over the small sieve "S" above and thoroughly washes the fecal matters, which are placed on a fine hair-sieve in the lower



September 13.

part. An opening, "O," admits a glass stirring rod. In ten to twenty minutes nothing is left on the sieve but the colorless, insoluble matters, which can then be examined at leisure.

First-Aid in Injuries of the Eyes from Lime. H. G. STUTZER.—As time is of much importance when the eyes are injured with lime or mortar, there should be no delay nor hesitation in removing the caustic and therefore Stutzer recommends water for the purpose. The injured person should lie on the ground, another should open the eye wide, pulling down the lids with his thumbs and holding them open while a third pours water into the eye from a height of about twenty inches, using a pail or coffee-pot, preferably with a spout, and trying to make the stream as narrow as possible. The patient should then be taken to a physician, a specialist if possible. The clumsiness of the workmen in opening the eye is not a disadvantage, as the particles of lime are dislodged by the manipulations and are more readily washed out. Illustrated circulars with these instructions should be posted where lime is being used.

Cured Cases of Peritoneal Tuberculosis. CASSEL.—If fever continues in a case of tuberculous peritonitis in a child after several weeks of appropriate treatment, the abdomen does not diminish in size and the emaciation progresses, Cassel summons the surgeon without further regard to the nature of the tuberculosis. He has had 18 cases in children under 11, including 3 between 12 and 18 months. Out of the 18 only 2 recovered spontaneously, 3 died and 5 were removed by the parents. Three of the 7 operated on are in perfect health—2 four years and 1 three years—after the intervention. The remainder are still under treatment.

Muenchener Medicinische Wochenschrift, September 11.

Bacterial Capsules as a Means of Differentiation. I. BONI.—It has been impossible hitherto to detect a capsule on certain bacteria when grown on solid media. This is due, as Boni has established, to the lack of color in the background. Substituting bouillon for the water used the capsule stands out distinctly, and thus aids in the differentiation of the bacteria. The typhoid bacillus has no capsule, while by this means one is clearly perceived on the bacillus coli. The medium found most effective in developing a capsule is a mixture of the white of an egg, 50 gm. glycerin and two drops of formalin, shaken and filtered. This mixture keeps well and promptly determines whether the bacterium has a capsule or not.

Test of Waning Vitality of Cells. Bioscopy. M. NEISSER AND F. WECHSBERG.—The reducing capacity of living cells and organisms, the power to decolorize a solution of methylene blue, for instance, is proving an excellent means of determining the degree of vitality of the cell. (See THE JOURNAL, September 29, p. 850.) The authors of this communication have been testing this bioscopy, as they call it, on non-motile cells, etc., for instance, tracing the injury inflicted on kidney cells

by studying the reducing power as graduated amounts of alcohol are added. The chief merit, perhaps, of the new method is the rapidity with which the efficacy of specific sera or chemical or physical agents, in respect to the destruction of bacteria, can be determined. Anthrax bacilli, for example, reduce methylene blue very rapidly, but the addition of rabbit serum, which is bactericidal for anthrax, arrests the reduction and the stain remains bright. The method can also be applied to determine growth-fostering media. Living tubercle and typhus bacilli, cholera vibrios and staphylococci possess marked reducing power, but it was absent in the toxins or ferments examined. The test can also be used for milk, to determine the microbial contents, by adding methylene blue to graduated amounts of milk, pouring a layer of liquid paraffin on the surface and placing in the incubator.

Wiener Klinische Wochenschrift, September 6 and 13.

Disturbances in Metabolism in Nurslings. M. PFAUNDLER.—The research on infants with gastrointestinal affections reported in this communication does not confirm Czerny's hypothesis of acid intoxication, i. e., increased excretion of ammonia and diminished elimination of nitrogen. On the contrary, it showed that the oxidating power of the affected liver parenchyma was very much diminished in these cases. The insufficiency was revealed in the products of metabolism, while in the adult and in animals, diseases of the parenchyma seldom entail functional insufficiency appreciable by the metabolism. Nine positive results in ten cases in which the examinations during life had been confirmed by the post-mortem findings, established that the variations in the oxidating energy of the liver have an influence on the nitrogen in the urine of nurslings. A decrease in the fermentative oxidating power of the organ, such as occurs with severe anatomic alterations in the parenchyma of the liver, is accompanied by increased excretion of ammonia, while the amount of urea is diminished.

September 13.

Present Status of Radiotherapy. E. SCHIEF AND L. FREUND.—Summarizing the experiences of the last few years in Roentgen therapy, the results show that it is superior to all other methods of treatment for syphilis, favus and other inflammatory or parasitic affections of the hair-covered portions of the skin, by the rapidity and thoroughness of the cure, dispensing with dressings and medicines. When operative treatment is rejected in lupus or would require too extensive intervention, the "bloodless, painless, mild Roentgen treatment enters on its rights." It respects all the sound tissue, requires no hospitals or drugs, and although longer and less certain than operative treatment, is preferable for certain cases. Roentgen treatment has the advantage over Finsen's method that the entire affected surface can be treated at once. In the treatment of hypertrichosis, it has proved effective and painless, but it leads to the formation of small atrophic depressions in the skin at the mouths of the follicles. They are not noticeable, however, and would be recognized only by an expert. Electrolysis is perhaps preferable for small hairy warts and nevi, but for extensive hair-covered surfaces Roentgen treatment should be preferred unconditionally.

General Concentric Franklinization. BREITUNG.—The patient is placed in a lattice-work cage, the "pavilion," which has wires running throughout the inside, discharging the positive electric breeze, and thus subjecting the patient to a concentric electric-air bath. Neurasthenic subjects are overcharged with negative electricity, and experience great relief and well-being when this is substituted by the positive. The benefits of this "pavilion" treatment have been so pronounced in Breitung's experience with nervous affections of various kinds that he recommends it as a special boon to the general practitioner.

Gazzetta degli Ospedale (Milan), August 26 and September 2 and 9.

The Iodophile Reaction of Pus Corpuscles. V. PORCILE.—Wherever the iodophile reaction occurs an active inflammatory process can be assumed. It is difficult to deduce any conclusions from the reaction as to the age, nature, site, etc., of the process. The iodophile substance does not occur in fresh tubercles, and the reaction is feeble and entirely absent in purulent exudates of tubercular origin unaccompanied by microbial asso-

ciations. The reaction could never be detected in ascitic fluids, etc., without suppuration.

Glycogen in the Prognosis of Neoplasms. PELICELLI.—The writer's study of 100 tumors of various kinds has confirmed the importance of the discovery of glycogen in a tumor as an indication of its malignancy. It is seldom found in benign tumors. He interprets it as the expression of augmented, accentuated cellular interchanges, not of degeneration. It is the more abundant, the less differentiated the elements of the neoplasm and the more rapid its growth. The glycogenic coefficient of a neoplasm is therefore an indication of its degree of malignancy and affords useful data for the prognosis. Clinical observation in every one of his cases confirmed the microscopic findings.

September 2.

Therapeutic Application of the Cell-Destroying Sera. L. LUCATELLO.—Metchnikoff and others have announced that the serum of animals treated with blood-cells from another species has a distinctly destructive action on these cells in large amounts, but that a small amount of this "cytotoxin," as they call it, stimulates the production of the cells. Like the action of alkaloids and antiseptics on fermentations, a large amount paralyzes, but a small amount induces hyperactivity. Lucatello has been testing these assertions in respect to the "cytotoxins" on four anemic children, and his experiences confirm them in every respect. Dogs were injected in the peritoneum with the blood of the patient. Their serum then acquired the property of stimulating the blood production when transferred to the patient in a subcutaneous injection of .3 to 2 c.c. The number of red corpuscles was increased and also to some extent the proportion of hemoglobin. The erythrocytes increased nearly if not quite to normal and there was slight leucocytosis. This improvement in the composition of the blood persisted for two weeks. The reaction is less pronounced in case of organic lesions with persistence of the causal process of the anemia. The influence of the cytotoxins seems to be principally cytogenic rather than hemoglobinogenic, and this independence of the two processes confirms the autonomy recently claimed for them.

September 9.

Curative Value of Tuberculosis Antitoxin. S. MIRCOLI.—Mircoli tabulates the results of this treatment in 2899 tuberculous patients, mentioning the results on the bacilli, the local lesions and the weight. He classifies the cases as circumscribed apyretic, circumscribed febrile and diffuse tuberculous bronchitis with and without microbial associations, and bronchopulmonitis with cavities. Out of 250 circumscribed apyretic patients, 95 were cured, 110 improved, 30 remained stationary and 35 grew worse. In circumscribed febrile patients, 168 out of 938 were cured, 511 improved, 163 remained stationary and 96 grew worse. Out of 332 patients with diffuse tubercular bronchopulmonitis with microbial associations, 31 were cured, 142 improved, 98 remained stationary and 61 grew worse. In diffuse tubercular bronchitis without microbial associations, 91 out of 665 patients were cured, 301 improved, 166 remained stationary and 106 grew worse. Out of the 712 patients with bronchopulmonitis with cavities, 39 were cured, 281 improved, 102 remained stationary and 240 grew worse. The improvement obtained with anti-toxin treatment is usually permanent. It seems as if the organism, once assisted to effectively defend itself, is able to continue the struggle successfully for years afterward alone. The antitoxin does not act on pyrogenic associations nor in cases in which the system is unable to respond to the stimulus of the antitoxin. The aid of hygienic and dietetic measures is also indispensable. The best results were attained with 1 c.c. injected on alternate days. The antitoxin not only neutralizes the toxins, but stimulates the production of "alexins." Its power is shown by examining the blood of patients before and after treatment. The serum of a normal person has a toxic power and also a specific antitoxic power on the tuberculosis toxins to a certain extent. In a tuberculous subject, the former property is above normal, while the latter is nearly if not entirely absent. This condition tends to enhance the effect

of the tuberculosis toxins in the system. A month or so after treatment with antitoxin both properties are the same as in a normal subject. This artificially-induced antitoxic power must be due to the active participation of the organism as the potential must be hundreds of times greater than the small amount of antitoxin actually injected. Experimental tests show that the antitoxin also has a direct action on the bacilli, inhibiting their growth and virulence. None of the bacilli develop or produce infection after being kept in antitoxin for twenty days *in vitro*. Tuberculosis intoxication may be conquered without medication, but when the physician is not positively sure that a spontaneous cure is impending, he should bear in mind that nature can be aided and the intoxication conquered more rapidly and more energetically with antitoxin treatment than with any other. It is applicable to all cases and all stages. Tuberculin, on the other hand, adds to the toxins already in the organism, and may prove the last straw to upset an already tottering equilibrium. The recent research on hemolysins has confirmed Maragliano's fundamental conceptions of antitoxin treatment and the autoserotherapy it induces. Naegeli's statements are also confirmatory; he found with improved methods of post-mortem investigation that 100 per cent. of the adults examined presented evidences of tubercular lesions, and claims that every adult is tuberculous. The strong are able to transform an active lesion into a latent, inactive process, and Maragliano, by supplementing the natural resources, re-enforces the weak and enables them to accomplish the same result.

St. Petersburg Medicinische Wochenschrift, August 25 and September 1.

Torsion of the Cecum on Its Axis. R. WANACH.—Scarcely fifty cases of torsion of the cecum on its axis have been published. Wanach has had occasion recently to observe two which demonstrate that an external mechanical factor is not necessary to the production of the torsion. Both patients were awakened in the night by the first indications, after retiring in apparent good health. The cecum had no mesentery in one case, but was held by cicatricial fibers proceeding from the neighborhood of an old inguinal hernia. Cases of torsion of the cecum are generally more complicated than of torsion of any other portion of the intestine. In operating, the adhesions and condition of the mesentery which favor torsion must be remedied as far as possible. One patient had evidences of copious exudate in the abdominal cavity and succumbed to septic infection the next day. Clumps of ascarides and tenie were found in the cecum which, with the ileum, was congested.

Revista de Med. Y Cir. (Havana), August 10 and 20.

Preservation of Cadavers With Formal. J. A. PRESNO.—The climate of Cuba during July and August affords a good test of this method of preserving cadavers, first suggested by Waldeyer and described in THE JOURNAL, xxxii, p. 1438. The formal sterilizes the tissues almost completely and abolishes the cadaveric odor, so that none clings to the hands in dissecting. The tissues are firm and elastic and do not shrivel, but retain their shape and position. The muscles lose their color, although this can be prevented to some extent by adding sodium acetate to the injecting fluid.

Cure of Traumatic Tetanus With Phenic Acid. FLAVEL WOOD.—A lad of 12 developed tetanus after running a nail into his foot, with symptoms of severe infection. Ten drops of a 10 per cent. solution of phenic acid were injected subcutaneously, and fifteen minutes later 20 drops, continuing with 30 drops every half hour all that day and night. Cannabis indica—25 mg.—was added to the solution during the day, but omitted as the pupils contracted. The second day the 10 per cent. solution of phenic acid was injected in half-dram doses every two hours. The third day the patient was able to swallow and a dram of the same solution was given in glycerin by the mouth three times a day. The odor of the phenic acid was marked in the urine. Recovery was prompt and complete. Wood believes that large doses of phenic acid in these circumstances have an antitoxic influence if the system is promptly and thoroughly saturated. The antiseptic action probably occurs chiefly in the blood.

Revista de Medicina Tropical (Havana), August.

The Anopheles in Cuba. J. GUITERAS.—The larvæ of the anopheles were found abundant near Havana and Matanzas, but few specimens of the culex could be obtained. Mosquitoes grown from the larvæ proved to belong to the variety described by Grassi as the *A. superpictus* or the closely-allied *A. pseudo-pictus* or costalis. They all rest in the characteristic attitude mentioned by Ross, the proboscis and abdomen forming a straight line, always at an angle of about 45 degrees with the surface on which the insect is standing.

Nordiskt Medicinskt Arkiv (Stockholm), August 9.

Remote Results of Operations for Chronic Ulcer of the Stomach. J. NICOLAYSEN.—Two of the twenty-seven cases tabulated were operated on more than five years ago, twelve more than two years and eight nearly two years ago. Pyloroplasty was made in five and gastroenterostomy in twenty-two cases. Fifteen are in good health, including all the oldest cases, and not counting the most recent. Six have died, one from ovarian tumor and one from pulmonary tuberculosis, during the second year; four of the deaths occurred soon after operation, including one from pulmonary embolism in four days, one from an unknown cause in one month and one from pernicious anemia in four months. The ulcer had been noted in two cases for fourteen and twenty-four years, respectively. Complete restitution of motility was not attained for a time varying from four weeks to several months, depending upon the degree of the previous stenosis. A corresponding curve was also noted in the faculty of absorbing nitrogen and fat after gastroenterostomy. The blood was examined in eight cases and found normal in two; in the remainder the corpuscles increased rapidly from 3,800,000 with 60 per cent. hemoglobin before operation to 4,000,000 and 5,000,000 with 90 to 100 per cent. hemoglobin afterward. Nine patients with pain and hematemesis were all cured, although four had brief relapses of pain or hemorrhage during the first or second year after the intervention, and one required gastroenterostomy to supplement the previous pyloroplasty operation.

New Patents.

- Patents of interest to physicians, etc., Sept. 4 to 11:
- 657,328. Syringe. Wm. P. Allen, Chicago.
 - 657,279. Bed-pan. Rosa Blank, Vienna, Austria.
 - 657,402. Inhaler. Peter T. Donovan, New York City.
 - 657,404. Hernal truss. George Fancher, Greenwich, Ohio.
 - 657,428. Antiseptic broom. Oscar S. Kulman, Savannah, Ga.
 - 657,440. Aspirator. Wm. J. McCaw, Providence, R. I.
 - 657,183. Eye-protector. Edward G. Stevens, New York City.
 - 657,866. Inhaler. Wm. H. Pike, Iberia, Mo.
 - 657,819. Bed-pan. Harriet D. Goodrich, Augusta, Ga.
 - 657,658. Lung tester and developer. Israel Hogeland, Chicago.
 - 657,708. Instrument case. Gustave Rehmman, Newark, N. J.
 - 657,578. Fountain syringe or other cap. George H. F. Schrader, New York City.
 - 657,710. Atomizer. Emmet L. Smith, Chicago.
 - 657,582. Combined undershirt and suspensory bandage. Frank W. Wright, Wichita, Kan.
 - 33,189. Design, atomizer casing. Henry C. Thomsen, Hamburg, Pa.

Change of Address.

- W. S. Anderson, Holly Springs, Miss., to Masonic Temple, Memphis, Tenn.
- E. S. Albee, Oshkosh, Wis., to 915 Walnut St., Kansas City, Mo.
- D. S. Adams, 905 20th St., Rock Island, to 404 N. Lafayette St., Macomb, Ill.
- L. M. Berg, 2516 Indiana Ave., Chicago, to San Antonio, Tex.
- R. C. Balch, 236 E. Main, to 115 W. Lovel St., Kalamazoo, Mich.
- G. A. Bachman, Hopkins Station, to Dorr, Mich.
- H. Beyer, Orange City to Sioux Center, Iowa.
- W. V. Benjamin, Devil's Lake, Wis., to The N. W. Med. School, 2431 Dearborn St., Chicago.
- Jas. N. Carter, 553 Orange St., Macon, Ga., to Med. Dept. Vanderbilt Univ., Nashville, Tenn.
- H. W. Cooper, Greenwood, to Wlaacky, S. C.
- W. M. L. Coplin, Grassland, W. Va., to Jefferson Med. College, Philadelphia, Pa.
- O. H. Clark, 203 W. South, to 405 S. Burdick St., Kalamazoo, Mich.
- Geo. E. Clements, 398 Marshall Ave., to Rush Medical College Laboratory, Chicago.
- D. C. Dickinson, Salem, to Union Hall, Va.
- Thomas G. Duncan, 219 E. 4th St., Owensboro, Ky., to Victoria, Texas.

- Gregory Doyle, W. Fayette to 307 W. Genesee St., Syracuse, N. Y.
- J. G. Eckstein, Colorado Springs, to Colorado City, Col.
- B. F. Frye, Newport News, to Gloucester Point, Va.
- M. B. Ferguson, Winnipeg, Manitoba, to Roseburg, Ore.
- J. M. Finney, 605 Houston St., Ft. Worth, Tex., to Mangum, O. T.
- A. D. L. Gordon, Detroit, Mich., to W. H. Hospital, Blackwell's Isle, New York City.
- H. E. Gettler, U. S. Marine-Hospital New York City to Littlestown, Pa.
- C. F. Hoover, 282 Prospect St., to Rose Bldg., Cleveland, Ohio.
- F. B. Humphreys, Fremont, to Angola, Ind.
- S. G. Hollingsworth, Brazil, to Harlan, Ind.
- DeWitt Jordan, Edgeville, to 319 N. Delaware St., Indianapolis, Ind.
- H. E. Kelly, Ottawa Lake, to LaSalle, Mich.
- P. D. Lipscomb, Crozet, to University Station, Charlottesville, Va.
- E. E. Levers, Almy, to Piedmont, Wyo.
- Frank LeMoyné Hupp, 318 W. 57th St., New York City, to 61 14th St., Wheeling, W. Va.
- E. M. Latham, 231 12th St., Toledo, to Holland, Ohio.
- W. R. Lavender, 1478 Dodge St., to Continental Bk., Omaha, Neb.
- J. P. Munn, 18 W. 58th St., New York City, to Wawheek Adirondacki, N. Y.
- M. L. Maduro, 11 W. 121st, to 135 W. 104th St., New York City.
- J. T. McDonald, 916 Market St., San Francisco, Cal., to Honolulu, H. I.
- W. J. Nix, Batesville, to Cartersville, Ga.
- E. D. Piper, 3521 S. Hermitage, Chicago, to Everett, Wash.
- T. D. Pound, Wilsonville, to 2250 Baxter Ave., Louisville, Ky.
- A. S. Plummer, Lone Star, Kan., to 1313 Main St., Peoria, Ill.
- Wm. Rupp, Calumetville, to Marion, Wis.
- R. R. Reynolds, 219 Superior, to 256 Pearl St., Cleveland, Ohio.
- S. R. Ratliff, Lucedale, to Vanleave, Miss.
- J. R. Scott, Chicago, to Appleton, Wis.
- E. A. Shumway, 124 S. 18th, to 2007 Chestnut St., Philadelphia, Pa.
- G. W. Stevens, 1819 Adams St., to 10 Korea Flat, Toledo, Ohio.
- A. L. Sherman, East Chatham, to 157 St. Nicholas Ave., New York City.
- R. F. Sandow, Honolulu, to Waimea, Kanai, H. I.
- S. M. Strohecker, 10192, to 10153 Winston Ave., Washington Heights, Chicago.
- M. G. Tull, 4614 Woodlawn, to 4629 Baltimore Ave., Philadelphia, Pa.
- Wells Teachnor, Scotoville, to 910 Franklin Ave., Columbus, O.
- M. E. Thompson, 2954 Cottage Grove Ave., to 111 18th St., Chicago.
- W. S. Whitmore, Mt. Sidney, to University Station, Charlottesville, Va.
- H. Vernon Weaver, Carolina, to 269 Broad St., Providence, R. I.
- G. P. Zerzan, Schuyler, to Milligan, Neb.

Queries and Minor Notes.

MEDICAL PRACTICE LAWS.

FARMINGTON, IA., Sept. 12, 1900.
 To the Editor:—Can you inform me whether a physician can practice medicine and surgery in Oklahoma simply by registering, or is there a state board examination? C. C. C.
 ANS.—The requirements in Oklahoma are graduation from a reputable medical college, good habits and moral character. Lacking a recognized diploma, the passing of an examination and evidence of five years' practice is necessary.

DEFINITION OF INSANITY.

CAMBRIDGE, MASS., Sept. 13, 1900.
 To the Editor:—Will you kindly inform me as to the number and name of the medical journal which contains the paper by Dr. Hughes referred to in the enclosed clipping from THE JOURNAL?
 INSANITY DEFINED.—Hughes reviews some of the attempts to produce a satisfactory definition of insanity and offers the following as his contribution to the total. He says: "We need never be at sea before any court, before any jurist, in giving our views of insanity as a disease primarily or secondarily involving the brain of the individual so as to produce in him a change in the natural habits of thought, feeling or action—a change of his normal, natural mental expression by which and by reason of the disease underlying all, he is placed out of harmony with his surroundings, with his natural self or with his normal family type of mind." L. B. B.

ANS.—The above definition is contained in an article by Dr. C. H. Hughes, published in the *Alienist and Neurologist* for April, 1899, p. 170.

TREATMENT OF EPILEPSY.

NORFOLK, VA., Sept. 17, 1900.
 To the Editor:—On p. 719 of THE JOURNAL, under article "Treatment of Epilepsy," it says: "Flechsig's method should be tried." Will you please let me know what "Flechsig's method" is? I have a case on hand and wish to try it. L. B. F.
 ANS.—Flechsig's method consists in giving extract of opium $\frac{1}{4}$ gr. or less three times a day, and gradually increasing the amount

with the patient's tolerance until 5 to 10 grs. or more are taken daily. This opium administration is continued for a total of about six weeks and then discontinued and the patient put on the bromids. It is highly spoken of by some authorities for cases rebellious to the ordinary bromid treatment.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Sept. 13 to 19, 1900, inclusive:

William D. Crosby, captain and asst.-surgeon, U. S. A., member of a board in New York City to examine lieutenants of the line of the army with a view to selections for transfer to the ordnance department.

John F. Dunshie, acting asst.-surgeon, to proceed from Fort Leavenworth, Kansas, to New Orleans, La., for annulment of contract.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board in New York City to examine lieutenants of the line of the army with a view to selections for transfer to the ordnance department.

George Newlove, acting asst.-surgeon, previous orders revoked; he will proceed from Fort Leavenworth, Kansas, to Fort Sill, Oklahoma, for temporary duty.

W. B. O'Rear, acting asst.-surgeon, leave of absence granted.

J. W. Richards, acting asst.-surgeon, leave of absence granted.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Sept. 20, 1900:

Surgeon H. R. Carter, upon expiration of leave of absence, directed to proceed to Louisville, Ky., and assume command of service.

P. A. Surgeon C. P. Wertoubaker, directed to rejoin station at New Orleans, La.

Asst.-Surgeon M. K. Gwyn, upon being relieved by Surgeon H. R. Carter, to report to him for duty and assignment to quarters.

Hospital Steward Malcolm McKay, directed to report to medical officer in command at Wilmington, N. C., for duty and assignment to quarters.

Hospital Steward F. H. Peck, to proceed immediately to Galveston, Tex., and report to Surgeon Peckham for special temporary duty.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Sept. 22, 1900:

SMALLPOX—UNITED STATES

Kansas: Cherokee County, Aug. 1-31, reported; Crawford County, Aug. 1-31, 11 cases; Eureka, Aug. 1-31, 1 case; Olathe, Aug. 1-31, 1 case; Parsons, Aug. 1-31, 1 case; Sumner County, Aug. 1-31, 11 cases.

Louisiana: New Orleans, Sept. 8-15, 3 cases, 1 death; Michigan: Houghton, Sept. 8-15, 5 cases; Torch Lake, Sept. 8-15, 2 cases.

Massachusetts: Fall River, Sept. 8-15, 1 case; Ohio: Cincinnati, Sept. 7-14, 1 case; Cleveland, Sept. 8-15, 8 cases; Portsmouth, Sept. 8-15, 3 cases.

Utah: Salt Lake City, Sept. 8-15, 6 cases.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, Aug. 8-15, 3 deaths; Canada: St. Alexandre, Que., Sept. 4, 3 cases; St. Schastlan, Que., Sept. 4, 2 cases.

England: Liverpool, Aug. 24-Sept. 1, 6 cases, 3 deaths; London, Aug. 24-Sept. 1, 2 cases.

France: Paris, Aug. 24-Sept. 1, 2 deaths; Rouen, July 1-31, 1 death.

India: Bombay, Aug. 14-21, 1 death.

Mexico: City of Mexico, Aug. 31-Sept. 8, 4 deaths.

Russia: Moscow, Aug. 18-25, 6 cases, 2 deaths; St. Petersburg, Aug. 24-Sept. 1, 21 cases, 8 deaths; Warsaw, Aug. 18-25, 6 deaths.

Scotland: Glasgow, Aug. 31-Sept. 7, 30 cases.

YELLOW FEVER—FOREIGN.

Colombia: Panama, Sept. 3-10, 2 cases.

Cuba: Havana, Sept. 1-8, 12 deaths; Sagua, Sept. 17, 2 cases.

Mexico: Vera Cruz, Sept. 1-8, 6 deaths.

CHOLERA

India: Bombay, Aug. 14-21, 764 deaths; Karachi, Aug. 12-19, 22 cases, 8 deaths; Madras, Aug. 4-17, 86 deaths; Japan: Osaka and Higo, Aug. 11-18, 1 case.

PLAQUE—FOREIGN.

China: Amoy, July 28-Aug. 4, 100 deaths; Hongkong, July 28-Aug. 4, 51 cases, 50 deaths.

India: Bombay, Aug. 14-21, 65 deaths.

Scotland: Glasgow, Aug. 31, 11 cases, 1 death; Sept. 4, 12 cases (4 under suspicion); Govan, Sept. 4, 1 death.

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The fiscal year of the AMERICAN MEDICAL ASSOCIATION is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the ASSOCIATION at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to THE JOURNAL for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

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NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

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Original Articles.

PATHOLOGY OF MALARIAL FEVERS. STRUCTURE OF THE PARASITES AND CHANGES IN TISSUE.*

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For diagnosis the examination of the fresh unstained blood is usually sufficient, but for the study of the structure of the parasite, dried and stained specimens must be made. The blood is to be spread on the cover-slip in a thin uniform layer, so that the red corpuscles lie separate from each other. To obtain this result the cover-slips must be absolutely free from all foreign material. It is best to immerse them in alcohol and dry them carefully with a soft cloth just before taking the specimens, handling them with forceps rather than with fingers. A small drop of blood from the cleansed lobe of the ear is allowed to spread between two cover-slips, which are at once slid apart and allowed to dry in the air or by holding high above a flame. Another satisfactory method is to receive the blood from the ear on the edge of a slide and draw this rapidly over a cover-slip. In place of the slide a piece of cardboard or stiff paper may be used. After they are dry the specimens may be kept in a pill-box until studied, not delaying, however, longer than a month or two. The blood must next be "fixed" on the cover-slips by some procedure which will cause a coagulation of its albumin, so that it will not be washed off by the staining fluids used. Several methods are in use.

1. Keeping at a temperature of 110 C. for from ten minutes to an hour, or at 35 to 40 C., as in an ordinary bacteriological thermostat for twenty-four hours. This is satisfactory when only aqueous stains are to be used.

2. Immersing in absolute alcohol alone or in a mixture of equal parts of absolute alcohol and ether for half an hour.

3. Immersing in a freshly prepared .25 per cent. solution of formalin in 9 per cent. alcohol for one or two minutes. The formalin may be kept in stock as 10 per cent. aqueous solution, and four or five drops of this added to 10 c.c. 95 per cent. alcohol just before using. I have found this method the most satisfactory of all for the study of the blood in malaria, as it fixes the red corpuscles better than do the other methods. For general blood work, however, the heat method is better, as it fixes the granulations of the leucocytes so that they stain more freely.

Various methods of staining are used.

1. Treating with .5 per cent. solution of eosin in 60

per cent. alcohol for a minute and then with saturated aqueous solution of methylene blue or Loeffler's solution of methylene blue for five minutes. This method has been much used and has done good service, but new methods are so much better that it may be dropped entirely.

2. A rapid and serviceable method is to stain for twenty seconds in a solution made up of—

Saturated solution of thionin in 50 per cent.	
alcohol	20 parts
Two per cent. carbolic acid	100 parts

To be used only after the solution has been made up for several months.

3. Staining for two or three days in Ehrlich's eosin-hematoxylin mixture gives very satisfactory results.

4. The method which is of most value is that of Romanowsky or one of its modifications. Its special merit is that it brings out the nuclear material or chromatin distinctly and in a color peculiar to itself. Romanowsky found that when the malarial parasite is stained in a freshly prepared mixture of methylene blue and eosin solutions in definite proportions, the protoplasm stains blue and a nucleus appears made up of a peripheral unstained portion and a central portion staining a deep carmin-violet. Other observers were unable to confirm these findings, until in 1897 Gautier announced that he had obtained the same results, but only when particular brands of methylene blue and eosin made by the Badische-Soda-Anilin Fabrik were used. Ziemann also confirmed the work of Romanowsky, but he used stains from the Hoechst factory and with certain variations in the technique.

Nocht discovered that the unknown nucleus-staining substance was present in polychrome-methylene blue, from whatever source it was obtained. His methylene-blue solution is prepared as follows: Dilute acetic acid is added to polychrome-methylene blue until it is feebly acid as shown by litmus paper. When litmus paper is dipped in the solution it is colored by the methylene blue, but at the margin of the moist portion of the paper a red line caused by the acid can be seen. More of the polychrome-methylene blue is now added until the solution is neutral in reaction. Polychrome-methylene blue can be bought ready made, or prepared by heating for several hours over a water-bath a solution made up of—

Methylene blue	1 part
Caustic soda	1 part
Distilled water	100 parts

This solution is to be filtered after it is cooled. To the neutralized polychrome-methylene blue solution an equal volume of water is to be added and then enough saturated aqueous solution of methylene blue to cause the polychrome color of the solution to disappear.

Nocht prepares his eosin solution by adding three or four drops of a 1 per cent. aqueous solution to 1 or 2 c.c. of distilled water. This is practically a .2 per cent

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† Dr. Lazear died of yellow fever in Quemados, Cuba, September 26, his obituary appearing in our issue of last week.

solution and it is more convenient to make in quantity in this proportion. He takes 3 or 4 c.c. of the eosin solution and adds to it the methylene-blue solution drop by drop until the red color has just completely disappeared. I have found it more satisfactory to keep the two solutions in burettes, as is done by Bastianelli and Bignami. Having made up a liter or more of the separate solutions a few experiments will show the exact proportions of each which gives the best result, and thereafter the exact amounts can be easily measured out from the burettes. The two solutions should be mixed just before use in a covered staining dish with a concave bottom. The specimen is to be left in the stain for from three to twenty-four hours. A scum which forms on the surface of the stain should be removed carefully with a piece of filter paper, just before placing the specimen in it and again just before taking it out. The use of this method requires a certain amount of practice at the beginning, but it gives such wonderful pictures that it is well worth the trouble taken. The red corpuscles take a dark-red color and the nuclei of the leucocytes and of the nucleated red corpuscles take a deep carmine-violet. The protoplasm of the malarial parasite stains blue. The nucleus of the malarial parasite is seen to be made up of a peripheral unstained or achromatic portion and a central mass or cluster stained a deep carmine-violet, which is chromatin and is sometimes spoken of as the nucleolus.

We will now consider the different varieties of the malarial parasites as they appear at the various stages in their cycle of development.

Tertian Parasite.—The young tertian parasite when it has just entered the red corpuscle is nearly spherical or sometimes apparently ring-shaped. It has a dense rounded mass of chromatin surrounded by a thin peripheral achromatic zone. The parasite grows slowly at first, the protoplasm shows more and more irregularities in shape as amoeboid movements become more active, but indications of the ring shape are often seen until the parasite nearly fills the corpuscle. After several hours pigment begins to appear in fine granules, which look brownish in color, probably on account of their minuteness. The pigment increases in amount and becomes coarser and apparently blacker. It is scattered throughout the protoplasm until near the time for segmentation, when it shows a tendency to be pushed to the periphery. The red corpuscle becomes progressively larger and paler throughout the cycle. The protoplasm of the parasite and the achromatic portion of the nucleus increase in size slowly for the first half of the cycle and more rapidly after that until near the time of segmentation. The chromatic portion of the nucleus remains unchanged for eight or ten hours, and then begins to break up into granules, which becomes finer and finer until they are invisible just before the process of segmentation begins. At this period, which is short in duration, no nucleus can be made out, but very soon fine granules of chromatin can be seen arranged in clusters and strands throughout the protoplasm. More or less pale areas can be seen in the protoplasm, but they seem to have no relation to the chromatin and it is difficult to say whether or not they represent the achromatic portion of the nucleus. The chromatin granules soon show a tendency to become aggregated in masses, at first about five or six in number. The chromatin then gradually loses its granular appearance and becomes arranged in sixteen or eighteen dense homogeneous masses, each surrounded by an achromatic zone and having a mass of protoplasm surrounding it or lying close to the

side of it. The spaces between the separate segments become more and more evident and the pigment being left out collects in one or two masses near the center. The red corpuscle now ruptures and disappears and the new-formed segment is ready to begin an independent existence in some new red corpuscle as host.

Quartan Parasite.—The young quartan parasite, like the tertian, is made up of nucleus and protoplasm. The nucleus has the peripheral achromatic portion with chromatin in the center, but the chromatin is not in a solid rounded homogeneous mass as in the tertian, but is more or less irregular and often can be seen to be made up of separate granules. As the parasite grows the protoplasm and achromatic portion of the nucleus increase in size, the protoplasm showing fewer irregularities in shape than in the tertian. It is usually oval, but often stretches from one side of the corpuscle to the other like a band. The chromatin disintegrates more rapidly than in the tertian, and during a long part of the cycle is seen only as a cluster of dust-like granules. The containing corpuscle diminishes in size and stains more deeply with the eosin. The pigment is usually, but not always, coarse when it first appears, and it shows a tendency from the first to seek the periphery. The chromatin reappears, before segmentation, scattered through the protoplasm, and finally becomes aggregated in eight or ten masses, which are usually not so rounded and dense as in the tertian form.

Estivo-Autumnal Parasite.—Two different parasites have been described in the estivo-autumnal fevers, one having a cycle of twenty-four hours and the other of forty-eight hours. I have not been fortunate enough to see any case corresponding to the twenty-four hour type, so these observations refer only to the so-called malignant tertian fever. The young parasite is somewhat smaller than the young tertian or quartan parasite. The chromatin is less in amount and often becomes arranged in two small masses or a delicate strand. The rest of the cycle must be studied in material derived from the spleen by tapplings during life or from the spleen or bone-marrow obtained at autopsy. The chromatin gradually disintegrates and reappears at segmentation as in the other forms. The number of segments varies from ten to twenty, or more. The chromatin appears in the segments in small round masses with a relatively small amount of protoplasm. Even at full growth the parasite does not more than one-third fill the corpuscle.

The changes hitherto described have been those seen in the sporulating generation, the mode of reproduction serving to propagate the species in the body of a single host. We will now consider the changes that take place in the sexual generation, the form of reproduction for the extension of the species to the body of a new host. This process can be best studied in estivo-autumnal fever, in which the gametes, or individuals capable of sexual multiplication, are often very numerous. They are the well-known crescentic bodies, and they can be divided into two classes according to the arrangement of the nucleus. In one the chromatin is in fine granules situated in a round, clear space at one end of the central clump of pigment. The pigment sometimes partially or completely surrounds the nucleus, and this is the type which, in the fresh blood, can be seen with the pigment in a ring. In the other type of crescent the chromatin is scattered among the pigment granules. The central portion of the crescent takes the blue protoplasmic stain more faintly than do the arms of the crescent. When the blood is taken into the stomach of the mosquito, interesting changes take place in the

crests. The same changes take place when the blood is left a short time under a cover-slip and they may be studied by leaving the thin film of blood between two cover-slips protected from evaporation in a small closed chamber. After a longer or a shorter time the cover-slips are pulled apart and the blood allowed to dry. A series may be made in this way by leaving the cover-slips in contact for from five minutes to an hour. Very soon after the blood is drawn the crescents become spherical, and here again two different forms are found. One form is small, about half the size of a red corpuscle, perfectly spherical, and has pigment scattered throughout. It has at first an irregular mass of chromatin in the center, which later becomes arranged in four or five rounded masses near the periphery. From these masses develop the motile flagella. Each flagellum is made up of a central thread of chromatin, which often has a nodular mass at the distal end or somewhere along its course. Sometimes a blue-staining envelope of protoplasm can be seen. The flagella break loose from the central mass, leaving nothing but a little protoplasm and the pigment. The other form of spherical body is three or four times as large as the first and is usually not perfectly spherical, often having a somewhat triangular shape. The chromatin is in a single large mass surrounded by a clear zone and situated near the periphery. The pigment is arranged in a more or less perfect circle, which surrounds the nucleus. These bodies never give out flagella, and they probably represent the female or macrogametes. The flagellating body represents the male, and is called the microgametocyte. I have not been able to observe the actual penetration of the flagellum or microgamete into the macrogamete, but this has been seen by McCallum. Crows are often infected with halteridium, a parasite resembling that of malaria. The blood is sometimes crowded with the parasites and the process of fertilization can be easily observed. The fertilized female is an actively motile body, shaped like a long, narrow pear, often having a small rounded appendage at the blunt end, which contains the pigment. The nucleus is situated near the center, and is made up of an irregular mass of chromatin without any achromatic portion. The process of sexual reproduction in the tertian form is similar to that in the estivo-autumnal. The gametes in blood which has just been drawn are large intracorpuscular bodies, having a large nucleus composed of fine chromatin granules surrounded by an achromatic zone. They soon become extracorpuscular, and after fifteen or twenty minutes the microgametocytes flagellate like those of the estivo-autumnal parasite. The structure of the macrogametes and microgametes differs in no respect from that already described for the estivo-autumnal parasite.

To obtain material for the study of tissues in the malarial fevers, the autopsy should be made as soon after death as possible. The tissues may be fixed in Zenker's fluid or formalin. Alum-cochineal and borax-carmin are satisfactory stains, but I have obtained my best results by leaving the sections for three days in Ehrlich's eosin-hematoxylin mixture. Unfortunately all efforts to apply the Romanowsky stains to the study of sections have resulted in failure. Much information can be obtained from cover-glass smears of fresh tissue, especially of the spleen and bone-marrow. The smears are fixed and stained like blood preparations.

The changes in the organs may be classed as those occurring in each acute attack and those resulting from repeated acute attacks. The most marked changes are

found in the spleen, liver, bone-marrow, brain, and alimentary canal. In the acute attacks the spleen is enlarged owing to hyperemia and the presence in the dilated vessels of the pulp, of free pigment, parasite-containing red corpuscles, and phagocytes. The pigment may be in fine granules, but is mostly in large rounded clumps left after segmentation. The polynuclear leucocytes contain pigment and more rarely broken-down parasites. There are many macrophages or large phagocytic cells, which are usually mononuclear and contain non-infected red corpuscles, fragmented, brassy, and parasite-containing red corpuscles, free parasites intact, and broken-down, pigment in blocks and granules, and leucocytes which sometimes show signs of degeneration. On the other hand, the nucleus of the macrophage often shows by poor staining and fragmentation that it is undergoing degeneration. The red blood-corpuscle carrying cells may be increased in number. The pulp cells may be swollen and contain parasites, pigment, infected and non-infected red cells and mononuclear leucocytes. The endothelial cells of the blood-vessels are phagocytic and often contain pigment, parasites and changed red blood-cells. There may be areas of necrosis, often showing an invasion of leucocytes; capillary thrombosis may be associated with these areas of necrosis. The parasites found in the spleen may be at all stages of development, but the segmenting forms are particularly found here, especially in the estivo-autumnal variety. The chronic malarial spleen may reach an enormous size, caused by the acute process repeated many times. The dilatation of the vessels leads to the formation of venous lacunae. The necrosis of portions of the pulp is followed by hyperplasia of the surrounding tissue in an effort at repair. The pigment is partly deposited in the perivascular tissue, from which it is removed by the lymphatics, leaving a thickening of the perivascular connective tissue.

The liver in an acute attack shows an accumulation in the capillaries of phagocytes brought from the spleen. They are leucocytes and macrophages containing red cells, parasites and pigment. The endothelial cells of the liver capillaries are phagocytic and become swollen in places, and by thus obstructing the blood-current have much to do with the dilatation of the vessels of the liver, and probably also of the spleen. Kupffer's cells, lying between the capillary walls and the rows of liver cells, also take on phagocytic action. The liver cells contain yellow granular pigment, which differs chemically from the pigment in the parasites and in the large black masses in the phagocytes and tissues. It is derived from the remnants of hemoglobin left after segmentation and from a destruction of red cells, which is probably due only indirectly to the malarial parasite through the action of the poison. It gives the microchemical reactions for iron, which the true malarial pigment does not. Areas of necrosis of the liver cells can be made out, which may be due in part to capillary thrombosis, but in the main are caused by the toxic substances in the blood, and are similar to those due to the toxins of certain bacteria. As time goes on the dilatation of the capillaries persists and the pigmentation of the endothelial cells is more evident toward the periphery of the lobules. The perivascular lymph-spaces are enlarged; pigmented leucocytes and macrophages are seen outside the capillaries and there is an accumulation of free pigment in the connective tissue. Necrosis of hepatic cells has advanced. Still later, the pigment is more markedly accumulated at the periphery of the lobules. In the necrotic areas there is a regeneration of the liver tissue, the

new cells being arranged in cords along the necrosed cells. The pigmentation next becomes exclusively perilobular. There is irregularity in the size of the lobules, owing to the atrophy of some and the enlargement of others due to the formation of new liver cells. Finally there is a gradual diminution of the pigment, leaving dilatation of the vessels and a moderate hyperplasia of the perivascular connective tissue. Whether or not a true atrophic cirrhosis can be caused by malaria is not yet settled. Certainly it is not so frequent as was once supposed, and cirrhosis of the liver is not especially common in malarious regions, but from the analogy one would suppose that the areas of necrosis might well lead to cirrhotic changes, as has been shown by Flexner in the case after similar necroses caused by bacterial toxins.

The red bone-marrow contains parasites in all stages of development in red cells and in macrophages. In the estivo-autumnal form crescents perfect and in process of formation are present in large number. These embryo crescents are sometimes also found in the spleen, but it is probable that the manufacture of crescents takes place for the most part in the marrow. In the early stages they are probably indistinguishable from the ordinary sporulating forms, but when the latter have about one-third filled the corpuscle they undergo segmentation. The young crescent, on the other hand, continues to grow until it has nearly filled the corpuscle, the chromatin remaining in fine granules. It preserves a spherical shape for some time and then gradually assumes the characteristic semilunar form.

In the lungs numerous pigmented phagocytic cells can be found in the capillaries, which are somewhat smaller than the macrophages seen in the spleen and liver.

An important characteristic of the estivo-autumnal fevers is the unequal distribution of the parasites in the different organs of the body. Often many of the capillaries of the brain are found crowded with segmenting parasites, and it is probable that the coma, convulsions, aphasia and sudden death in these cases are caused by the mechanical presence of these accumulations obstructing the blood-current in the capillaries. Small hemorrhages are sometimes observed. Another seat of localization is the stomach and intestines, where the capillaries of the mucous membrane may be filled with parasites, and areas of necrosis result. These are the "algid" cases, presenting a clinical picture resembling that of cholera.

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Technique of Alimentary Rectal Injections.—Boas mentioned at the International Medical Congress that he had found a permanent sound of great assistance in feeding by the rectum. The fluid is injected a drop at a time and as much as 500 c.c. of milk can be given in this way at one "meal," administering thus 1.5 to 2 liters of milk during the twenty-four hours. He warns, however, that the prolonged use of alimentary injections of any kind is liable to lead to serious syncope, and consequently they should only be applied when constant surveillance is possible.

WHAT AMOUNT OF VISUAL DEFECT SHOULD DISQUALIFY IN RAILROAD SERVICE?

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The title of this paper constitutes one of the unsettled points connected with the subject of the ocular and aural requirements of transportation employees. Considering the absolute lack of any such requirements whatsoever, obtaining in transportation circles, only a few years ago, it is quite surprising that so much progress has been made along these lines up to the present time. Only a few years ago, the quality of an engineer's eyes and ears was never brought into question, while now the importance of the health of these organs is a settled and incontrovertible fact. The cause of this revolution of sentiment is due to the persistent efforts of ophthalmologists, aurists and conscientious and capable railway surgeons. It must be admitted, however, that honest and sincere railroad officials have quite generally been reasonably quick to grasp the importance of the subject, and to realize the enormity of their own responsibility, in entrusting human lives, and property, to the keeping of employees physically incapable of piloting trains through hazardous situations. Besides this, the financial element has not been without its impression on the minds of railroad officials, for it soon became evident that notwithstanding the fact that ocular and aural examinations of employees entailed some additional expense, in the long run it was a distinctly economical measure, as it was much cheaper to entrust trains to men known to possess good eyes and ears than to pay for accidents, damage suits, etc., believed to have been due to defective conditions of these organs of special sense. In England, Holland, Sweden, Norway, Germany and other European countries a paternal government frames beneficent laws concerning ocular and aural requirements of railway employees. These requirements are not always what they should be, but nevertheless the government considers the matter of sufficient importance to regulate the subject, and that signifies much and presages better things for the future. In this country, there are still, it must be regretfully admitted, some railroads requiring no standards whatever of ocular and aural health of their employees, and whose officials dogmatically and stubbornly assert that determining examinations are unnecessary, as they know when a man has bad eyes or ears, without paying a doctor to disclose the fact. But while such officials are thus far behind the times, a very large majority of American railroads are operated under some kind of regulation and restriction, which clearly demonstrates that their managers are unable to close their eyes to the importance of the subject. These requirements are frequently most meager, unsatisfactory, unsafe and unscientific, but nevertheless they disclose an acknowledgment of the subject's importance in the minds of railway officials, and this is a victory that will expand and grow in the not distant future.

Certain points concerning eye and ear requirements for railway employees are quite well established and much time, therefore, need not be expended in their discussion. For instance, it is practically conceded by all interested parties, including even the employees them-

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selves, that every one connected with the actual moving of trains should have good eyes and ears. The standards of excellence, and the means of investigation, are still under discussion, but the main fact as just presented, may be said to be settled. There is a practical unanimity of sentiment concerning color perception, and while concessions are frequently made to old employees with diminishing visual acuity, the standard of perfection regarding the color sense is maintained for all time, in all railroads paying any attention whatsoever to the subject. In order to ascertain if possible what is being done in railroad circles in matters of this nature, I have sent a letter of inquiry and a question blank to every railroad in the United States, Canada and Mexico operating over 100 miles of road. Two hundred and forty-four railroads were thus addressed, covering 205,638 miles of road. I have received replies from 64 roads, operating 90,950 miles of road, and I have tabulated these reports, and herewith present them in statistical form. It is to be regretted that all the roads did not reply, but such a fortunate result was, of course, not to be expected. Sufficient has, however, been learned to gather a reasonably good idea as to what representative railroads are doing in the way of eye and ear examinations, and I shall beg leave to briefly analyze the different points in the report.

I find that 53 out of 64 roads exact a systematic eye and ear examination of some kind. These examinations are undoubtedly by no means ideal in many instances, but it shows an active interest in the matter, and emphasizes the fact that but few roads have the assurance to face public and professional opinion by openly avowing their non-adherence to the trend of advanced thought and ordinary caution.

As to what men are subjected to such examinations, the replies are differently couched, but it is evident that at least 50 of the roads require such examinations of all men directly engaged in moving and operating trains, and in giving and receiving signals, such as engineers, firemen, conductors, brakemen, yardmen, signalmen, switchmen, etc.

One road acknowledges not making systematic examinations, but when they are made, from any reason, subjects such men as just mentioned to the ordeal. Another road under similar circumstances confines the examinations to engineers, firemen, conductors and brakemen. One road claims to make systematic examinations, but only engineers and conductors are tested. Another road only examines engineers, conductors, brakemen and firemen.

Concerning the question as to how these examinations are made, it will be seen that they are conducted exclusively by the railway surgeons in nineteen roads. Eighteen roads entrust the tests to a railway employee, such as a division superintendent, trainmaster, etc. Under this arrangement it is believed that only doubtful cases are sent to the railway surgeon. Upon six roads, doubtful cases are sent to an eye and ear surgeon. Nine roads entrust the whole matter to a regularly employed eye and ear surgeon, and three roads first have the men examined by the railway surgeon, who then sends doubtful cases to the eye and ear surgeon. In three roads, the examinations are all made by surgeons of railway relief associations.

Regarding regular systematic re-examinations there is great diversity of action. One re-examines every six months, four every year, fourteen every two years, four every three years, and two every four years. Eight re-examine whenever it seems advisable, as after a severe

illness or injury, or after a railway accident, or when certain incidents bring into question the reliability of the eyes or ears of an employee. One road requires re-examinations merely at times of promotion, and another when a man arrives at the age of 50 years.

As to the standard required from examined men, there is also much diversity of opinion. Upon twenty-three roads it is claimed that perfect eyes and ears are required from new men, and that no concessions whatever are made to old employees. This statement seems rather broad and Utopian, and really hardly possible, unless old employees are constantly discharged to make place for younger and more perfect men, and the writer is unaware of any road where such practices exist, and would not approve of them if they were. A perfect standard should be required of men entering a service, but it would be unnecessarily cruel and inflexible to continually discharge old and trusted employees simply because their vision had dropped to 20/30, or had slightly impaired hearing, and whose experience and matured judgment make them extra valuable to the service. This statement it is believed, therefore, must be unconsciously somewhat highly colored, at least it is hoped that this is the case. In sixteen roads, while perfection is required of new men, various reasonable concessions are made to old employees. On one road the following requirements are made: Engineers and firemen shall possess a vision of 20/20 in one eye and 20/30 in the other. Conductors, flagmen, brakemen and switchmen must have a vision of 20/30 in one eye and 20/40 in the other. Other employees must possess vision equaling 20/40 in both eyes. Upon the road just referred to, it was not stated whether the requirements were for new men only, or whether it is the universal and constant standard to be perpetually observed. With one road the applicant must possess eyes and ears whose functions shall equal 75 per cent. of the normal function. One road requires perfect eyes and ears for firemen. All the employees must possess vision equaling 20/20 in one eye and 20/50 in the other. Another road sets the standard of vision at 20/30 and declares that a whisper must be heard at twelve feet. One road requires a combined vision of 20/20, and that neither eye shall drop below 20/70. Another road requires of engineers, firemen, signal-tower men and switchmen vision of 20/20 in one eye and 20/30 in the other. All other men must have 20/30 in each eye, or 20/20 in one eye and 20/50 in the other. Upon two roads employees are retained who still possess vision equaling 20/40 in both eyes, and when the hearing is half lost in one ear, provided the other ear is perfect.

It is interesting to notice under what circumstances a man is considered an old employee by different roads. One road considers a man an old employee when he is once installed into actual service; another after he has worked one year; another after two years of service. Six roads require three years of service; eight roads five years; one road six years; six roads two years, and two roads fifteen years.

Concerning the use of glasses, when on duty, it is feared that the question has been misunderstood. I meant to ask the question as to whether glasses were permissible in actual service, when their use was necessary to bring vision up to a proper distant standard; but owing to so many roads (45) returning an affirmative reply, I fear the question was interpreted to refer to the use of glasses for reading when on duty. Several roads, however, specifically state that old employees may wear distance glasses, if glasses will enable them to react

Statistical Report of Eye and Ear Requirements of Railway Employees

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No.	Railroad.	Miles.	Are Eye and Ear Surveys made at all stations?	How and what class of employees? Are they included in all classes?	Are examinations made by an Eye and Ear Surgeon or Special Agent or by some other person?	How often are examinations made? (Time, time and if not at all, what is the cause of delay, what circumstances?)	Do you require perfect vision, color sense and hearing in new employees? (What and what class of employees? How long must they have had the eye and ear before you can take an old employee?)	How long must employees have had the eye and ear before you can take an old employee?	Do you permit old employees to work in other classes when on duty?
1	Louisville Henderson & St. Louis.	180	Yes.	All Classes in Transportation Department.	By General R. Surgeon.	No.	No.	No rule.	Yes.
2	Ohio Central.	525	Yes, but not systematic. Eye and ear examinations are made at different colored workmen. Other men every year.		By Superintendent or his agent.	No.	Yes, as before stated.	No rule.	Yes.
3	Freemont, Elkhorn & Mo. Valley.	1408	Yes.	All employees in train and yard service. Same standard for all.	General R. Surgeon, also by Eye and Ear Surgeon.	Once a year.	Engineers and Firemen must have 20/20 vision; Conductors, Engineers, Brakemen, Switchmen must have 20/30 on one eye and 20/40 in the other. All others 20/40 in both eyes.	No rule.	Yes.
4	DePaul, Rochester & Pittsburgh.	475	Yes.	Engineers, Firemen, Conductors, Flagmen, Drivers, Switchmen, Foremen of Bridge gangs, etc.	By Trainmaster.	Once a year.	Engineers and Firemen must have 20/20 vision; Conductors, Engineers, Brakemen, Switchmen must have 20/30 on one eye and 20/40 in the other. All others 20/40 in both eyes.	No rule.	Yes.
5	Pittsburgh & Lake Erie	190	Yes.	Train Dispatchers, Telegraph Operators, Conductors, Brakemen, Engineers, Firemen, Switchmen, Crossing Watchmen and Section Foremen.	General Surgeon and approved by Company Eye and Ear Surgeon.	Every two years. Re-examination made by Company Eye and Ear Surgeon.	Yes, old employees allowed to wear glasses, if defect in vision can be corrected by them.	No rule.	Yes.
6	Hocking Valley.	346	Yes.	Conductors, Engineers, Brakemen, Firemen and Operators. Same standard for all.	General Surgeon.	Every three years.	Require Perfection in all new employees. No rule about old employees.	Fifteen years.	Yes.
7	New York, Chicago & St. Louis.	523	Yes.	All who see and observe signals.	Primarily by Div. Supt. special cases by special Surgeon.	Yes, every two years, or oftener if men seem to require it.	Yes, no concession.	Ten years.	Yes.
8	Long Island.	379	Yes.	Trainmen, Engineers, Switchmen, Foremen, Flagmen.	General Surgeon.	Every two years.	Yes.	Three years.	Yes.
9	Rock Island & Peoria.	123	Yes.	Engineers, Firemen, Brakemen, Baggage-men.	Both.	If thought necessary.			Yes.
10	Fitchburg.	431	Yes.	All men in train service having to do with signals.	First by employee, then by Specialist if necessary.	Every two years.	Yes, if vision can be made satisfactory by glasses, they may be used.		Yes.
11	Wabash.	275	Yes.	Employees engaged in moving trains.	General Surgeon.	No rule.	Yes. No concessions.		Yes.
12	Grand Rapids & Indiana.	590	Yes.	Engineers, Firemen, Conductors, Brakemen, Switchmen and Baggage-men.	Eye and Ear Surgeon.	Every three years.	Yes.		Yes.
13	Michigan Central.	1662	Yes (Eye).	Men in engine and train service.	Railroad officer.	If defect is noticed.	Yes. No Concessions.		Yes.
14	Omaha, Kansas City & Eastern Mo.	315	Yes.	Engineers, Firemen, Conductors, Switchmen, Brakemen. Same standard for all.	Eye and Ear Surgeon.	No regular re-examination.	Yes. No concessions. In case of defect after employment is given.	One year.	Yes.
15	Central Vermont.	513	No.	Men in train and yard service examined by Transportation Department officers.					
16	Florida Central & Peninsular.	940	Yes.	All men engaged in train service. Same standard for all.	Eye and Ear Surgeon.	Re-examination annually, oftener if necessary.	No concessions.		Yes.
17	Yaso & Mississippi.	766	Yes.	All men engaged in train service, including train dispatchers and telegraph operators.	General Surgeon.	No regular re-examinations.	Yes. Some concessions with old employees.	Five years.	Yes.
18	Mississippi & St. Louis.	504	No.	Engineers, Firemen, Conductors and Brakemen.	Train Master.		Yes, for new men.	No rule.	Yes.
19	Chesapeake & Ohio.	1170	No.				We require perfect vision and hearing in all employees.		Yes.
20	Rio Grande, Santa Fe & Pacific.	160	Yes.	All whose duties require them to use signals, flags, lights, etc.	By General Surgeon and one other appointed by Government.	No.	No exceptions.	Three years.	Yes.
21	Consolidated, New Orleans & Texas Pacific.	136	Yes.	Conductors, Engineers, Firemen, Brakemen and Operators. All in same manner.	Employe.	Once every three years.	Require perfect vision, color sense and hearing in new employees. Color test made by requiring one to pick out different colors.		Yes.
22	Chicago, Terminal Transfer.	206	Yes.	Train and Enginemen.	By Supt. or Train Master.	Not unless we have reason to believe employee's eyesight or hearing is failing.	Require men to be able to distinguish colors of our signals and to have good hearing.		Yes.
23	Woolwich & Lake Erie.	402	Yes.	Engineers, Firemen, Conductors, Brakemen, Yard Masters, Signal Agents, Telegraph Operators. All persons in any way concerned with the movement of trains or handling of signals. Same standard for all classes.	By Division Superintendent.	Every two years.	An average of 75% is required. When applicant stands less than 50% in sight, color sense or hearing, thought to be perfect in the other two he is rejected.	Ten years.	Yes.
24	Pt. Worth & Rio Grande.	142	No.					Five years.	
25	Lehigh Valley.	1402	Yes.	All train and yard employees.	First by instructed employee. Doubtful cases by Chief General Surgeon.	Re-examinations at stated intervals required for men over 40 years of age or for progressive ocular diseases.	New employees must be perfect. Old employees are passed on 20/20 one eye, 20/40 in other, with good range and field.	About ten years.	Yes.
26	Ohio Southern.	715	Yes.	All engaged in giving or interpreting signals.	By Railway Employee.	General re-examination every two years.	New men required to be perfect. Some concessions to old employees.	Ten years.	Yes.
27	Baltimore & Ohio.	2205	Yes.	Same standard for all engaged in giving or interpreting signals.	By Medical Examiner or Relief Dept. partner.	Every two years in Ohio, in other states, as indicated by Gen. Mgr.	Require perfect vision, color sense and hearing in new employees. Color test made by requiring one to pick out different colors of our signals and to have good hearing.	No rule.	Not in case of train men.
28	Philadelphia & Reading & Atlantic City.	1090	Yes in certain classes.	Engineers, Firemen, Crossing Watchmen, Telegraph Operators, Yard Masters, Signal Agents, and New Men. There are no standards for progressive cases and greater the same standard.	By Relief Association.	Every three years.	Yes, except that men, practically no concessions in this respect, according to Gen. Manager's instructions. Signal Corps, who are required to be perfect in both eyes, are not included in this rule. Section No. 1 of the regulations in the manual is referred to in the report.	Five years.	Yes.
29	Maine Pa Pacific.	818	Yes.	All engine, train and yardmen, crossing watchmen, and equal tonnermen must be examined. Same standard for all.	Eye and Ear Surgeon.	Re-examination every two years.	Require perfect vision, color sense and hearing in new employees. Color test made by requiring one to pick out different colors of our signals and to have good hearing.	No rule.	Yes.
30	Chicago and North Western.	646	Yes.	Engineers, Firemen and Trainmen.	R. R. Employee.	Yes once a year.	Require Perfection.	Five years.	No out on train or engine service.
31	Cincinnati & Northern Ohio.	402	Yes.	Engineers and Conductors.	Eye and Ear Surgeon.	Every two years.	Perfection required.	Five years.	Yes.
32	Indiana Harbor & Lake Erie.	1156	No.					Fifteen years.	
33	Atlantic Coast & Western.	314	No, see road, but being in use several still have examination made at times.						
34	Cliftonville Portsmouth & Virginia.	215	No.					Three years.	Yes.
35	Atlantic Coast Line.	1716	Yes.	Engineers, Conductors, Brakemen and all employees giving flag and light signals. All employees of transportation service.	Medical Examiner and Relief Dept. partner.	Not yet, but probably will soon.	Vision must equal 20/30. Hearing must equal 12 feet for whistler's voice.	No rule.	
36	Mobile & Ohio.	942	Yes.	All except transportation service, and all telegraph operators, crossing watchmen and equal tonnermen must be examined. Same standard for all.	Railway Surgeon.		Yes, for new employees.		
37	Denver & Rio Grande.	1666	Yes.	All men engaged in train service and who have to do with giving or interpreting signals. Same standard for all.	Usually by the Eye and Ear Surgeon. Never by a special medical man.	Re-examination on progression and where suspicion of sight or hearing is present.	Perfect eye and ears required in both old and new employees.	Not considered.	Yes, in special cases.
38	Mississippi & St. Louis.	1253	Yes.	Same standard for all employees and all are required to be examined.	On entering service by Railway Surgeon. An exemption in a regular by R. R. and Ear Surgeon.	Once in two years by Eye and Ear Surgeon.	Yes. Not much concession to old employees and some when on engine.	Seven to ten years.	Not an engine or train service.
39	Mexican International.	744	Yes.	Conductors, Brakemen, Engineers and Firemen.	Railway Surgeon.	No.	Require good eye and ears and make no concessions.	Five years.	Only for reading.

No.	Road	Miles	Yes after May 1, 1900	Enginemen and all trainmen: Same standard for all.	General Surgeon.		Not determined.		Not determined.		Ten years.	
					Those employed on train service.	Not yet.	No.	Perfection in all.	No rule.	No rule.	No rule.	No rule.
40	Grand Trunk	4186	Yes	Same standard for all.	General Surgeon.	Not determined.	Not determined.	Not determined.	Not determined.	Not determined.	Not determined.	Not determined.
41	Southern Railway.	6415	Yes.	Those employed on train service.	Railway employe. In case of doubt the Railway Surgeon.	No.	Perfection in all.	No rule.	No rule.	No rule.	No rule.	No rule.
42	Galveston, Houston & San Antonio.	304	Yes.	Same standard for all men connected with operating department.	Railway Surgeon.	Not yet.	Yes.	Two or three years.	Yes.	Two or three years.	Yes.	Yes.
43	Texas & New Orleans.	1043	Yes.	Same standard for all men connected with operating department.	Railway Surgeon.	Not yet.	Yes.	Two or three years.	Yes.	Two or three years.	Yes.	Yes.
44	St. Louis, Pitts. & Chicago, Pitts. & Erie, Pitts. & Erie, Pitts. & Erie.	- 225	Yes.	Same standard for all men connected with operating department.	Railway Surgeon.	Not yet.	Yes.	Two or three years.	Yes.	Two or three years.	Yes.	Yes.
45	Norfolk & Western.	1551	Yes.	All connected with train service. Same standard for all.	First by Division Supt. These reports are sent to Company Surgeon. Doubtful cases are sent to Eye and Ear Surgeon.	Yes, every two years, and often if necessary.	Require perfection. Some concessions made to old employes, especially those who have been injured in the Company's service.	No rule.	Yes, except for men or trainmen.	No rule.	Yes, except for men or trainmen.	Yes, except for men or trainmen.
46	Canadian Pacific.	7251	No.									
47	Chicago, Rock Island & Pacific.	2300	Yes.	All connected with train service. Requirements vary in accordance with responsibility of duties.	By railway employe. Reports sent to Eye and Ear Surgeon. Doubtful cases are sent to Eye and Ear Surgeon.	Every two years and when deemed necessary.	Standard varies in accordance with the responsibilities of duties.	Yes.	Yes.	Yes.	Yes.	Yes.
48	Chicago & Northwestern.	5096	Yes.	All engaged in operating trains or in giving and interpreting signals. Requirements vary in accordance with responsibilities.	By Railway Surgeon.	No.	Require perfection on entering service. Some concessions are made to old employes.	No rule.	Yes.	No rule.	Yes.	Yes.
49	Chicago, Rock Island & Pacific.	3562	Yes.	All engaged in train service and in giving and interpreting signals. Same standard for all.	Usually by Eye and Ear Surgeon.	Every four years and when deemed necessary.	Require examination of 200. Glasses worn by men without glasses. Color test and hearing must be tried. See instructions.	No rule.	No, except for reading.	No rule.	No, except for reading.	No, except for reading.
50	Chicago, Rock Island & Texas.	121	Yes.	All engaged in train services and in giving and interpreting signals. Same standard for all.	Usually by Eye and Ear Surgeon.	Every four years and when deemed necessary.	Require combined tests of 200. Neither eye nor ear is tested until the other 200 which must be reached without glasses. Color test and hearing must be tried.	No rule.	No, except for reading.	No rule.	No, except for reading.	No, except for reading.
51	El Paso & North-Eastern Railway.	204	No.									
52	Wabasha Line	507	Yes.	All engaged in train service and in giving and interpreting signals. Same standard for all.	By employe. If defect is found, man is sent to Eye and Ear Surgeon.	Once a year.	Perfect eyes and ears in new men. Old employes may wear glasses if defect can be thus overcome.	No rule.	Yes.	No rule.	Yes.	Yes.
53	Chicago and Great Western.	1023	Yes.	Engine and train men and road men.	Railway employe. Doubtful cases sent to Company Surgeon or Oculist.	Yes, as often in the service for about fifty years of age.	Perfect in new men. 70 - 80 - 90 - 100 - 110 - 120 - 130 - 140 - 150 - 160 - 170 - 180 - 190 - 200 - 210 - 220 - 230 - 240 - 250 - 260 - 270 - 280 - 290 - 300 - 310 - 320 - 330 - 340 - 350 - 360 - 370 - 380 - 390 - 400 - 410 - 420 - 430 - 440 - 450 - 460 - 470 - 480 - 490 - 500 - 510 - 520 - 530 - 540 - 550 - 560 - 570 - 580 - 590 - 600 - 610 - 620 - 630 - 640 - 650 - 660 - 670 - 680 - 690 - 700 - 710 - 720 - 730 - 740 - 750 - 760 - 770 - 780 - 790 - 800 - 810 - 820 - 830 - 840 - 850 - 860 - 870 - 880 - 890 - 900 - 910 - 920 - 930 - 940 - 950 - 960 - 970 - 980 - 990 - 1000.	Six or seven years.	No.	Six or seven years.	No.	
54	Mexican Central	1955	Yes.	All in train service. Same standard.	General Surgeon.	Yes, when defects are suspected.	Require perfection.	No rule.	No.	No rule.	No.	
56	Oregon Shore Line	1476	Yes.	All men on operating Department.	Eye and Ear Surgeon.	Every two years.	Yes, concessions made to old employes, where such concessions are not dangerous.	Two years.	Yes.	Two years.	Yes.	
56	Southern Pacific	5763	Yes.	All train and station men. Practically same standard for all.	General Surgeon	Every two years.	See instructions. See also instructions on page 200. Glasses worn by men without glasses. Color test and hearing must be tried. See instructions.	All actual employes.	Yes.	All actual employes.	Yes.	
57	Northwestern and Great Northern	2672	Yes.	All having to do with signals.	Railway employe, supervised by Company Oculist.	Every two years.	New employes must be perfect. Old employes allowed some concessions according to position held.	Yes.	Yes.	Yes.	Yes.	
58	Colorado & Pacific	210	Yes.	Conductors, Firemen, Yardmen, Engineers and Firemen.	By Company General Surgeon.	See instructions. Doubtful cases require referral to local Surgeon.	Perfection for new men entering train, yard or engine service.	Five years.	Yes.	Five years.	Yes.	
59	New York, Philadelphia & Norfolk.	112	No.									
60	Atchison, Topeka & Santa Fe.	4736	Yes.	Men who give and receive signals.	Always by a surgeon, sometimes by Eye and Ear Surgeon, sometimes by local Surgeon.	If examination is not satisfactory, the man may be ordered to report again in six months.	Perfect for red and green. One eye must be perfect and the other not less than two-thirds.	Yes, when reading.	Yes.	Yes, when reading.	Yes.	
61	Wisconsin Central.	858	Yes.	All classes of employes connected with train service.	By General Surgeon	Every six months, or when deemed necessary.	Yes, as to new employes. If old employes can have sight made near by use of glasses, we allow it.	No rule.	Yes.	No rule.	Yes.	
62	Great Northern	4969	Yes.	All employes in train service and Signal Men are required to pass visual and hearing examinations. Concessions granted as ordered.	By employe and submitted to Surgeon for approval	No, unless there are indications of defect.	Yes, old employes permitted to wear glasses if vision can be made normal by their use.	Five years.	Yes, as before given.	Five years.	Yes, as before given.	
63	Illinois Central.	3780	Yes.	All engaged in operating trains or in giving and interpreting signals. Requirements vary in accordance with responsibilities.	By Railway Surgeon.	No.	Require perfection on entering service. Some concessions are made to old employes.	No rule.	Yes.	No rule.	Yes.	
64	Great Colorado & Santa Fe.	1088	Yes.	All Train and Enginemen, Yardmen, Agents and Operatives.	By Railway Surgeon.	Only when some defect is suspected.	Perfection required in new men. In old employes, vision if 20-40 years. Perfect hearing in one ear and 1/2 in the other.	When once in service	Yes.	When once in service	Yes.	
Total Miles		69,990										

the proper standard. My personal views on this matter are materially changing by experience and observation. I am fast coming to believe that the standard of distant vision by a railway employe actively engaged in operating a train should be reached without glasses. It certainly may well be questioned whether dirty, foggy and smoky glasses are safe adjuncts to vision before the eyes of an engineer or fireman, who peers into an uncertain atmosphere, with a train going at the rate of fifty miles an hour. The writer knows of instances where glasses are laid aside under such circumstances, the employe feeling that while his own vision is poor, it is better unaided than when encumbered by glasses such as have just been described. The question of glasses breaking or being mislaid during the progress of a trip must not be forgotten, and it certainly is no argument in favor of such a train employe wearing glasses.

One road says that glasses on a train may be used only when reading. This is rather an unnecessary remark, as it surely is a necessity to allow men to use reading glasses on trains, as most orders come in written or printed form, and must often be read by a man of 45 or 50 years of age or more, who can not possibly read without glasses. Seven roads specifically state that they do not allow distance glasses during train duty when such glasses are necessary to bring vision up to the proper standard.

This it will be seen that on all points bearing on

the visual and aural capacity of railroad employes there is much diversity of opinion on the part of the employer and the employed, and also on the part of railway surgeons and eye and ear surgeons themselves. This is unfortunate, and precludes the probability of meeting on mutual ground, and formulating rules that shall be safe, and yet not extreme nor Quixotic.

I beg leave to submit some practical suggestions along these lines that appear to me to be just and equitable. If members of the Section entertain different views, it is to be hoped they will be mentioned, and that a discussion will enable the Section to formulate principles regulating this matter, that will be a true reflection of the opinion of a representative body of eye and ear surgeons, and which it is hoped will have some influence in molding the regulations on this important subject.

1. The essential principle to be advocated is that railroad corporations shall require a scientific and correct entrance examination of the eyes and ears of those employes at all to be concerned with the active operating of trains, or in giving or receiving signals.

2. Such examinations are best made by regularly appointed eye and ear surgeons. But if such a course is not deemed advisable, the company surgeon, aided by his medical assistants, may conduct them, with the understanding that all doubtful cases shall be sent to a regularly appointed eye and ear surgeon. Non-medical men shall never conduct the examinations.

3. There shall be two general standards of visual and aural requirements, viz., those for new men hoping to enter the service, and to be actively engaged in the operation of trains, and in giving and receiving signals, and secondly, those men engaged in similar work, who have been uninterruptedly in a company's service for five years, and who have, therefore, a right to be called old employees.

4. New men shall be required to possess perfect color sense. They shall also have a vision of 20/20 in each eye, without glasses, and have healthy eyes, and not over two diopters of hypermetropia. They shall also hear the whispered voice at 20 feet in a quiet room, and have healthy ears.

5. For purposes of graduated requirements old employees shall be subdivided into two classes as follows:

Class A.—Engineers, firemen, conductors, brakemen, switchmen, signalmen, switch tenders, and engine dispatchers.

Class B.—Track foremen, bridge foremen, crossing flagmen, bridge tenders, gatemen, train baggagemen, telegraph operators, station agents, and station baggagemen.

Employees enumerated in Class A shall not be retained in such positions if vision sinks below 20/30 in one eye and 20/40 in the other, or if the whispered voice cannot be heard in a quiet room at 15 feet by one ear and 10 feet by the other. Employees enumerated in Class B shall not be retained in such positions if vision sinks below 20/40 in one eye and 20/50 in the other, or if the whispered voice can not be heard in a quiet room at 10 feet by both ears. Employees, and especially engineers and firemen enumerated in Class A, must reach the visual standard without glasses and will not be allowed to wear distance glasses when on duty. Employees enumerated in Class B may reach the visual standard with glasses, and will be allowed to wear glasses when on duty, and will be required to do so if the wearing of glasses is necessary to bring vision up to the proper standard. All the employees shall have perfect color sense.

6. Re-examinations shall be made of all men every three years, and after a severe illness, or accident, or any occurrence which seems to cast doubt on the visual or aural capacity of an individual. Re-examinations shall also be made more frequently on men known to be excessive users of tobacco, or to be suffering from syphilis, albuminuria, diabetes, or acute or chronic eye and ear disease. Men shall always be examined before promotion.

7. Men known to be excessive users of liquors shall not receive employment.

It would seem as if these rules were sufficiently comprehensive and liberal to be adopted by any railroad; at the same time they are believed to be sufficiently stringent to exclude dangerous eyes and ears from the service. They will, of course, exclude a certain proportion of old employees from their accustomed occupation, but this is of small moment compared to hazarding the lives and property of the public by the retention in service of physically incompetent men. Railroads can always, if they choose, lessen the disappointment of an old employee, by transferring him to some other and less hazardous position, with a liberal salary.

I desire to emphasize what was said in Rule 2 concerning the appointment of examining eye and ear surgeons. I believe it is best that such examinations should be made directly under the supervision of eye and ear surgeons. Ophthalmology and otology have advanced

with such strides that no general surgeon can keep well informed on these subjects. An examination of the color sense is by no means the simple matter that some would have us believe, and examinations for vision, the field of vision, and ocular and aural functions and diseases require the services of one especially skilled in such matters. The argument is frequently used that in large railroad systems, the work would be too ponderous for any one man. This is true, but now-a-days skilful oculists and aurists may be found in every city of a few thousand inhabitants, and appointments in different places might be made, and the work properly performed, with but little expense. However, I have no desire to draw the lines too tightly on this subject, and I believe that general satisfaction to all interested in this subject would be accomplished, if such examinations were *never made by non-professional men*, but by the general surgeon, or his medical assistants, and that an eye and ear surgeon should be appointed on each road, who should outline the details of these examinations and to whom all doubtful cases should be promptly sent.

Referring to Rule 3, that treats of perfection required in new applicants, it would seem as if there could scarcely be a doubt as to the advisability of rigid requirements for those hoping to become employees, and yet some ultrapractical railroad men and general surgeons believe that perfect eyes and ears are unnecessary requisites for such applicants. The world is full of healthy men possessing perfect eyes and ears; therefore, while a railroad is under no possible obligations to primarily employ a man, why should they not secure men of this standard, and at least start right. This is not only an act of justice to the road, which certainly possesses the right to demand the highest physical standard in an entering employee—for it is expected to make many physical concessions later on—but it is also an act of justice to the man, who enters railroad service with hopes of advancement in mind, but whose ambitions may be harshly dissipated later in life, when eyes and ears, barely sufficient to admit him to service under an inferior standard, diminish in power, until, at a crucial period in the man's life, when about to realize his hopes, these organs prove incapable of standing the required test. While, therefore, I am heartily in favor of making all possible concessions to old employees at all compatible with safety, believing that age, experience, familiarity with routes, judgment, etc., compensate to a degree for somewhat defective eyes and ears, I am positive that the standard should be perfection for those applicants hoping to enter the service of a railroad corporation for the first time.

Concerning Rule 4, and the possession of an applicant of more than two diopters of hypermetropia. This is a point that is rarely taken into consideration in initiatory examinations, and yet the suppressed hypermetropia of early manhood often plays an important rôle later in life, in the exclusion of old and trusted employees from active duty. Ophthalmologists are familiar with the fact that considerable hypermetropia may be suppressed by an active ciliary muscle during youth, and a vision of 20/20 or more be apparent during a superficial examination. But railway officials and surgeons are perhaps not so well acquainted with these data, and with the fact that in later life, with the decadence of ciliary activity, the lack of visual power becomes manifest and the use of glasses necessary to reproduce normal vision. Therefore, it would certainly seem desirable that no man should enter railway life expecting to be engaged in active transportation service,

possessed of such a handicap. This point would seem to be one of the strong arguments in favor of ocular examinations being made by oculists, as one unfamiliar with such work would find the detection of latent hypermetropia rather difficult to accomplish.

Concerning Rule 5, it seems eminently proper that from an ocular and aural standpoint, employees should be divided into two classes, according to the responsibilities of their duties and their prospective occupations by promotion. An effort has been made to do this under the two classes A and B. Those old employees in Class A, owing to the importance of their positions, are never allowed to sink so low in the requirement scale as those of Class B. It certainly seems no more than just to the safety of the traveling public, that the eyesight of an engineer, fireman, conductor, etc., should not be lower than 20/30 in one eye and 20/40 in the other; that this vision should be obtained without glasses, that are objectionable for the reasons previously mentioned, and that the hearing should not be less than the perception of a whisper by one ear in a quiet room at 15 feet, and by the other at 10 feet. At the same time an old employee in Class B, such as a baggageman, telegraph operator, station agent, etc., would undoubtedly be perfectly safe with the requirements already enumerated.

Concerning the aural capacity of old employees, it seems inadvisable to make rules of excessive stringency covering this point. Very little work in transportation service is done by the voice; it is almost all done by signals, and the possession of good hearing is often a matter of no importance whatever. For instance, conversation on an active engine is practically impossible, and it is not inconceivable that a deaf engineer or fireman might be quite capable of being an efficient employee. Still, such laxity is evidently undesirable, and it is believed that the limits referred to under Rule 5 will be just to all concerned. The Railroad Commission of Germany declares unreservedly that as long as a man is capable of hearing an ordinary conversational voice, he is quite competent to work on an engine; and as engineers, firemen, etc., who work constantly amid the noise, dirt and exposure of an engine, which becomes emphasized on mountainous and tunnelled roads, are quite apt to lose their acuteness of hearing, somewhat after the manner of boiler-makers, every possible concession should be made to them.

Referring to Rule 6, and the subject of re-examinations, it may be said that if a railroad deems it at all advisable to carefully test men on entering the service, they should consider it equally necessary to enforce re-examinations at stated intervals, of which three years seems to be a fair compromise. It is unnecessary to dwell on the fact that serious eye and ear defects are liable to occur in much less time than three years, but of course some chances must necessarily be taken, and it is believed that, with enforced re-examinations every three years, and whenever through accident, illness, overuse of tobacco, promotion, etc., such re-examinations are thought advisable, reasonable safety will be assured the traveling public, as far as the eyes and ears of railway employees are concerned.

I desire to mention two practical points in testing vision for railway purposes, that are not always observed, and that have much bearing on the subject. One is to see that applicants and employees are tested with a considerable variety of test cards, as men become familiar with a limited number, and sometimes memorize them, and pass such knowledge on to their comrades. Another

point is to have the test cards always lighted by uniform and ample illumination. For instance, I can always secure a little better vision in my private office, where the test cards are illuminated by shaded electric lights, than a railroad surgeon can in his office, where such conditions do not prevail, and have several times had my results questioned, probably on this account. Besides this, test letters are by no means of uniform size, and I believe that this element may also have considerable to do with unsatisfactory, unstable, and inharmonious results.

In closing this article, I beg leave to remind the Section of the great importance of the subject, for it has been estimated that there are in this country upward of 200,000 miles of railroad, employing about 900,000 men. In the year 1899, nearly 500,000,000 passengers were carried, and nearly 800,000,000 tons of freight. In the same year nearly 2000 employees were killed, and about 32,000 injured. Nearly 4700 passengers were killed and 6200 injured.

In the face of such facts, no apology is needed for honest and persistent efforts tending toward the uniform adoption of proper and scientific requirements from railroad employees by railroad employers.

DISCUSSION.

DR. C. H. WILLIAMS, Boston.—I am sorry Dr. Allport's list does not include three of the large railroad systems where some of the most careful examinations of the vision and color-sense of employees are now being made. I refer to the Pennsylvania lines east of Pittsburg and Erie, concerning which Dr. Thomson can tell us later, the Chicago, Burlington & Quincy system and the New York, New Haven & Hartford system. For about six years, from 1889 till 1895, I was medical director of the Burlington system, and, among other duties, had charge of putting in operation the tests they are now using, and a little more than a year ago I was requested by the New Haven road to instruct their examiners and to draw up a set of rules to govern these examinations, so that I am familiar with the work which is being done on those two roads. On the Burlington system the tests are made by the physicians of their Relief Department, who have been carefully instructed in regard to the methods to be followed. All material for the tests is furnished by the company, to ensure uniformity, and is inspected from time to time to make certain that it is kept in good condition. The report of every examination is sent to Chicago for final approval by the medical director, which serves as a check on the thoroughness of the work, and any doubtful cases are referred to him.

On the New Haven system the examinations are made by employees selected by each division superintendent. These examiners are first tested to see if their vision, color-sense and hearing are up to standard; they are then carefully instructed by an expert in regard to the methods of making these examinations and are furnished with a set of rules to govern the tests and a set of blanks for recording the results, all these reports being sent to the office of the general superintendent for file, and any doubtful cases being referred to an expert for further tests.

On the Pennsylvania system these tests are also made by non-medical men, and although I believe it is better, where possible, to have these examinations made by trained physicians, and to have them include not only the tests for vision, etc., but also the heart, lungs and general physical condition, especially of men applying for work; yet, when this can not be done, the vision tests can be made very satisfactorily by intelligent men selected from among the employees, provided they are properly instructed, are furnished with suitable apparatus and rules to govern the work, and some provision is made to refer any doubtful cases to an expert. With a well-devised system the examination by trained employees is likely to give much better results than when made by physicians who have had no

special training for this work, or who are not supplied with suitable apparatus for making the tests.

The instructions of the New Haven road at present provide for the following standards of acuteness of vision: "Class A, enginemen, firemen, towermen and drawer tenders, on entering the service or promotion, 20/20 in each eye without glasses. Class B, conductors, brakemen, switchmen and others who are required to pass a visual test, on entering the service or promotion 20/20 in one eye and not less than 20/40 in the other, without glasses." For the re-examination of the men in the different branches of the service at stated times a different standard is required; for "Class A, not less than 20/30 with both eyes open without glasses," and for "Class B, not less than 20/40 with both eyes open without glasses."

The acuteness of vision is tested not only with cards on which are printed letters subtending the standard angle of five minutes, but also with some cards which I prepared for the New Haven road, on which are printed small semaphore arms of such size that the length of the arm at twenty feet subtends a visual angle of five minutes, and the width of the arm an angle of one minute; this corresponds to the apparent size of a standard semaphore arm when seen at a distance of 2600 feet, which would be sufficient for railroad work. It is found, by using these cards, that men can read easily the position of the semaphore arms at 20 feet who have only 20/30 of average normal vision, for the position of the signal at danger (horizontal) or at safety (inclined) can be seen much more easily than the difference between such letters as O, C, D, etc., and a man who has 20/30 or better when tested by the letters can read easily the signals at the required distances. In fixing the above standards of vision the object has been to require for entrance to the service, or for promotion, in those positions where good eyesight is essential, such a standard as will ensure 20/20, or the average vision of normal eyes, and for men in other positions, to require this in one eye and at least one-half of this in the other. For the re-examination of men in the service who have become familiar with their duties, and by reason of their experience are more valuable employees, a lower standard has been fixed which was considered safe for a continuation of such work. In connection with the test for vision, I wish to say a word in regard to the necessity for using both the lantern, properly arranged, and the colored worsteds, in making the test for color-sense. We must keep in mind the fact that both in railroad and marine service it is necessary not only to distinguish colors which are spread over a considerable surface, as in a signal flag, but also to read the color of a distant signal lamp which is focused on a very small central portion of the retina, and a number of cases are found where the color of flags or test-worsteds can be seen well enough to pass the tests, but where the central area of the retina is impaired in its color-perception over a space large enough to prevent it from seeing accurately the color of a distant signal lamp. Such a test has been used for many years in Holland, and for more than a year the New Haven road has been using an improved lantern which I designed for them, which has been very satisfactory, and at a later session of this meeting I hope to have the pleasure of showing you the latest form of this lantern.

DR. ALBERT E. BULSON, JR., Fort Wayne—I am very glad to hear Dr. Allport say that he does not approve of trainmen wearing glasses for distant vision; I fully agree with him. About one year ago an old engineer on the western division of the Pennsylvania railroad was operated on by me for double cataract, the result with cataract glasses being practically 20/20 vision in each eye. An application for a position as yard-engineer brought an enquiry from the railroad officials as to the amount of vision, and asking for an opinion as to the propriety of allowing the applicant to wear glasses while on duty. While admitting that the applicant had the required acuity of vision in each eye I did not advocate allowing employees in the train service to wear glasses, as the steaming and frosting of the lenses at certain times would render them useless, so far as obtaining satisfactory vision through them is concerned. This same opinion was advanced in the case of

another engineer who had but 20/50 vision in each eye without glasses, and 20/20 vision in each eye with glasses.

As to testing the vision of railroad employees I believe intelligent railroad officials can, if properly coached, make as satisfactory examinations of the vision, both for acuity and color-perceptions, for all practical purposes, as nine-tenths of the medical men.

DR. C. F. CLARK, Columbus, Ohio—We have with us a pioneer in this work, Dr. Thomson, of Philadelphia, who over twenty years ago established a method on the Pennsylvania road and issued instruction under which the examiners should work, and I have for sixteen years been working under that system. I do not know that the Doctor now has any reason to criticize that method, and it has been in operation long enough to test it. Dr. Allport has called attention to one point that might perhaps be improved, and that is in always having the first examination made by an oculist. I can not help thinking it is a mistake to allow non-medical men to make the first examination, for if the preliminary examination was made by an oculist he might often detect conditions, which, while not interfering with a man's ability at the time, would indicate that he would not be able to continue in this as his life work, whereas in some other line of work he would be worth twenty or thirty years of good service. The railroad men are better able to determine a man's ability to remain in his position than they are to determine his ability to enter the service.

DR. WILLIAM THOMSON, Philadelphia—I have been so much pleased with Dr. Allport's paper that I would like to make a motion to extend to him, as we did to Dr. Hansel, the thanks of this Section for such an excellent report. (A vote of thanks was adopted.)

Of course, as some of you know, long before 1880 this was a burning question, and my old colleague, Dr. Jeffries, of Boston, and myself were quite obnoxious to the railroad people of the country, if not to the American Ophthalmological Society, for the manner in which we pressed the question of color-blindness. When the matter was presented to me by the Pennsylvania Company in 1879 to see if I could invent some method of practical examination, I found that we could not employ the medical men then in the service of the railroad. That led to the adoption of the system in use there since 1890.

Dr. Allport has given us an eloquent account of what would take place in the examination of a road where there was a large number of employees never before tested. Three or four per cent. of color-blind and perhaps 25 per cent. of the men showing poor vision would be found. This method of the Pennsylvania Railroad system has been adopted by many roads, which I think control about 150,000 miles. I would simply say in behalf of the method that it was a pioneer move intended to take the place of nothing, and I hope it has been somewhat effective in protecting the public and the employees from the disasters of accidents until the present time, when this agitation that Dr. Allport has taken such a good part in bringing about may offer something better.

I agree with Dr. Allport that the examination should be in the hands of oculists wherever possible. Dr. Williams shows us that his road, using the Pennsylvania Railroad method, has made him the examining oculist, for all doubtful cases are referred to him, but if we can formulate something better Dr. Williams and I will both be glad to call the attention of our railroad officials to these points. Now, while Dr. Allport thinks that no examinations should be made by non-professional persons, we have the distinguished example of Dr. Allport himself in his excellent system of examinations of school children where the teachers are trusted to make the original examinations.

DR. C. H. WILLIAMS, Boston—I should like to say that your Section appointed a Committee at the Philadelphia meeting to consider the question of the vision of railroad employees, which practically deals with this same subject. That Committee reported in Denver, a majority and a minority report, and the matter was referred back to the Committee, which was enlarged from three to five members, Dr. Allport being chairman. The Committee decided not to report this year, because the sub-

ject is coming up for discussion at the International Congress this summer in Paris and it was thought best to wait until we had a chance to go over the findings of that International Committee before making a final report. It would seem to me best to refer this paper to the existing committee and let them report on it next year.

DR. LIPPINCOTT—I accept Dr. Williams' suggestion.

THE CHAIRMAN—Then the paper will be so referred.

DR. J. A. LIPPINCOTT, Pittsburg—I would move that the paper of Dr. Allport be referred to a committee, appointed by the Chairman, who shall use it as a basis in drawing up some practical resolutions to guide us in this work.

DR. ALLPORT, closing the discussion—I desire to say that we all surely bow to our friend, Dr. Thomson, in matters pertaining to this subject, as he certainly has accomplished more than any one along the lines referred to in my paper. If I failed to mention Dr. Thomson's name in my article when drawing some of my conclusions from his writings, it was because we are all so familiar with his work, and feel it to be of such a standard character, that it hardly seems necessary to go on quoting him whenever an article is written on this subject. I wish to thank the Doctor for the kind words he has said concerning my paper, and am delighted to learn that it coincides with his views, especially concerning the opinion that the time has arrived when eye and ear examinations should be made by medical men. Dr. Thomson certainly makes an apparently reasonable argument when he refers to the fact that I advocate the examination of school children by teachers, but do not recommend the examination of railroad employees by non-medical men. It certainly seems to be a lack of harmony between two views, but I think a careful analysis will disclose the dissimilarity between the two conditions. School children should be annually examined in enormous numbers. For instance, during the last few weeks in Chicago the five thousand school teachers in the city have examined about two hundred and fifty thousand children. The expense involved in such examinations by medical men would be an insurmountable obstacle to the work being ordered by the various boards of education, besides that, the examination of children by physicians, concerning whose selection parents have nothing to say, would create a storm of opposition from the ranks of the laity, and I am sure we all, as medical men, understand that the selection of certain eye and ear surgeons to examine every child in a city would engender professional strife and jealousy sufficient to stop the whole proceeding. Then the dangers involved between the examination of school children and railway employees are not at all similar. The preservation of life and property is vitally involved in the examination of railroad men, which certainly is not the case in the examination of school children. These and other arguments which might be produced appear to me quite sufficient to demonstrate that, while I believe eye and ear examinations of the character which I recommend can be made with sufficient accuracy by school teachers, where defective children are always advised to consult a medical man, the examination of railway men can only be made with safety by physicians.

Dr. Williams expresses some dissatisfaction that the three roads with which he is connected are not included in my statistics. I beg leave to assure the Doctor that no one regrets this more than I. I desire to say, however, that it is not my fault. Letters of inquiry were sent to these three railroads with question blanks enclosed, and they were earnestly requested to assist me in completing the statistics. They, however, saw fit to ignore my letters, and, of course, I could not compel them to reply. I sincerely hoped that every road in this country would reply to my letters, but many of them have not done so. I think that after the interest that has been expressed in this paper by the Section, I will in the course of the next year endeavor to secure reports from those roads that have not reported, in order to be able to present complete statistics on the subject.

Dr. Williams thought that switchmen, and some other employees directly interested in the moving of trains, should not be required to possess perfect vision on entering the service. I

can not agree with the Doctor on this point. I see no reason why railroads should not require perfect eyes and ears from men when they for the first time enter their service. There are plenty of men seeking railroad employment and it is not a difficult matter to secure those in reasonably perfect physical condition. Probably no one enters railroad service without ambition, and without the hope of advancement. The switchman of to-day hopes to be the fireman or the engineer of tomorrow. Why, therefore, is it not an unnecessary injustice to both the railroad and the man himself to voluntarily select a man below a perfect standard? I can see the force of the argument in favor of great leniency toward old employees, but I can not understand Dr. Williams' position. Dr. Williams also says that 20/20 of vision, with both eyes open, should be considered sufficient. This argument is to me even more inexplicable than the other; for however good vision may be in one eye, the other eye may be extremely defective, lost, or even glass for that matter, which should, I think, certainly disqualify a man from assuming the charge of an engine run at the rate of 40 or 50 miles an hour. Concerning the semaphore arm, we must bear in mind that this is not the only signal used on the railroads, even where the semaphore is adopted. There are many railroads in the country where the semaphore signals are not used at all. If we are to make recommendations that are to be adopted by railroad and medical men, we should make them of such a character that will be consistent and usable on the roads. The opinion has been expressed that non-medical men are competent to make these tests. I can not agree with this view. We know that this system has been used on the Pennsylvania road and on other roads, and we also know that excellent work and results have been achieved, and at the time that this work was inaugurated by Dr. Thomson it was a great step in advance of anything that had heretofore been employed; but I think the time has arrived when we are in a position to take a step further and endeavor to bring about the physical examination of railroad men by physicians, and not by members of the laity. If I understand Dr. Thomson correctly, he himself is now in favor of this plan. If any of you have examined large bodies of men for railroad service after they have been examined by non-professional men, I am sure you will agree with me that such examinations are not safe. I remember one railroad engineer who was sent to me for examination who had been examined two or three times by non-medical examiners. He had a vision of 20/200 and had passed several so-called examinations. He told me that he had never in his life seen better than 20/200, and I have no reason to doubt his statement, as I found he was simply myopic. I obtained for him a vision of 20/20 in each eye by suitable glasses. On the same road I found between 3 and 4 per cent. of color-blind men, after they had passed the examination by non-medical men, and you will remember that this is about the percentage that we find among men who have never been examined.

I desire to thank the Section for the cordiality with which they have received my paper.

OPERATIONS FOR SECONDARY CATARACTS.

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NEW YORK CITY.

It is a safe assertion that at least one-third of all cataract extractions require a secondary operation to obtain satisfactory vision. What constitutes satisfactory vision must vary with the different needs of our patients. The uncultured laborer requires less than the educated professional gentleman or business man. The laborer with a vision of 20/70 is able to earn a living and read type as he would naturally choose, while the educated man of affairs would look for at least 20/40. Even with that amount I do not hesitate to do a secondary operation, provided the patient is willing to

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assume his share of the risk. When the vision is 20/70, or less, I suggest to the patient the advisability of an operation to improve the sight.

We can divide the so-called secondary cataracts into two classes, the simple and the complicated form. The former consists of hyperplasia of the epithelial cells of the anterior capsule with more or less lens matter. The complicated form has, in addition, exudate due to inflammation of iris, ciliary body, or uveal tract as a whole.

The time to operate on a secondary cataract should depend on the condition of the eye. If it has become normal in appearance and does not redden up when it is grasped by the fixation forceps, we are generally safe in our presumption that it is quiescent, and will not unduly react after the operation. Personally, I prefer to delay the secondary operation for a period of months after the extraction, rather than run any unnecessary risk by undue haste. In all surgical procedures there is the ever-present danger of infection, due to surgeon, instruments or field of operation. The danger from sepsis, following an operation, ought to be of extreme rarity if we are clean in our methods of procedure: still, it does occur, with loss of eyes as the net result. It is poor consolation for the patient after the loss of an eye to learn that the surgeon thinks that the infection was introduced at the time of the cataract extraction. If such were the case there is no question but that the secondary operation was done too soon and might have been avoided by waiting. Aside from infection, the great danger is from traumatism exerted on the ciliary processes, and if this can be avoided, we can perform secondary operations without dreading an unfortunate outcome. The attacks of glaucoma and iridocyclitis, which often ensue, are in the main due to faulty methods employed or interfering too soon after the cataract extraction. We can attribute our disasters to operating too soon and exerting too much traction—in the effort to obtain a clear pupil—on the ciliary processes.

The underlying principle which ought to guide us in operating on pupillary membranes is that we should cut and not attempt to tear them. Personally, I now limit myself to two methods in operating on all forms of secondary cataracts.

When the pupillary membrane is thin and veil-like, of uniform color, without whitish bands across its surface, I use Knapp's knife-needle according to his method. Having a dilated pupil, make two incisions in the membrane; the first should be above in the horizontal plane, the second from below upward to the first, thus making a T-shaped opening. The corneal puncture is made about 3 mm. from the limbus, up and out or inward, as is necessary in the right or left eye.

If the membrane should be tough, the knife-needle does not cut, but it is likely to tear, if we exert force, and drag on the ciliary processes. I was unfortunate in using this method and lost an eye from iridocyclitis. I had made a cataract operation on both eyes of a woman of 65 years. The last extraction was about one year before I did the secondary operation. The eye last operated on had a thin web-like membrane in the upper third of the pupil, while the lower two-thirds was crossed by a white band. The upper horizontal cut was readily made, but in attempting to make the vertical incision I met with considerable resistance and must have used too much force, which resulted in the loss of the eye.

I had another case, with a better final outcome—a young man with a soft cataract, where three incisions had absorbed the lens, leaving a thin pupillary membrane, which was diagonally crossed by a narrow band, cord-like in character. In this case I did not succeed in cutting through the band with the knife-needle; I withdrew the needle, enlarged the corneal opening and introduced the forceps-scissors into the anterior chamber and readily cut the resisting band without any difficulty. A mild attack of cyclitis resulted, which kept him in the hospital for over three weeks. Patient was discharged cured.

For the past several years I have used the forceps-scissors of De Wecker, to the exclusion of all other methods in operating on thick or tough pupillary membranes, where the lens has been removed, either by extraction or absorption. I consider De Wecker's model the best. The forceps-scissor blades should be 13 to 14 mm. long from point to heel and not to exceed 2 mm. in width when closed, and the greatest thickness 1.75 mm.

In using the forceps-scissors the corneal opening should be selected so as to give free play to the instrument within the eye. With an occluded pupil make the corneal incision about 2 mm. from the limbus, but with a mobile pupil the corneal opening should be opposite the point of maximum dilatation, otherwise we are very likely to button-hole the iris. The iris falls forward with the escape of the aqueous and comes in contact with the scissor blades. In the case of children it is imperative to work quickly, otherwise the iris sphincter contracts and covers the opening in the membrane, so that it is not possible to insert one of the scissor blades behind the tissue to be cut. I find Agnew's angular keratome, which is 16 mm. long and 4.5 mm. wide, the most satisfactory instrument for making the opening in the cornea and membrane. It is long enough to reach any part of the anterior chamber where we may wish to pierce the obstructing tissues. The *modus operandi* is as follows: Incise the cornea at any point from 2 to 4 mm. with the keratome; then partially withdraw the instrument, elevate the handle and gently push down the point through the tissue to be cut by the scissors. The opening need not exceed 2 mm. and the keratome should not enter deeply into the vitreous. Having withdrawn the keratome, insert the blades of the forceps-scissors closed; when within the anterior chamber, open scissors and push one blade through the opening in membrane, then cut. If the tissue is tense and on the stretch, one cut is enough, but with a flaccid membrane, two are necessary in order to secure a V-shaped aperture. If we have to deal with a small occluded pupil, simply limiting our incisions to pupillary area will not be sufficient; it then becomes necessary to include the iris sphincter, if not more, in order to secure a satisfactory result. I prefer to cut the iris above, rather than below, for cosmetic effect. In operating on eyes without displaced pupils, due to prolapse or incarceration of iris, it is necessary to make three incisions with the scissors, one on each side to free the iris from the traction to the corneal cicatrix and a vertical cut through membrane and iris. The lateral incisions should be of sufficient length to free the involved part of the iris, and the amount of pupil displacement should guide us as to what length to carry the downward cut.

In nuclear, perinuclear and soft cataracts of the young, where we have made several dissections, the result is not always quite satisfactory, owing to thickened

capsule containing more or less unabsorbed lens matter. The further use of a discission needle is not advisable; while it might cause some more absorption, there is still the opaque capsule. I have found the following method most satisfactory: In young children general anesthesia is imperative. With mydriasis of pupil, incise cornea opposite upper border of sphincter, insert the point of keratome about 2 mm. below upper edge of dilated pupil, through capsule and its contents. Withdraw keratome with as little escape of aqueous as is possible. Introduce forceps-scissors through corneal section; insert one blade through and behind the capsular opening; then cut downward to the iris, pushing the upper blade behind it and continue the incision almost to the periphery. In traumatic cataracts of long standing, especially of the young, where most of the lens has disappeared, and in unripe senile cataracts after extraction, leaving considerable lens fibers within the closed capsule, the forceps-scissors, when properly used, give most excellent results. When there is considerable lens matter it is often necessary to freely cut the capsule in various directions in order to remove the mass by syringing. If we are adverse to introducing the nozzle of the syringe into the anterior chamber, by depressing the posterior wall of the corneal wound, with the syringe held at an angle of 30 degrees, we can force a column of water over the opening and accomplish the same result.

It not infrequently happens that after the division of the capsular membrane it is possible to remove it, in part or the whole, from the eye, without exerting any force, and secure a clear, black pupil. This method is not without its drawbacks; we are apt to lose some vitreous, especially if it is fluid. If it is done too soon after the original operation, before the eye has fully recovered, the opening obtained will not be permanent.

In regard to Bowman's method, the use of two needles for tough membranes, while often very satisfactory results are obtained, by this means we never feel sure of the amount of traction exerted on the ciliary processes. The underlying principle of the method is faulty, inasmuch as the opening obtained through the membrane is done by tearing the tissue, and the tougher the obstruction so much greater is the pull at right angles to the movement of the needles.

As far back as the first quarter of the 18th century Cheselden performed iridotomies with a small one-edged knife, which suggested to De Wecker the forceps-scissors; by means of this secondary cataracts can be removed from the pupillary area, by cutting without any traction, with minimum of reaction as a result of the operation.

DISCUSSION.

DR. HERMAN KNAPP, New York—I am very sorry I did not hear Dr. Callan's paper. Thus, I shall have to begin where my predecessor left off. He believed that a simple extraction was the ideal method, but that there were many objections to it. I say the simple extraction is not only the ideal method, but the best and safest, and this is not a theoretical speculation, but the experience of over fifteen years. I can say that there is no year within that time in which I have done less than 100 extractions. I make an iridectomy only when there is a complication necessitating it.

The method which I have followed and which avoids almost altogether the thickening of the capsule, avoids also iritis, which is often the cause of the thickening. In the ordinary recovery from cataract extraction there should be no inflammation at all, but a smooth healing of a clean aseptic wound. There are, however, not a few cases where the conventional operation itself is productive of the adhesions. You rupture the

capsule in a variety of ways and the lens comes out through the section, but when you look attentively at the iris you will discover many fine ruptures in its pupillary edge which are produced by the out-going lens. You do not see them any more when the lens is out and the pupil back in its place. Adhesions develop at these imperceptible fissures which come in contact with the shreds of the lens capsule. This can be avoided by passing the cystotome through the pupil under the iris and after turning it gently rupture the capsule near its periphery, parallel with the corneal section. This is not so difficult as it appears and is easily accomplished after some practice. The incision of the capsule heals by cicatrization and from the scar you see in some months or years a number of wrinkles in the capsule. By the peripheral capsulotomy the iris is kept away from the capsular wound, and the intact part of the capsule does not come into contact with any of those little fissures at the pupillary edge of the iris. Thus, we obtain a free and round pupil. When a capsule is ruptured in the form of a T—and some seem to think it unusually smart to do this; I saw also Graefe do it—this opening will heal with a T-shaped scar, from both sections of which radiating folds will develop that are unpleasant to deal with.

In regard to this peripheral capsulotomy, it is very necessary that the cystotome should be exceedingly fine, delicate, and very sharp, for there must be no tearing whatever of the capsule, nor of the iris, at any time. When we make this operation with a thin cutting point we get just as clean an incision as in the cornea, and when we dilate the pupil afterward we see the scar very distinctly.

It is not only necessary that the incision should be correct, but it is also necessary to consider the amount of resistance with which we have to deal. If the cataract is hyper-mature we are very apt to dislocate the lens. If the lens is hard, it may be turned round in the capsule; and if the cataract is too dense, we are apt to rupture the suspensory ligament of the lens, which leads to escape of vitreous, either during the operation or afterward, commonly the next day, with prolapse of the iris. The latter is likely to occur in all cases in which the suspensory ligament is frail or defective. If we can detect this condition before the operation, for instance in tremulous cataract, we do best to cut out a piece of iris immediately after the corneal section. When prolapse of iris is noticed the next day, even if it be small, it is best, in my opinion, to abscise it immediately, which can be done easily and cleanly, and the result is just as good as that of a combined extraction.

In the secondary cataract operations, we have to deal with capsules that are wrinkled and nothing else, and I think myself to be of the same opinion with all of you in believing that nothing need be done except to split it with a knife-needle, by a T-shaped or crucial incision, as the case may be. Where there is a thickening of the capsule, the best thing to do is to make the incision at the upper part through cornea and capsule, draw a piece of the latter out with a pair of delicate forceps, and cut it off.

There is a kind of secondary cataract, though, where the capsule, through inflammatory products or whatever it be, produces a dense membrane from one side to the other. If the membrane is not too tough it can be dealt with by the double needle introduced through the same opening in the center. Now, the most difficult ones are those capsules that are not only thickened, but degenerated. In those cases I have made several kinds of operations, and the one I have pursued for a length of time is the so-called cystiridectomy. I go in through the cornea, iris and capsule and take out something of this, either by the hook, which is the most convenient instrument, or by forceps. I have of late, as well as formerly, used the De Wecker forceps-scissors and their new modifications by Esberg and Schwigger. I have had some good results from this procedure, but in those cases where there is much cicatricial tissue there is no method that is entirely satisfactory, for the new pupils are apt to close again and in some instances they will do this three or four times. Those are cases for which I know no remedy.

I ought to say something about the question of reaction, in particular glaucoma following secondary capsulotomies. These are much better than their reputation. I know that, for I

speak from a very large experience. I am quite sure my experience with this operation reaches 2000 or more cases, and I can not say that any eye has been lost. In a number of cases increased tension occurs, but it is controlled by eserine or pilocarpin and injection of morphia, and as soon as you use those remedies a great many of the irritative symptoms of the first night when the eyeball is hard, will disappear, but there are a certain number of cases where the glaucoma is not controlled by these measures and has to be treated by iridectomy. A simple paracentesis does not cure all cases of glaucoma after division as Pagenstecher asserts.

DR. H. V. WURDEMAN, Milwaukee—May I ask what is your procedure for endeavoring to make peripheral capsulotomy when you find that the lens turns?

DR. KNAPP—Those cases are rare, but the best thing is to press a little more on the cornea opposite the lower edge of the cataract. The lens then may come out through the pupil as usual, or turn about 180 degrees on its horizontal axis and you may witness a breech delivery that will please you.

SYSTEMATIC CLEANSING OF THE NASAL CAVITIES BEFORE OPERATIONS WHICH INVOLVE OPENING OF EYEBALL.*

J. A. LIPPINCOTT, M.D.
PITTSBURG, PA.

Operations which involve penetration of the ocular tissues, such as cataract extraction, discission, the removal of foreign bodies from the interior of the globe, and iridectomy, whether optical, therapeutic or preliminary to the removal of cataract, are sometimes followed by inflammation of different degrees of intensity, with results varying from a simple and possibly harmless synecchia to a destructive panophthalmitis. A considerable portion of these unfortunate results may be prevented by a well-executed operation characterized by a sufficiently large incision, gentle manipulation, careful cleansing and accurate approximation of the lips of the wound. But the most perfect operation—from a mechanical point of view—is occasionally the first step in a series of changes which, passing through corneal infection and suppurative inflammation, terminates only with enucleation of the eye.

The measures usually taken to prevent infection have reference to the field of operation and to the preparation of the instruments. In regard to the former, the precautions generally employed, viz., conscientious cleansing of the conjunctival sac, the lid edges and the adjacent parts of the face, together with flushing of the sac with some mild antiseptic, such as a weak solution of the bichlorid or of the cyanid of mercury, are probably as good as could be adopted.

As to instruments, the modes of preparing them perhaps most commonly employed, viz., letting them remain in alcohol for twenty to thirty minutes, or holding them in boiling water for a few seconds, are not theoretically correct, i. e., they will not successfully stand the ordeal of a culture-test. Many such tests made by myself and my assistant, Dr. Joseph L. Duncan, proved that purposely contaminated knives were not sterilized after immersion in alcohol of any strength for twenty-four hours and that boiling for twenty seconds by the watch was also ineffectual. The method which I employ and which, besides being practical, stands rigid bacteriologic tests, is to keep the cutting instruments constantly immersed in a liquid consisting of formalin, 20 per cent., and saturated solution of bichlorate of soda. Other in-

struments are boiled for fifteen or twenty minutes in borax solution.

While, however, I am a purist in practice I am not disposed to question the practical efficiency of methods which may be imperfect from a theoretical point of view. You are probably familiar with the opinion of Professor Knapp,¹ expressed some years ago, to the effect that a smooth instrument like a cataract knife, if carefully washed and wiped, might be regarded as surgically clean. Furthermore, I used the alcohol method for many years and I do not believe that any case of infection which occurred in my practice was due to unclean instruments. In point of fact, I am convinced that the principal source of infection in eye operations as now generally performed is to be sought neither in our instruments nor primarily in the conjunctival sac. In a paper read by me before the American Ophthalmological Society, in 1891, occurs the following passage: "I am inclined to believe that in a considerable proportion, if not the majority, of these cases of obscure causation, the *fons et origo mali* is in the nasal chambers, from the intricacies of which, as from an almost inaccessible stronghold, armies of micro-organisms, scenting out with fell sagacity the operative breach in the cornea, crowd through the lachrymal passages into the conjunctival sac. Hence, though much has been and much can be done to minimize suppuration following operations on the eyeball, we can scarcely expect to wholly eliminate it; for although we can sterilize our hands, our instruments, and the parts surrounding the eye, we can never be sure that the conjunctival sac is, or will remain, free from germs unless we seal up the puncta, a procedure likely to be resorted to only in exceptional cases. We may, however—and it would probably be good surgery—carefully examine the nasal cavities in all cases before operating, and, where disease of this region is observed or suspected, apply a more or less prolonged preparatory treatment. Indeed, no harm can, and much good may, result from spraying the nostrils with an antiseptic solution before the operation in every case. In opposition to the view here expressed, it might be urged that nasal catarrh is a very common affection, while corneal suppuration after operation is rare. The explanation may lie in the facts that nasal catarrh usually exhibits no purulent tendency, that if there are pus germs in the nasal cavities, they need not necessarily reach the eye, and that even if they do, the invaders may be routed by those not yet well-understood agencies which fight for the integrity of the tissues."

The impossibility of sterilizing the conjunctival pouch, demonstrated by Gayet² thirteen years ago, is easily accounted for by the free communication through the tear-passages with so prolific a breeding-ground as the nasal cavities. Out of 100 gelatin tubes stabbed from the nostrils of adults making no complaint of nasal symptoms, 94 contained micro-organisms, among which were bacilli, staphylococci, streptococci and other forms of micrococci. Such a condition of things was to be expected, from the fact that the nasal spaces are the gateways and in a certain sense the filters through which passes or should pass all the air we breathe.

Although I have been for ten years in the habit of giving attention to the nose in cases that appeared suspicious, I did not until comparatively recently commence the method which I now employ and which is as follows: A few hours before operation, in every case, a spray of potassium permanganate, 1 to 2000, is thoroughly ap-

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

¹ Transactions Am. Ophthal. Soc., iv, 195.

² Archives d'Ophthalmologie, vii, 353.

plied to the nostrils. In some cases the spraying is repeated immediately before the operation, and, where there is decided evidence of nasal disease, each of the three or four days succeeding it. The permanganate spray, besides not being specially unpleasant, has potency enough to destroy a large proportion of the organisms with which it comes in contact, and to lull most of the rest into a beneficent inactivity until the corneal wound is closed. This procedure has been carried out in each of my last 152 operations in which the globe was penetrated. Of these, 60 were cataract extractions; 17 were dissections, 21 were operations for the removal of foreign bodies, and 54 were iridectomies for optical purposes, for glaucoma or for chronic iritis, or were preliminary to the extraction of cataract. In these operations there was not only a complete absence of any sign of suppurative inflammation, but there was an unusual degree of freedom from inflammation or irritation of any kind, although a number of the cases were of an unfavorable nature. The wounds healed with less than the usual degree of redness, and convalescence was more speedy than in my previous experience. By way of illustration I shall cite two cases.

CASE 1.—Mrs. W. Y., aged 62, had been operated on by myself for cataract affecting the right eye, in 1896. The operation, which was entirely satisfactory, was followed by corneal suppuration, hypopyon and very violent iritis, which kept her in her room for nearly two months and left her with the iris extensively adherent to a very opaque capsule. It is true that dissection subsequently gave her good vision—with $+14 = 20/30$ —but the experience was a long and trying one, both to her and to myself and came nearly ending disastrously. In June, 1899, I operated on the other eye, having sprayed the nose well with the permanganate solution. This time, healing kept on promptly, painlessly and almost without redness, and the patient went home on the eighth day without a synechia or other sequela of iritis. Corrected vision some weeks later was $20/20+$.

CASE 2.—Mrs. E. L., aged 64, had double-sided cataract, complicated with myopia and extensive choroidal atrophy. The left eye was operated on by me Jan. 21, 1898. Operation was followed by severe iritis. Eventual recovery, and with $+2.5 \text{ C} + 2 \text{ cyl. horizontal}$, vision = $20/70$. In May, 1898, preliminary iridectomy was made on R. E. Notwithstanding free use of atropin intense iritis ensued, causing firm adhesion of the lower three-fourths of the pupillary margin. On Nov. 2, 1898, after freely spraying the nostrils with the permanganate solution, the iris was dissected from the lens and the latter removed. Healing process was rapid and smooth, without any iris trouble. The resulting vision was quite poor, only $3/200$, but this was explained by the existence of a large area of complete atrophy of the choroid in the neighborhood of the macula.

I have long been of the opinion that the introduction of pathogenic—not necessarily pyogenic—germs is more common after the more important operations on the eye than is perhaps generally supposed, and that to it may be attributed in a large measure the not very infrequent cases in which post-operative inflammation of the iris and other tissues is observed.

As a measure of prophylaxis against such inflammations, as well as against infection of the corneal wound with its dreaded consequences, I think that systematic cleansing of the nasal cavities by means of permanganate of potassium solution or some similar agent will prove a useful addition to our antiseptic precautions.

DISCUSSION.

DR. G. E. DE SCHWEINITZ, Philadelphia—Since the first of the year I have followed Dr. Lippincott's method, using a solution of 1 to 5000, and have employed it in perhaps thirty or forty operations. It has been my experience that the spray seemed to reduce the hyperemic condition of the conjunctiva which sometimes follows extractions and various operations. Most of these operations were done in the hospital, where I deal with a poor class of patients. I have seen disagreeable results only once, and they occurred in a man who sneezed thirty times after the first atomization. Sterilization of the nasal cavities is a proper procedure, and as permanganate of potassium is a powerful antiseptic, it would seem suitable for this purpose.

DR. J. A. WHITE, Richmond, Va.—It has always been my practice when there was any trouble with the nose to cleanse it prior to an eye operation. In the methods of cleaning our instruments we may differ somewhat, the main thing being to have the instruments and the field of operation as sterile as possible. I have followed Dr. Lippincott's method and I use the formalin sterilizer, but in the preparation of my patient for operation I have for many years back, notwithstanding the fact that many observers claim that it is impossible to get the conjunctival sac sterile, tried to get it as sterile as possible. The method I have used for ten years has been so satisfactory that I want to give the results of that experience. It is my habit always in preparing a patient for cataract extraction to sterilize the face and to irrigate the conjunctival sac thoroughly with normal salt or 1 to 10,000 bichlorid solution, and afterward to fill the eye with a preparation that I call sterilized vaselin. This is made by adding 1 gr. of bichlorid and 5 gr. common salt to 6 ounces of vaselin. The salt may be dissolved in a little water and the vaselin is boiled, although it is usually claimed to be sterile, and the solution of salt is then easily incorporated. Then I have a cotton pad dipped in bichlorid placed over the eye and hermetically sealed and the eye is not opened again until the patient is on the table for operation. If left on over night, I usually find on opening it that much of the application has been absorbed. As soon as the operation is concluded I fill the eye again with this same preparation. The amount of irritation is not more than that which commonly follows a drop or two of cocaine solution. I have had a long and very successful experience in operating and have never had a case of sepsis of any kind, nor any of the complications I used to meet with prior to the time I adopted this method.

DR. R. S. MAGEE, Topeka—I simply want to mention the fact that in troublesome ulcerations of the cornea I find that the cleansing of the lachrymal sac, as well as the eye, gives beneficial results. No doubt you have all found ulcerations that will not heal under the various plans of treatment, and can not be expected to until the nasal sac and passages surrounding are thoroughly cleansed. The solution I use is a saturated boracic acid.

DR. C. A. VEASEY, Philadelphia—I simply desire to add my testimony to the efficacy of the method advocated by Dr. Lippincott and which I have now been using for upward of a year. Before I began to use the intranasal sprays of potassium permanganate, previous to operations involving the opening of the eye-ball, it was my custom to employ some mild antiseptic alkaline spray, preferably Dobell's solution, but since I have adopted the new plan I get better results than I did before.

I have met with the complication referred to by Dr. De Schweinitz, that of sneezing, and it is exceedingly annoying. Occasionally a small amount of the solution penetrates the accessory sinuses of the nose and will trickle into the posterior nares after the patient is laid upon the table, producing the paroxysms of sneezing. Another complication I have met with in a small number of cases has been an intense nausea produced in patients of delicate sensibilities. One lady assured me a few weeks ago that it produced for her a sensation like the odor of a dead mouse, and was always followed by intense nausea and vomiting, so that I was obliged to abandon the

use of it. These cases are rare and should not deter us from its employment in most cases.

Some time ago I adopted Gifford's method of wiping that portion of the cornea to be penetrated, just preceding any operation involving the opening of the ball, with a pledget of moist absorbent cotton, and I am quite sure the method often prevents germs from being carried into the eye at the time the instrument enters.

DR. S. LEWIS ZIEGLER, Philadelphia—As Dr. Lippincott knows, I have been interested in the nasal end of eye surgery for some time, but I have not used the permanganate solution. I have used a solution of silico-fluorid of soda, as recommended by the late Dr. Goodman. In cases where there is real danger of infection from the tear-duct a suture placed in the cornea after the operation and the wound treated as an open one, either with or without ice, with frequent use of an antiseptic wash, has prevented any complications in the way of infection.

DR. G. A. ASCHMAN, Wheeling—In cases where there is purulent condition of the nasal sac and canal, or ozena, I have found valuable help by closing the lachrymal puncta. At the Detroit meeting I read a paper on the treatment of dacryocystitis and advocated this measure. They are closed by introducing the electric cautery almost up to the end of the canaliculus. I think you will all come across cases of this kind, and I believe that by this method the so-called inoperable cases will be done away with. There are cases that can not be postponed, and I believe this is an efficient way to operate on them.

DR. LIPPINCOTT, closing the discussion—I can add only a word to what I have already said. As to the sneezing, curiously enough I have not seen it, but no doubt the next dozen cases I operate on will all sneeze, as things generally occur that way. My patients have not complained of the spray being especially unpleasant, but I do not allow the spray to get back into the throat, making the patient sit with the head bent forward, and stopping for a moment or two when there is any sign of the fluid getting into the pharynx.

Dr. Aschman's suggestion of closing the punctum is, of course, a very old matter, and was referred to in a part of the quotation I did not read. Most of us do not wish to seal the punctum in ordinary cases, and it is only applicable to the cases he referred to. Where the nasal duct is thoroughly probed and syringed, I have never had any trouble with cataract operations.

A CASE OF COLOBOMA OF EACH LENS WITHOUT COLOBOMA OF THE IRIS OR CHOROID.*

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ST. LOUIS.

Instances of coloboma of the crystalline lens are so rare—only about seventy having been recorded—and bring up so many interesting questions for discussion, that I feel justified in directing your attention to a case in point.

S. B., male, white, aged 14, was brought to me on Oct. 7, 1899, on account of defective vision. The parents state that he was a delicate child and never was able to see distinctly. Seven years ago glasses were purchased from an optician, and two years since an ophthalmologist prescribed for him.

The boy is an ungainly looking youth; he is 5 feet 7½ inches in height, weighs 100 pounds, wears a 7¾ hat, and has flat feet and a chicken breast. Four years ago he was operated on for adenoids. With the exception of an attack of scarlet fever he has had no serious sickness. When 3 months old he was salivated. The

parents are strong, healthy appearing people. The father acknowledged an attack of gonorrhea before marriage, but denies syphilis. However, a medical friend who knew the father intimately, informs me that he contracted syphilis before marriage. The boy was born eleven months after the marriage of his parents.

The boy is a blond, with blue eyes. To ordinary inspection the eyes appear normal, except for a slight prominence suggestive of myopia. The ocular movements are normal; there is no tremulousness of the irides. The pupils measure 6 mm.

Vision of the R. E.=8/200; of the L. E.=6/200.

The astigmatism of Kagenaar gives the corneal astigmatism as: R. E.=3.00 D. axis 35°; L. E.=2.25 D. axis 135°.

Under atropin the best vision results from these lenses: R. E.=—13.00 C—5.00 axis 35°=20/50; L. E.=—11.00 C—2.25 axis 135°=20/40.

After the effect of the mydriatic had passed off, I prescribed these glasses for constant use: R. E.=—12.00 C—5.00 axis 35°=20/50; L. E.=—10.00 C—2.25 axis 135°=20/40.

With these lenses he can read, with R. E., Jaeger No. 6 at 10 to 28 cm.; L. E., Jaeger No. 2 at 7 to 21 cm.

As remarked by Clark,¹ few cases of coloboma of the lens are recorded in which mention is made of the refraction and accommodation. The reason is that in many of these cases vision is too defective to permit such study.

It will be noticed that in the right eye there is a difference of 2 D. of astigmatism between the findings of the ophthalmometer and the trial case. Retinoscopy shows the amount of astigmatism to be 5 D. I conclude that 2 D. of astigmatism must be lenticular.

Examination of this boy by the ophthalmoscope before using a mydriatic shows coloboma of each lens. The appearance after the use of atropin is shown in the accompanying illustration. No attempt has been made to delineate the retinal vessels. The object of the illustration is to present the defect in the lenses.

There is no coloboma of the iris or choroid. The lens capsule and suspensory ligament are not visible. There is no displacement of either lens. The lenses are transparent up to the lower borders, which appear of a golden-brown color. The fundi are normal.

In looking into literature, I find that most cases of coloboma of the lens show the defect in the lower part. Three exceptional cases are on record: in that of Schiess² the lower and outer border was wanting; in that of Lang³ the defect was directly outward, and in the case of Bronner⁴ the coloboma was upward and outward. Doyne⁵ has described a case of coloboma of iris and choroid with a projection of the corresponding margin of the lens.

Eyes with coloboma lentis usually present myopic refraction. Bowman⁶ and Hely⁷ have recorded cases in which the refraction was hypermetropic. Gruening⁸ met with it in an emmetropic eye.

How are we to explain the occurrence of coloboma of the lens? Lang and Treacher Collins⁹ say: "The abnormality is caused by some defect in the development of the suspensory ligament. As has been already mentioned, this is developed by adhesions forming between the sides of the lens and the ciliary body at that period of fetal life when they lie in contact. Should some of these adhesions fail to occur, then, as the eyeball enlarged, that portion of the capsule to which no suspensory ligament was attached would not be held taut and made to expand like the remainder; consequently there

* Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

would be a depression in the lens in that situation. The amount and shape of the deficiency would depend on the extent of the defect in the suspensory ligament. The most likely cause for the absence of adhesions between the ciliary body and the side of the lens, with a consequent defect in the suspensory ligament, would be an absence of the ciliary body; and, as we have already said, a coloboma of the ciliary body is frequently found associated with coloboma of the lens."

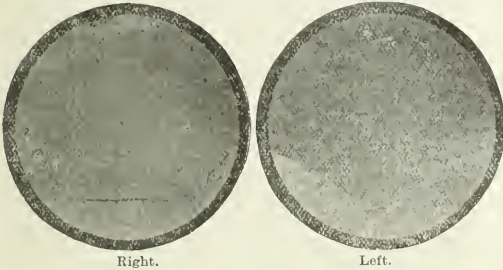
Norris¹⁰ says: "While this feebleness or defect in the zonula is probably the true explanation of some superficial notches, and possibly due to imperfect closure of the fetal slit, the deeper notches in the lens, as has been pointed out by Heyl and Hess, are probably caused by some congenital defect dependent upon an anomalous distribution of the hyaloid artery or of its branches to the posterior lens capsule. The exact nature, however, of such a congenital defect is very differently understood by the two authors just mentioned. Heyl holds that insufficient or arrested development of some of the vessels of the vascular lens-capsule causes an arrest in the development of the lens, while Hess maintains that the defects are due to pressure on the lens by some portion of vascular fetal tissue which has not undergone regres-

sion at the equator, had also a displacement. A boy about 12 years of age came to me two years ago complaining of double vision, which he could avoid by contracting the lids. I could see the dislocated lens upward and outward, and the lower border was slightly excavated. There was also a coloboma of the suspensory ligament, extending completely down to its ciliary attachment. The condition was symmetrical in each eye. Naturally, there was in the lower inner segment a hypermetropic condition and this gave an excellent opportunity by skiascopy to show the myopia above and hypermetropia below.

As to the origin of these faults, I think there is much in the explanation that is hypothetical, and we are not yet able to study them as we ought to. Our study is largely ophthalmoscopic, and our opportunities being limited, we must expect to remain in darkness for some time. In regard to those cases in which the coloboma occurs otherwise than in the region of the ocular fissure there is more difficulty of explanation. I believe Dr. Theobald, of our city, has reported one case in which the cleft appeared in the upper and outer segment. Doubtless those cases are due to faulty development of the suspensory ligament.

DR. GEORGE E. DE SCHWEINITZ, Philadelphia—I would like to put on record a case that came to the Jefferson Hospital Dispensary a few weeks ago, a colored boy with double coloboma of the lens, associated with a coloboma of the iris. The general refraction of the eye in this case was hypermetropic.

DR. R. L. RANDOLPH, Baltimore—I may mention in this connection a case I saw about two months ago of a man with microphthalmus with coloboma of the lower border of the lens, also associated with coloboma of the iris, choroid and optic nerve. It was the first time I had seen the latter condition.



sive changes and absorption at the usual time. Bock also believes that the vascular plug of ingrowing mesoderm is a hindrance to development at the points of contact, while Bach thinks that the lens at times becomes too large for the secondary optic vesicle, and that at the point of contact with the ingrowing mesoderm there is sufficient pressure to cause molecular degeneration of the subcapsular fibers, which undergo gradual absorption and leave a notch in their place."

Which of these explanations is correct I will leave to your judgment. Since only about seventy cases of coloboma lentis are recorded, it must be that the condition is occasionally overlooked, or, if found, remains unreported.

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DISCUSSION.

DR. A. B. McCONACHE, Baltimore—I have very little to add to the discussion, my personal experience having been limited to a single case, and that not exactly of a character that has been depicted. It was one that, in addition to this defect at

A STUDY OF THE INOCULATION THEORY OF MALARIAL FEVER.*

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At the outset of the discussion regarding the inoculation theory of malarial fever through the agency of the mosquito, it seems best to spend a passing word in giving credit to those who have labored to bring about a revulsion of ideas in regard to the etiology of this disease. The man who principally formulated the theory that the mosquito acted as the intermediate host in the life history of the malarial parasite was Patrick Manson, of England. Manson, in a measure, followed the views of Lancisi, of Italy, and of Laveran, of France, in that the malarial parasite through the mosquito first passed into water, and in that way was ingested by man. But Manson did not prove this theory. Ronald Ross, of England, caught the inspiration from Manson, and in India, after months of toil, proved by observation and confirmed by experiments on birds that the mosquito really and in truth did act as the host of this parasite. Thus began the movement toward the proper knowledge of the life history of the malarial parasite. Amico Bignami, under the direction of Battista Grassi, of Italy, was first to prove the inoculation theory in the case of man, on the person of Abele Sola, an inmate of San Spirito Hospital, who voluntarily submitted himself to such an experiment. The work of Marchiafava and Bignami in Italy, of Koch in Germany, and of Thayer in this country, can not be mentioned without praise.

The full development of the theory, and confirmed by proof, that the mosquito acted as the intermediate host in the life cycle of the sporozoa of malarial fever has a far-reaching importance and carries one into new fields of thought regarding the various other unknown hosts which may perhaps act similarly for many of the other infectious diseases.

The keynote of this subject was struck by Theobald Smith, who in a recent lecture delivered before the Phil-

adelphia Pathological Society,¹ stated that in making studies in biology one should record carefully all his experiments made on the lower forms of life, whether they at the time seemed of interest or not to the individual investigator.

Starting on the road in pursuit of the facts in regard to the inoculation theory of malarial fever one encounters at the very threshold the sciences of biology, zoology and entomology. History states that the term "mosquito originated on this side of the Atlantic Ocean, such being first used in the West Indies, where, it is learned, the word 'mosquito' meant 'a kind of gnat streaked with silvery white, the female members of which have a piercing and sucking apparatus, and annoy man.'" This term is well founded and is a better one than the word "gnat," which has recently come into vogue by certain writers of the old world. The former term distinguishes the mosquito from gnats in general, from the chironomus, and from various other insects analogous to the mosquito.

For the most part, this article deals with two genera of mosquitoes, namely: genus *Culex* and genus *Anopheles*, both of which belong to the natural order Diptera.

The *Culex pungens* deposits its eggs in pails and drains, or vessels of any kind, around the house, while the *Anopheles* seeks natural ponds or puddles left after heavy rains, and usually in those places which do not contain fish. The number of eggs deposited by the female *Culex pungens* is about 200, and at the end of three weeks the full-grown mosquito develops. Several broods are hatched each season. The larvæ of the *Culex* float with head downward in the earliest stages, and breathe through a pneumatic tube at the end of the tail, but later the mature larvæ—or pupæ—reverse their position and then float with head upward, doubtless breathing through two prolongations or spiracles projecting from the head. When disturbed they wriggle rapidly to the bottom of the vessel in which they are contained. The larvæ of the *Anopheles*, according to Ronald Ross, lie flat upon the surface of the water, like sticks, and when disturbed they move off with a backward skimming motion. Marchiafava and Bignami² describe the larvæ of *Anopheles* as "being brown in color, and always move in a horizontal direction, never in a vertical or oblique one," as do those of *Culex*. The larvæ of *Anopheles* live in fresh water, such as streams or artificial lakes which contain green moss or algæ. I have been able to confirm these observations of Ross and of Marchiafava and Bignami.

The *Culex pungens* may be found in the heart of cities, the *Anopheles* in rural districts, and frequently in the rooms of patients suffering with malarial fever. The *Anopheles* is frequently found in barns and near horses or cattle, and may be transported through hay to cities and thus lead to local outbreaks of malarial fever, as pointed out by Marchiafava and Bignami.²

One may devise either of two methods in studying the relation of mosquitoes to malarial fever; first, to search for the *Anopheles* in its native haunts and then for the case of malarial fever; or secondly to find the case of malarial fever and afterward look for the *Anopheles*.

The mosquito is ubiquitous over the face of the earth. It may be found in the tropics, and in regions of perpetual snow. While on a recent investigating journey to Washington, Rear-Admiral George Wallace Melville, who was on the steamer *Jeannette*, which a few years ago made a trip to the Arctic region, informed me that when in Siberia, between the Lena delta and Yakutsk,

about 1200 miles from the north pole, mosquitoes prevailed from June to September, and bit severely during those months. In 1877 and 1883 he visited the west coast of Greenland, 500 miles from the pole, or in latitude 65 to 78.30 north; mosquitoes bit fearfully during July and August, but worse in the former month. In August and September, 1878, he visited Norton Sound, and when at St. Michael's, in the Behring Sea, south of Cape Prince of Wales, and east of Cape Prince of Wales Island, mosquitoes were abundant. He also visited the region of St. Lawrence Bay, westward of Cape Prince of Wales. Here mosquitoes were also found. On each of these expeditions members of the crew were severely bitten, but not one had fever of any kind. I was told that so bad are the mosquitoes in these regions that animals coming down in the warmer months are driven back north again by the swarms of mosquitoes which infest that region.

The mosquitoes obtained in the arctic region and in the collection in the National Museum at Washington and shown me by Mr. D. W. Coquillett, were specimens of the *Culex consobrinus*, and *Culex impiger*. Both of these species came from Alaska. The *impiger* was taken at Sitka, June 16, Yakutat, June 21, Virgins Bay, June 26, and Popoff Islands, June 8 and 16, in the year 1899. It might be interesting to note that one of these specimens was accidentally found in an old box of papers and doubtless would have been thrown out if its presence had been known. The *Culex consobrinus* may also be found as far south as New Mexico, while the *impiger* has been found on the Island of Jamaica, by C. W. Johnson. Specimens of mosquitoes caught near the City of Mexico on Aug. 4, 1900, and sent to me by Dr. Manuel Urbino, of the National Museum of Mexico, proved to be *Culex tarsalis* and *Culex impiger* (?). Mr. C. W. Johnson has recently shown me a specimen of *Anopheles*—resembling a crucians—which was captured in Venezuela.

Whether the *Anopheles* lives in the arctic regions is not known, but should they do so they are doubtless harmless.

An interesting question to be decided is, where do the mosquitoes in our latitude go during the winter months? My observations can only be recorded for the latitude of Philadelphia. In this city, the *Culex pungens* were abundant during September and the first two weeks of October of 1899. Toward the latter part of October the females appeared to be more scarce, while the males were abundant, and I could not find the former in the cellar or outhouses as formerly. On December 17, a full-grown female *Culex pungens* was found in the sitting-room of a residence in the center of the city. It was kept alive for nearly one month. On February 4, another full-grown female *pungens* was caught in the kitchen of the same residence. The weather for a week previous had been intensely cold, and for a few days the thermometer had dropped to 7 degrees above zero. It had evidently come out to get water, for when caught it was adjacent to a hydrant. In captivity it only survived one week. About April 1, 1900, a few moths, gnats and spiders, with very long brown legs, began to appear, but no mosquitoes. I could not find any in the dark corners nor walls of the cellar, nor on the wooden structures of the house, nor anywhere around the furnaces on April 1. Not feeling satisfied, the greenhouses of the Biological Department of the University of Pennsylvania were visited. A brief description of these houses would be: 1, a vivarium containing tropical plants and standing water throughout the year, and kept at a temperature

of 60 F.; 2, an orchid room kept at 60 F.; 3, an animal-house kept at 60 F.; 4, a cypripedium room at 65 F.; 5, a palm-room at 69 F.; and 6, a stove-room at 89 F. In all these rooms standing water may be found during the winter. A search of two hours in all of these rooms failed to reveal a single mosquito until I had gone into the animal-house, where a full-grown female *pungens* was found lying flat on the wall and about three feet above some rabbits, and the same distance from a hydrant. It was devoid of blood.

On May 15, 1900, a search of two hours through Horticultural Hall, in Fairmount Park, from the dark basement below to the roof above, failed to reveal a mosquito of any kind. From October to May the temperature in this building ranges from 65 to 70 F. On going into an outhouse immediately adjacent, a young female *pungens* was found. On May 19, I had no trouble in finding several specimens of full-grown female *pungens* in a barn in the lower edge of the city and about two miles north of League Island Navy-Yard, a district in which I had treated a case of estivo-autumnal fever the previous fall.

That mosquitoes survive the winter in the climate of Philadelphia, and that they do not necessarily have to migrate to this region, I offer the following data: Full-grown mosquitoes were caught in this latitude during September, October and November, on December 17, February 4, April 24, and a young specimen on May 15. To complete this series the following may be recorded as told me by others: Mr. Coquillett informed me that a specimen of *Anopheles punctipennis* was found on the snow in Castleton, Vt., on February 1, when the temperature was 6 degrees above zero. Mosquitoes have been found in Washington on December 23 and January 30. Professor Theobald Smith caught a mosquito in Boston during the last week of March. The series is thus complete, and mosquitoes have been found in this latitude during September, October, November, December, January, February, March, April and May. Whether these insects migrate at all I am unprepared to say.

It is said that they do not fly far from their breeding-grounds.

It seems interesting to know that not one male mosquito was found during the entire winter. Marchiafava and Bignami note a similar experience in Italy.

The males were more numerous than the females up to the latter part of October, then disappeared. Of the first brood captured the following May, probably half were males.

All of my mosquitoes were full grown except the specimen obtained May 15; all were *Culex pungens*; all but one collection were found on plastered brick surfaces; all were adjacent to some kind of animal, and all were in localities convenient to standing water.

According to observations made by different scientists in various parts of the world, it has been demonstrated that not all genera of mosquitoes are capable of inoculating man or birds with malarial fever. This power so to do appears to rest solely with the different species of the genus *Anopheles*. However, this much has been proved, that birds suffering with malarial fever, *Proteosoma Grassii*, have been bitten by the *Anopheles*, and the disease thus conveyed to uninfected birds through the bite of this insect. Further, Grassi and Bignami have raised the *Anopheles* from larvæ obtained in districts far removed from malarious localities, which mosquitoes have been transported to other places and there have bitten patients suffering with malarial fever and after

a certain number of days these same mosquitoes have bitten uninfected men with the result that malarial fever has been produced.

Ross found that within from two to three days after the *Anopheles maculipennis*—claviger, or *quadrimaculata*—had bitten birds suffering from avian malarial fever, there developed in the outer muscular coat of the middle intestine certain bodies which had not been found in the middle intestines of other species of mosquitoes, nor in uninfected specimens of the same genus; and within seven to ten days these spores or sporozooids of malarial fever became stored up in the veneno-salivary gland of the insect and in that state were capable of infecting man.

The malarial parasites in the body of man do not take a similar course. Studies of the human blood reveal the presence of certain small, round, actively motile intra-corpuseular organisms. These grow to full development at the expense of the red blood-disc, and subsequently rupture, setting free a number of hyaline bodies that at once re-enter other erythrocytes. These results therefore go to show that the sporozoa or plasmodia of Laveran require for their complete existence two biological cycles, one being completed in the body of man, the other being completed in the tissues of the mosquito.

Previous to this time the species of *Anopheles* used in the experiments on birds and man have been the *Anopheles claviger*, or more accurately, *Anopheles maculipennis*. (Lately identified as our *Anopheles quadrimaculata*.—Howard.) The *Anopheles quadrimaculata*, or *maculipennis*—claviger—according to L. O. Howard, has been found in eight different localities of the United States, as follows: Texas, Florida, Maryland, District of Columbia, Illinois, Minnesota, New Hampshire and New York. The *Anopheles punctipennis* has been found in nine different localities, namely: Texas, District of Columbia, Maryland, Vermont, Massachusetts, Pennsylvania, New York, New Mexico and Illinois. I have found the *Anopheles claviger*—*quadrimaculata*—in at least two localities near Philadelphia and in the Pocono Mountains of Pennsylvania at an altitude of nearly 3000 feet above the sea level. The *Anopheles crucians* has also been found in this country. Grassi states that he was first to claim that all species of *Anopheles* were capable of transmitting malarial fever to man.

The genus *Anopheles* may be distinguished from the genus *Culex* by the fact that the *Anopheles* has spotted wings, the palpi are as long as the proboscis, and when the insect rests against the wall the body points outward, forming an angle with the surface on which it rests. The two posterior legs of *Anopheles* hang downward, and not thrown up over the back as in *Culex*. The word "spots" as applied to the minute dots or markings on the wings of the *Anopheles*, signifies very minute round, oval or irregular dark areas on the upper surface of the wings and may be readily discerned by the naked eye, but better with a small hand lens. The dots are due to a thicker growth of hair in these regions.

My studies to determine the anatomy of the mosquito consist of making paraffin sections of the entire insect in serial form, thus cutting the insect into about 600 pieces, and staining with Delafeld's hematoxylin solution and eosin; further by dissecting the fresh specimen by means of needles under a dissecting microscope.

In a former paper on this subject, printed in THE JOURNAL, Feb. 3 and 10, 1900, the statement was made that regarding the veneno-salivary gland no dissection previous to that of Macloskie was known to the author.

I take this opportunity to say that since examining the literature further I find that Mr. Leon Dufour,² in the "Recherches Anatomiques et Physiologiques sur Les Hemepteries," Paris, 1833, has shown a chart of the dissected mosquito, as has Mr. Felix Arribalzagas in "Dipterologia"³ (Argentina), 1891.

Marchiafava and Bignami have had Anopheles to bite patients suffering with malarial fever, and, killing the insects from day to day, have studied the whole life history of the parasite outside the human body. For the development of the sporozooids of the different forms of malarial parasites they found that it was best to keep the insects at a constant temperature ranging from 68 to 86 F. After the seventh day they found the spores accumulating within the salivary glands of the mosquito and were then in a fit condition to inoculate man.

Since the conditions seem to require that the temperature be a somewhat high one, this fact might in a measure prevent the development of the malarial parasites within the tissues of the mosquito in arctic regions. (The isothermal line near the arctic circle for the most part remains at 10° F.). It might explain the absence of malarial fever in regions near the north pole. On the other hand, all the necessary conditions are fulfilled in tropical climates, and here also may be found all varieties of malarial fever throughout the entire year.

As has been previously stated, it has been proved that all kinds of mosquitoes are not capable of inoculating man with malarial fever. This power has so far been proved to rest alone with the Anopheles, the exact reason for which must be solved by future workers. Its solution will doubtless be explained by finding certain differences in the anatomy, the function, or the habit of these insects. Whether there is a difference in the structure of the mouth parts, stomach, middle intestine, circulatory system, salivary glands or its secretions, are questions still *sub judice*. In answer to this question, Grassi has stated that it might be due to the rapidity with which the blood may be digested by the Anopheles, that is, twenty hours sooner than in Culex.

In many regions of this country proof that malarial fever may be inoculated has been a revelation to the physicians of those districts. It also furnishes proof positive of the value of experimental knowledge combined with clinical experience. Clinical experience, be it remembered, is only a form of observation, and will never furnish more than half proof. Proof consists in *observation confirmed by experiment*.

Speaking as one who formerly lived in a malarial district of the South, I shall make the statement that owing to the manifold causes and intermixture of effects which surround this question, it is absolutely impossible for clinical experience to unravel the thread which entangles the question of the etiology of malarial fever. This does not apply alone to malarial fever. Is it not so in all the other infectious diseases? The physician, according to my experience, questioning the patient suffering with malarial fever can not elicit the absolute evidence for which he searches. In over 75 per cent. of the cases the patient will state that he has slept in a region adjacent to water, in a low, damp place, or in an open house, and that he has been drinking water from shallow wells, or, worse still, creek water. Farther than this the mind of the patient will not go. His knowledge only extends to the time when the bilious spell came on, or perhaps the initial shiver.

Several years ago, before the full development of the inoculation theory, I undertook by close questioning to learn, if possible, how patients contracted their chills.

The whole evidence led to a labyrinthine skein from which it was impossible to unravel any safe conclusion. Some patients told me positively that they did not drink creek water, but only water from wells or springs, and that they at night slept in open houses. The majority perhaps told me that they had both slept in open houses and drank creek water, or water from shallow wells. Instances have been cited in which expeditions have gone into malarial districts without drinking creek or well water and that they had no chills. And from this the conclusion is reached that infection forsooth must take place through the gastrointestinal tract. One may well ask, what about infection through the inspiratory tract, and also about the question of immunity at that definite time? By whichever road one may travel at least one of them leads up to that monument of proof furnished by Ronald Ross, Marchiafava, Bignami, and Koch, that the spores of the malarial fever may be inoculated into the blood of man through the bite of the mosquito.

As to the stamping out of malarial fever various methods have been advised. If the mosquito is to be exterminated in temperate climates, which at the present time seems an impossible task, there may be two periods in which it may be assailed. One would be to kill off the adult and fertilized females during the periods of hibernation, a period in which there are least of them, and secondly to get rid of the larvæ especially during a few brief weeks of early spring. The most direct way of eradicating malarial fever is to isolate all the cases by means of mosquito netting and the judicious administration of quinin.

So far as the Culex pungens is concerned, a very great deal might be done toward limiting its multiplication by giving strict injunctions to the housemaid not to permit stagnant water to remain in pails or buckets about the premises. Another plan would be to point out to boards of health the danger lurking in stagnant water wherever found. The larvæ of Anopheles have been found by Marchiafava and Bignami² in stagnant water, and in winter they have found the fertilized females hibernating in caves.

Different drugs and chemicals have been recommended for the destruction of the larvæ of mosquitoes. A culicicide to be of any service must undoubtedly possess many qualities: 1, it must be easily obtained everywhere; 2, it must be inexpensive; 3, when used it must lie on the surface of the water for long periods of time in order to prevent the deposition of eggs by the female; 4, it should be non-poisonous; and 5, it must kill the larvæ or pupæ of the mosquito.

On the morning of May 22, 1900, I found about 100 larvæ of the Culex pungens in an old paint-bucket in the yard of a residence in Philadelphia. These were nearly all in the same stage of development. After their development into pupæ, I decided to make the following experiments with chemicals calculated to destroy them. The experiments thus made consisted of: 1, a strong solution, 120 grains of tobacco to the ounce of kerosene oil (the tobacco to macerate in the oil for 24 hours); 2, a saturated solution (240 grains to the ounce) of camphor in kerosene oil; 3, a saturated solution (80 grains to the ounce) of naphthalin in kerosene oil, and 4, kerosene oil. Two round glass jars were selected, having a diameter of 7 inches (18 centimeters), a circumference of 21½ inches (52 centimeters), and holding a half gallon (2 liters) of hydrant water. Into each glass jar four of the above-described pupæ were placed, one series to be used for the experiment, the other containing the control pupæ.

(The mosquito seems easiest destroyed in the pupa stage since the larvæ may frequently be seen to prevent closure of the breathing tube by biting off the occluding substance.)

Experiment No. 1. Tobacco and kerosene oil experiment: The pupæ on which the experiment was begun were disturbed so as to cause them to fall to the bottom of the jar and on the surface of the water was floated one drop of the tobacco-oil solution. At the end of eight minutes no effect whatever was produced. Now adding three more drops of the solution, all pupæ were practically dead at the end of one hour. The control pupæ remained active.

Experiment No. 2. Camphor-oil series: The jar was now rinsed out carefully until no odor of oil could be detected and four fresh pupæ were placed in the vessel containing a half gallon of hydrant water. The jar was shaken to cause them to sink to the bottom and two drops of camphor-oil solution added. Twenty minutes later no effect was observed. At this time two more drops were added and eight minutes later all the pupæ were sick and were all practically dead at the end of thirty-five minutes. The control pupæ were active.

Experiment No. 3. Naphthalin and kerosene oil series: Four fresh pupæ were placed in the cleansed glass jar containing a half gallon (2 liters) of water and the vessel agitated to cause them to sink, and two drops of naphthalin solution added. Five minutes later one pupa was dead while the other three were active. Eleven minutes later two more drops of naphthalin solution were added and at the end of thirty-seven minutes all the pupæ were practically dead. The controls were in good condition.

Experiment No. 4. Kerosene oil series: Into the cleansed jar containing half a gallon of water were placed four fresh pupæ. After causing them to sink, four drops of kerosene oil were added, with the result that all four pupæ were practically dead at the end of twenty-seven minutes. The control pupæ remained in good condition.

It was evident that four drops of kerosene oil without any other ingredient whatever, acting for a period of from 1 to 37 minutes on four mosquito pupæ contained in a glass vessel 21½ inches in circumference and containing half a gallon of water, was as destructive as kerosene oil containing tobacco, camphor, or naphthalin dissolved in the above-named proportions.

Not feeling satisfied with these experiments and thinking that a smaller amount of one of the combinations might be of greater potency, acting through a longer period of time, I followed the same line of experiments. Only this time adding 1 drop of each solution and allowing it to stand from six hours to a longer period. The result proved that the addition of 1 drop of the camphor-oil, or 1 drop of the naphthalin and kerosene oil, or 1 drop of plain kerosene oil produced no effect at all, while the tobacco-oil killed all four pupæ within a period of two hours. The control pupæ which had been used throughout all these experiments remained in the best of condition. To these were added 1 drop of tobacco-oil solution, which produced death in all of them within a period of five hours.

Carrying my experiments still further, I placed four control pupæ in a tub 2 feet (61 centimeters) in diameter and 70 inches (177 centimeters) in circumference, and about 4 inches in depth, and also four pupæ in a similar tub, each of which contained four gallons (8 liters) of hydrant water; to the latter series 6 drops of tobacco-oil solution were added, which caused death to

all of them within 4½ hours. The control pupæ remained in good condition during the experiment, and three of them were later killed by the same solution. The fourth one positively refused to die, and after development was given its liberty. Making a rough calculation, the amount of this tobacco-oil solution to be applied to an acre of water for the destruction of the mature mosquito pupæ contained, should be said to be from 44 to 60 ounces. It would be best to renew this fluid every three or four weeks. Frequent agitation aids the fluid in spreading on the surface of the water.

Should the mosquito be the only agent in disseminating malarial fever, the destruction of the larvæ or pupæ of that insect would be only one way of getting rid of the disease. When one realizes that according to Manson 5,000,000 British subjects die each year of malarial fever or its complications, the question assumes mighty proportions. How many die of this disease in the United States I am not prepared to say. They at least run up into the thousands. Regarding the stamping out of the disease in any country Manson suggests the following methods: "1, to begin by administering quinin for long intervals to all cases of malarial fever, since a single man is a source of infection to a whole locality; 2, to cause all persons suffering with malarial fever to sleep under mosquito netting; 3, to compel all the uninfected to sleep in mosquito-proof houses or beds; 4, to kill by different culicicides all mosquitoes entering houses; 5, to destroy all the mosquito larvæ before they reach maturity or the biting stage—to which might be added the destruction of the adult mosquitoes in their places of hibernation—and 6, a combination of all these methods."

[Microscopes for demonstration of sections of mosquitoes at the Atlantic City meeting were loaned through the kindness of Messrs. Queen & Company, Philadelphia.]

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THE ATROPHIC PHARYNX.

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The literature of the atrophic stage of chronic pharyngitis may be generally classed under the term vague. Writers appear to know or care nothing about the pathologic anatomy of the condition and its relationship to other forms of pharyngeal inflammation seems to be generally ignored. The old term "pharyngitis sicca" is a clinical one, used at random for any form of dryness of the pharyngeal mucous membrane, and bears no relation to any definite form of disease.

All types of simple chronic inflammation of the pharynx tend to progress into the atrophic form. What might be called the average type of chronic pharyngitis is characterized by the enlargement of the lymph-glands, giving the so-called follicles, by dilatation of the superficial blood-vessels, and especially by the formation of small masses of granulation tissue, which are usually situated immediately behind the posterior half arches of the palate. Atrophic areas, showing as sunken, glistening, light-colored spots, occur in the central portions of the pharyngeal wall. Such a throat may re-

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main *in statu quo* for half a life-time, seeming hardly to progress, yet never growing better, and giving but a minimum of discomfort. But in a certain number of cases, sometimes dependent on causes known and measurable, but more often for reasons unknown, the chronic interstitial inflammation steadily extends, the areas of granulation tissue become more extensive, and the greater portion of the pharyngeal surface is infiltrated.

The pathologic process is identical with fibrosis elsewhere, the persistent migration and aggregation of leucocytes, their fibrillization and slow conversion into new connective tissue, and the contraction and extension of this formation, with resultant pressure atrophy. In advanced cases the process extends until most of the important structures of the pharynx have been replaced by the fibrous tissue, and the anatomical relations and functions of the organ have been more or less materially changed.

The etiology of this disease, like that of fibrosis elsewhere in the body, is almost unknown. Gouty subjects are certainly more prone than others, and extensive atrophic changes are always present in advanced cases of chronic lithemic sore throat. But it occurs apparently at random among patients of all types, and one might almost say of all ages, and sometimes fails to be present where most positively expected. It follows sclerotic rhinitis, but may exist where the nasal lesions are but slight. Not rarely I have seen it swiftly follow extensive and repeated destructive intranasal operations, but these cases are fortunately now much more rare than they were a few years ago, when the galvanocautery was more popular than at present. In a certain number of cases it is rapidly lighted up by an attack of diphtheria, typhoid fever, or measles, and in many subjects it appears to be distinctly inherited. The clinical history of the atrophic pharynx is that of years of throat fretting, latterly growing decidedly worse. Dry throat, itching, tickling and resultant cough, choking while eating, dull pain which may radiate into the larynx or up toward the Eustachian tubes, and interference with voice, are the commonest symptoms. From the extension of the disease in the larynx, dysphonia is always a prominent complaint in advanced cases. The voice is weak and without staying powers, requiring great nervous and muscular effort to talk or sing for any length of time. Vocal resonance is lacking, and the voice may be called thin, while a constant sense of irritation is produced by its continuous use. The appearance of the atrophic pharynx on inspection is characteristic and unmistakable. Normally, the posterior pharyngeal wall, as viewed from the front with the tongue properly depressed and the part illuminated, is somewhat concave, the surface is slightly rugose, and the color resembles that of the general buccal lining. The atrophic throat, on the other hand, shows a somewhat convex posterior wall, the glandular and muscular elements having disappeared and the centra of the cervical vertebrae pushing the mucous membrane forward in the median line. The surface is absolutely smooth, glistening, and tightly adherent to the tissues beneath. There is generally a line of nearly white or yellow tissue immediately behind the posterior half arch, and the distance between the border of the pendant soft palate and the posterior pharyngeal wall is abnormally great. Engorged and varicose veins may traverse the pharyngeal membrane in any direction, but are especially prominent close to the tonsil and posterior half arches; they are due to cicatricial tissue pressing on the veins and preventing proper return of blood from the part.

The postnasal and laryngeal regions always participate in the general destructive process. Rhinoscopy is easy, and shows the pharyngeal vault to be abnormally large, light colored, and smooth in outline. The Eustachian prominences are pale and contracted, and tubal changes with a greater or less degree of middle-ear sclerosis are almost constantly present. The larynx is noticeably light colored, and the aryepiglottic folds are more or less thinned. Chronic tracheobronchitis is a common concomitant or result in middle or advanced life.

In the nature of things treatment of atrophic organs must always be unsatisfactory so far as restoring their function is concerned. The calm assurance with which practitioners proceed to "cure" diseases due to hopeless alteration of organs is one of the dreary spectacles in medicine. No fibrosed tissue ever returns to a normal condition, no organ so affected can carry out its functions with normality.

The possibilities of treatment in the present state of our knowledge in atrophic pharyngitis are limited to palliation and perhaps arrest of progress. The essentials are to control the migrations of leucocytes and to obtain hyperactivity of the remaining normal tissue element. To bring about this result, stimulant and alterative sprays, such as oil solutions of gaultheria, cinnamon, cubeb, thymol and the like, are certainly of benefit. They should be applied generally by the physician himself, and only to a membrane which has been carefully cleansed by an alkaline spray. Cases of atrophic pharyngitis are generally either markedly irritable or unusually tolerant under treatment; the former class are naturally much the more favorable, and much more satisfactory therapeutic measures can be carried out. The massage effect of properly chosen atomized fluids when driven with a pressure of from 15 to 18 pounds is very decided and most beneficial. The tip of the atomizer should be held about one inch away from the mucous membrane, and the jet steadily and rapidly carried over the entire surface.

In the irritable cases much less can be done, and spraying may have to be limited to inhalations with the tip of the instrument outside the mouth. Pigments applied with the applicator and tightly rolled cotton mop often seem to give more definite results than nebulae. Thymol solution in alcohol and glycerin, tincture of sanguinaria and glycerin, and copper sulphate, are favorites with me; iodine is sometimes useful. In tolerant subjects much valuable massage can be given by rhythmic and gentle patting of the whole membrane with the medicated mop; if retching, cough, and discomfort result, the method is likely to do more harm than good. Best of all methods of massage and stimulation is the faradic current, the positive pole being applied to the pharynx while the negative is held in the hand of the patient. Many cases will tolerate a séance of two or three minutes with undoubted good result; irritable subjects are best treated by applying the rheophore to the palate and roof of the mouth only. Powders, caustics, strong astringents, and especially silver nitrates, I regard as only injurious in this disease, their use almost always hastening the fibroid process. Operative measures have not been advised by even the most radical of special surgeons; we need to replace tissue, not remove it, and if surgical procedures are necessary for any incidental nose or throat conditions, they should be undertaken with the greatest caution, as every cicatricial area undoubtedly acts as a fresh center in the fibrosis. Palliatives intrusted to the patient may consist of

eucalyptus and menthol oil-sprays, lozenges of elm and lettuce, and possibly a sedative gargle. The good effect of the latter is probably entirely due to the necessary muscular action in gargling and not to the medicinal agents employed. Medicated steam inhalations from a really efficient steam atomizer give great comfort, and have some permanent limiting effect on the disease; their use can be continued for months. Internal medication is but a weariness to the patient, so far as altering the diseased throat is concerned; but good hygiene is, of course, necessary, and the correcting of pernicious habits, especially among them the inhaling of smoke, is often absolutely necessary to secure any symptomatic improvement.

Very great comfort extending over long periods and indefinitely prolonged by occasional treatment may certainly be secured by the therapeutic measures outlined in atrophic pharyngitis. The voice will increase in power, the disagreeable sensations lessen or disappear, and the most dreaded sequelæ, sclerotic otitis and chronic bronchitis, may be prevented. But too much must not be hoped for, for patients must be frankly told that their condition is not definitely curable, and accuracy in diagnosis of the actual pathologic factors at work is essential.

DISCUSSION.

DR. W. FREUDENTHAL, New York City.—I am very much interested in Dr. Seiss's paper and would like to make a few remarks on atrophic pharyngitis and rhinitis. You can not separate the pharynx from the nose, especially in these cases. The principal symptom in atrophic pharyngitis and atrophic rhinitis is a dryness of the throat, and this is a most important factor. I wrote a few years ago on this topic, and my theories are now acknowledged abroad by a number of men, although I have not heard anything about it in this country. The dryness arises largely from the atmosphere we inhale. The atmosphere of New York, for instance, in winter is entirely too dry, and when it sinks below 40 degrees it is injurious. I have measured for years the dryness of the atmosphere in New York in the houses and schools, and I have often found a relative humidity of 20 per cent., while the highest was only 25 or 30 per cent. The colder the outer air is the more we heat our furnaces and the more hot dry air is driven into the rooms. The air in the furnace is heated and thoroughly dried and the more that is driven into the rooms the more we inhale of it. For a while the nose and pharynx can stand it, but when the rest of the body can not supply the pharynx and nose with sufficient moisture, there sets in at last what is called a dry atrophic pharyngitis and rhinitis. This condition affects mostly the nose, but in the cases where the nose is stopped up the patient will inhale much more with the pharynx, and the dryness will affect the pharynx chiefly. We should expect this to occur especially in children with adenoids, but since the process requires years and years to develop we find atrophic pharyngitis most frequently in older people.

The Doctor spoke of the effect of the spray. That is very good and very true. But why not apply massage directly? I devised a few years ago a vibrator and it works very well.

DR. J. HOLLINGER, Chicago.—There is a diversity of opinions as to dry pharyngitis. The fact is that so far we have no intelligible explanation for the pathology of the whole picture. The dryness and moisture of the air, the bacteria and all the other factors are present in people who never had and never will have an atrophic rhinitis or an atrophic pharyngitis. These two diseases, together most probably with a third one, that is, with pachyderma of the larynx, form one group of diseases. One or another of the combination may be lacking; most often it is the pachyderma, but it is wrong to speak of one and ignore the others. In a patient I am now observing all these morbid conditions and their close relations are quite clear. A short while ago I read a paper before the Chicago Laryngological Society, in which I spoke of this matter. In this case the two nostrils are not equally wide. From the left

one, which is very wide, I have constantly to remove accumulation of crusts, while in the other nostril a big ridge is present, which I think is responsible for the comparatively moist condition and the little accumulation of crusts in that side. He has one-sided ozena, dry pharyngitis and pachyderma of the larynx. This class of cases led Liebermann to compare the noses of patients with atrophic rhinitis and of normal patients by measuring the skulls. A mention of that work is made in one of the latest numbers of the *Laryngoscope*. It was proved beyond all doubt that by far the greater number of cases of atrophic rhinitis, something like 97 or 98 per cent., occur in people with broad faces, combined with the low nose. By "low" is meant from the forehead to the mouth. At the same time these people have a wide nose. These are the congenital cases or the inherited cases of atrophic rhinitis. They are usually combined with dry pharyngitis. The acquired forms have as yet no direct explanation. The atrophy of the turbinals, especially of the bony turbinals, shows there must be a process that causes the bone to shrink. There may be something similar to chronic osteomyelitis of other bones. Thus, it is possible that the explanation of the whole picture of atrophy of the mucous membrane of the pharynx and turbinals and turbinal bones is nothing else but the scar retraction after submucous or interosseous inflammatory processes and that the change of the epithelium is similar to the change that we found long ago in old fistulous tracts. The inflammatory processes would run their course in childhood, where we see often pus discharges from the nose.

The text-books treat these diseases as diseases of the mucous membranes of the nose and pharynx, and we all know that in atrophic or dry pharyngitis and rhinitis the submucous tissue and even the underlying bone suffer just as much or more than the mucous membrane.

DR. H. STILLSON, Seattle, Wash.—I am very much interested in the pathology of the disease, and since Dr. Seiss has asked for a kind of experience meeting on the question of treatment, I wish to refer to a method of treatment that I advocated about 15 years ago. I wrote at that time to Dr. Bosworth and asked him if he had attempted to teach patients to cleanse the mucous membrane of the pharynx by means of the tongue. He said he had in his experience seen very few patients who were able to insert the tongue into the naso-pharynx. I wrote also to Dr. Solis-Cohen, and he said he had seen very few patients who would become able to do that, and he himself when he attempted to do it, found it very difficult. I have found patients able with the moistened tongue to cleanse the naso-pharynx. Then they can medicate it with the saliva or with some medicine they carry with them. They can do this without injury. I have discovered no deleterious effect from it. They can certainly cleanse the pharyngeal orifice of the Eustachian tube. They can stick the tongue into the nose, and I had one boy who could protrude the tongue entirely through the nose and wiggle it at you through the anterior orifice. My observation is that boys and ladies are able to learn this movement of the tongue much better than others. There are certain pathological conditions that render it very much more difficult, for instance, adhesions of the soft palate with the tonsils or cicatricial contraction of the pillars of the fauces. One advantage of this method is that the tongue has its own intelligence and can hunt out the little granulation tissue and confine its massage movement to the tissue that needs it most. It is able to carry the medicine intelligently to the granulation tissue. Along with the pharyngeal process there is a similar process along the upper wall of the soft palate. Often there will be a growth of granulations here, to which the tongue is able to carry the medicine and apply it. The tongue is able to apply massage to the posterior end of the turbinals, and in the early stage of this disease there is very often hypertrophy along with atrophy, and hypertrophic tissue may be found beside the atrophic tissue.

DR. C. L. RICHARDS, Fall River, Mass.—While admitting with Dr. Seiss that the dry atmosphere may be a factor, I have found the condition to occur often in workers in cotton mills, in which the air is necessarily of considerable humidity in order

to work the threads. These people have the disease as marked as you see it anywhere, notwithstanding that for twelve months in the year they work in an atmosphere with if anything more than ordinary humidity.

Dr. C. M. COBB, Lynn, Mass.—There are several very peculiar things in connection with atrophic conditions of the nose and pharynx. The typical atrophic pharynx is not a pharynx with the crust formation. The atrophy of the nose, if we begin with that part of it, is a very curious formation. The atrophy does not take place where the disease is. The disease and crust formation are around the middle turbinate, which is the last place to get well and the first to become affected. If I understand Dr. Freudenthal, he claimed that the air in the furnace is heated and the moisture is driven off. As I understand it, in the furnace the cold air passes over the hot iron and the temperature of the air is raised, but there is just as much moisture in the atmosphere after it is heated as before, although there is less relative humidity. Another thing is the escape of carbonic acid from the hot iron, which may be an important point. It may be an irritant to these patients. Furthermore, in regard to irritation, it hardly seems probable that directly, or indirectly for that matter, mechanical irritation produces a disease of that kind. Mechanical irritation does not anywhere else in the body produce atrophy or an atrophic condition. For instance, a man working on the street may get thickened epidermis all over the hand, but the hand will not atrophy. The broadening of the face seems to me as much a result as it is a cause. A person who has atrophic rhinitis from childhood, or in other words, a person who has purulent rhinitis as a child, and this condition follows, may have the broad face because of the nasal disease, and then as it grows older and the bones develop the face is relatively broader. The cases often get well at that time, because the broadening of the face gives them more room to breathe, and better drainage from the sinuses. A very curious case of atrophic rhinitis occurred in my practice the other day. I saw a child 10 years of age, with none of the surroundings in which we would expect a case of atrophic rhinitis to originate. The child had atrophic rhinitis following an infantile vaginitis. The people supposed that the disease had migrated from one place to the other, and I have no doubt that it did so, with assistance, the contagion being carried from one place to the other.

Dr. EMIL MAYER, New York City—As germane to the subject under discussion I would like to mention as a therapeutic hint the happy effect I have seen from the application of carbolic acid and glycerin to the pharynx, in a 12 per cent. solution.

Dr. HOLMES—I would like to ask Dr. Mayer if he begins with a lower per cent.

Dr. MAYER—No. I use a 12 per cent. solution at once.

THE PRESENT STATUS OF OUR KNOWLEDGE CONCERNING THE BACTERIOLOGY AND SERUM TREATMENT OF DIPHTHERIA.*

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Although we may not consider this subject as exactly fitting for the deliberations of this Section, still diphtheria is to a certain extent a throat affection, and as such its discussion has a place here. The subject offers something a little different from the ordinary run of topics which engage our attention, and for that reason, on the advice of our Chairman, I take the liberty of introducing it here. It is not my intention to treat the subject from a practical standpoint, but rather to touch on the scientific advances which have been made by the bacteriologists and those engaged in working out the problems connected with serumtherapy. An enormous

amount of work has been done and is being done along these lines, and an account of the latest theories advanced, even as imperfectly as given here, can not fail to be of some profit to us. The subject naturally divides itself into two phases: the first concerning diagnosis, and the second including the intensely interesting questions of immunity and serumtherapy. The diagnosis of diphtheria can not be considered as scientifically confirmed without the demonstration of the presence of the Klebs-Loeffler bacillus. No one is now content with a clinical diagnosis alone, because we know that other etiological factors may be concerned in the production of what is pathologically a diphtheritic membrane, for example, the material in crypts of the tonsils in lacunar tonsillitis. Baumgarten, who has studied many true diphtheritic membranes, states that in his opinion streptococci are often the cause of the membrane, and the diphtheria bacillus of the general intoxication.

At the present day, the Klebs-Loeffler bacillus has as distinct a position in the etiology of diphtheria as has the tubercle bacillus in that of tuberculosis. The recognition of the diphtheria germ, however, presents difficulties not met with in the direction of tubercle bacillus. Recognition of the tubercle bacillus is exceedingly easy. An absolutely accurate and positive determination of the diphtheria bacillus is very difficult, requiring time and considerable knowledge of bacterial technique. Under ordinary circumstances the appearance of simply stained specimens from an eight to twenty-four hour culture on Loeffler's blood-serum mixture is sufficiently accurate for practical purposes; but that we are able to recognize the bacillus positively by such simple means is far from the case. Diphtheria bacilli are no doubt definite specific organisms, but with such variations as to shape, size and arrangement, that we are almost justified in speaking of them as the group of diphtheria-producing bacilli. Let any one make fresh blood-serum cultures of the bacilli from different hygienic stations or bacteriological laboratories and he will find marked differences. Again there is a group of organisms often found in the throat and elsewhere that resembles the diphtheria group so closely as to be indistinguishable from them, and differing only in being non-pathogenic. To this group, which now includes the so-called Xerosis bacillus, the name "pseudodiphtheria" bacilli has been given. There is no absolutely reliable quick way of differentiating between them, the test of pathogenesis being the only sure one. In recent years many attempts have been made to devise quick differentiating methods. The most favorably considered is the method of double-staining devised by Neisser. The organisms are first stained with acetic acid methylene blue and then with an aqueous solution of bismark brown. The bacilli present brown protoplasm and blue polar granules, the so-called Babes-Ernst bodies. Neisser and Fränkel claim the test to be absolutely accurate, if 9 to 24-hour-old cultures on Loeffler's blood-serum mixture, grown at a temperature between 34 C. and 35 C., never above 36 C., are used. That this method is certain is disputed by many competent observers, among them Loeffler. Up to the present day we may say that the variations of neither the true nor pseudo group have been accurately determined. As the disease presents a definite clinical picture while the organisms vary, this variation is probably due to differences in the soil. This much we can at present say of the diphtheria bacillus. It is a bacillus subject to as yet undetermined variations. It can not be absolutely differentiated from the pseudo group.

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except by animal experiment. In practice a reasonably accurate quick diagnosis can be made in nearly all cases. We are more likely to overlook germs when present than to err on the side of an affirmative diagnosis.

We now come to questions of immunity and serum-therapy. It is in the cure of diphtheria that the result of scientific research into these obscure fields has been of the greatest practical worth. Bacteriologists have been trying to work out a theory as to what happens when an animal is made immune by repeated injections of toxins, and as to the real nature and working of the substances—antitoxins—which appear in the blood of an animal so immunized. There has never been any very satisfactory theory offered as to the cause of either natural or artificial immunity until Ehrlich a few years ago formulated his very original theory. According to him, no animal can be inoculated with a bacterial disease unless it has in its body-cells a substance capable of combining with the bacterial toxins. This act of union between this substance in the cells and the toxins gives rise to the fever and other general symptoms of the disease. This substance he considers a sort of side-group in the molecules of the cell and serves to fasten the toxin, altered by the combination, in the cell. Natural immunity, while it may be due partially to phagocytosis or to the germicide properties of the alexins of Buchner, is, according to Ehrlich, in a large measure due to the absence of this side-group or side-chain of molecules, this so-called "Gifftbindende Substanz." We can get at the theory best by applying it to the disease diphtheria. The organisms begin development in the throat of the patient; aside from the local inflammatory effect, virulent toxins are produced and absorbed. These toxins combine with the "Gifftbindende Substanz" in the cells, and the act of combination causes such a cellular change as to produce the fever and other symptoms of diphtheria intoxication. If the toxins are produced in large amounts the reaction will be such that death results; the cells are too severely damaged to admit of further physiologic function. If, however, the poison is less in amount or the physiologic resistance of the cells relatively greater, further cellular activity is not inhibited, but the cells are stimulated and an effort is made by nature to restore the "Gifftbindende Substanz" used up in combining with the toxins. Nature here, as elsewhere, in accordance with known physiologic laws, not only reproduces but overproduces the "Gifftbindende Substanz" used up, and the overplus is taken up by the blood. The overplus is then available for immediate combination with the toxins, being produced from the local focus in the throat, and renders them innocuous. The disease becomes in this way self-limited and recovery takes place. The self-limitation of infectious diseases is due, according to this theory, to the overproduction and absorption into the blood of the very same cellular substance which while still in the cell allows of the general reaction of the organism to the infectious toxin. Diphtheria antitoxin is nothing but this "Gifftbindende Substanz" produced in overplus and taken up by the blood. The self-limitation of an infectious disease and its cure by the injection of ready-made antitoxin are similar processes. In the first instance the antitoxin which limits the disease is produced within the patient; in the latter, the antitoxin is introduced already formed. Antitoxin is a substance normally present in the animal cells, which allows of the combination of toxin with the cells and the production of the disease, but which, when in superabundance and in the blood, there combines with the toxins, and hence

renders them innocuous—a *similia similibus* theory of the first rank.

Such a principle of cure as this is isopathic. Medicine has invented many so-called principles of cure: the allopathic principle, where the disease is to be cured by the administration of a remedy whose physiological action is opposed to the symptoms of the disease; the etiologic principle, where the remedy is directed toward the destruction of the cause of the disease and nature is left to herself after the cause is removed; and, as the latest development of our knowledge, this isopathic curative principle. The various infectious diseases can not be treated on the etiologic principle, because we have found that the animal cells are more sensitive to the various disinfectants than are the cells of bacteria; hence the bacterial cells can not be killed by anything short of a quantity which would destroy the animal cell. The isopathic principle is the one from which we are to hope for a solution of the problems of infectious diseases. How often are we forced to recognize the truth that there is nothing new under the sun? Hippocrates said: "That which produces a disease also cures it."

Gifftbindende Substanz—antitoxin—is not antitoxin until it gets into solution in the blood; consequently antitoxin has no effect on toxins already combined with the cells, and can do nothing toward remedying the evil effects of such combination when once formed. All antitoxin can do is to neutralize toxins before they get to the cells. Hence, the practical necessity of employing antitoxin early in the course of the disease. The process of immunizing becomes under this theory but a process of cell stimulation; the repeated and ever-increasing doses of toxins injected stimulate the cells to the overproduction of large amounts of antitoxins. For the production of the antitoxin, either that needed to limit the course of the infectious disease, or that which we desire to obtain in large amounts for serum-therapy, it can be readily understood that a nice poise between the amounts of toxins and the cellular resisting power of the animal must be maintained. Let the toxins be relatively too strong and cellular activity is stopped; let them be too slight in amount and the stimulation is not sufficient to produce any overflow into the blood. Take a disease like tuberculosis; here the toxins are so small in amount or slight in toxic effect that no antitoxins are produced, and the disease steadily progresses. Lately, Behring has been able to immunize cattle to tuberculosis by using injections of enormous amounts of tubercular toxins. From the blood of such animals he obtained an antitoxin which prevents tuberculosis in guinea-pigs. This theory of Ehrlich carries with it, of course, the idea of a direct chemical union between toxin and antitoxin. Buchner, Roux and their adherents still cling to a cellular theory of the action of antitoxin upon toxin, claiming that the agency of the living cell is a necessary factor in the action of antitoxin upon toxin.

Ehrlich's well-known experiments with the vegetable poison ricin indicate, at least, that the chemical theory is the correct one. Animals can be immunized to ricin and an antiricin serum obtained. Ricin has the property of precipitating in a peculiar manner the red blood-corpuses of defibrinated blood. This is purely a chemical phenomenon. When ricin and antiricin are mixed in a test-tube, the mixture loses this coagulating and precipitating property. Ehrlich claims that a sort of double salt is formed by the union of ricin and antiricin, this double salt not having the properties possessed by ricin alone. Just this sort of a combination, it is rea-

soned, takes place when any antitoxin acts upon toxin. If toxin, in producing a disease, combines chemically with a cellular substance, then, in the cells specially affected, we should not be able to find any toxin. This point has been investigated in tetanus. Tetanus toxin affects the cell of the central nervous system. This has been proved by direct examination post-mortem. Now, when the body of an animal dead from tetanus is examined for toxin, it may be found in the blood and various organs, but not in the central nervous system. That portion affected by the poison is the only portion absolutely free from it, showing that a combination of the toxin and cellular substance must have taken place. The above theory is the latest and most generally accepted one concerning diphtheria immunity and serum-therapy.

As far as the practical results of antitoxin treatment are concerned, it is almost universally admitted that the mortality has been reduced nearly two-thirds. Cases still die, as we must expect when we consider the theory on which the action of antitoxin is based. A great point in the therapy is to employ the serum early, before damage is done, because antitoxin does not repair destruction already accomplished. Antitoxin simply neutralizes toxins produced after its introduction; repair and cure are left to nature. We may expect always to find some individuals so sensitive to the diphtheria toxin that the initial amount absorbed during the first day or so of the disease will be sufficient to cause death, and we must therefore expect a certain percentage of deaths. Another cause of failure, is the injection of too little antitoxin. At least 2000 units should be used and repeated every twelve hours if necessary. Any harm done by antitoxic serum is due entirely to outside substances in the serum, and the more carefully this is prepared, the less liability of trouble. Now-a-days we get perfectly reliable serum, and as improvements in its production and preservation are made we hear less and less of the various undesirable complications. Antitoxin as a chemically pure dry substance would be the ideal.

The immunity produced artificially by inoculation with toxins or by injection of antitoxic serum is short-lived. The "Giftbindende Substanz" in the blood, on which the immunity depends, is soon excreted and gotten rid of. Protective inoculation does not last above three or four weeks. When large doses are given, excretion is more rapid and the duration of immunity hardly as long. We are indebted to bacteriology for this new principle of cure, this *isopathic curative principle*, and from its development, if it shall stand, we are to expect great things for the future.

EPITHELIOMA.

REPORT OF TWO CASES—ONE OF SLOW AND THE OTHER OF RAPID GROWTH.

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The first case represented by the accompanying cuts is of especial interest, as showing how long an epithelioma may remain superficial, and it is also of some interest because of the superficial metastasis which was marked before death.

M. G., 85 years of age, widower, first consulted me May 25, 1897, desiring to be relieved of the severe pain radiating from the extensive ulceration about the right orbit, as represented in Fig. 1. The pain he described as being very severe at times and lasting in the neighborhood of sixty minutes, when it might disappear only

to return again some hours later, or it might not reappear again for twenty-four or forty-eight hours.

The trouble on his face is said to have started from a scratch on the nose with a rusty nail twenty years before. The scratch never healed, but it remained very small and seemed to be stationary for a trifle over four years. At the end of that time it began to grow slightly, and up to three years before his first visit to me it had only acquired a size equal to about the diameter of a quarter of a dollar. One year before I saw him it involved the upper part of the lower eyelid. From that time until he first visited me its growth was very rapid. At my first examination, I found it had completely destroyed all the soft parts from the supra-orbital ridge to a horizontal line extending $1\frac{3}{4}$ inches



from the ala nasi. It had also extended across the bridge of the nose to the inner canthus of the left eye and down the nasal bones and involved all the soft parts of the nose over the right side and to within 1.25 centimeters of the ala of the nose on the left side.

The right ear began to enlarge in January, or four months before his visit to me. At first, there came a little induration directly in front of the tragus; this broke down and discharged. The ear was ulcerated upward, 4 centimeters from its lower extremity, as seen in Fig. 2; there was also considerable swelling and ulceration on the cheek directly in front of the center of the ear. A piece of the swelling of the cheek was excised for microscopic examination. The microscope showed an ill-formed epidermis with no interpapillary cones, but many embryonic ingrowths destined to form hair follicles or sweat-gland. Near the center of the

epidermal part there was a cavity, projecting from the base of which into the corium is an irregular mass of cells rather lobulated, for the most part showing no basement membrane. Its lowest cells had grown down into the corium, as is characteristic of epithelioma.

December 15 the patient complained of dyspnea and claimed that the pain was much more constant and severe than at the first visit. The ulceration had progressed and had involved the left eyelid to a considerable extent. There was not much wasting and the cancer cachexia was never developed. He died Jan. 4, 1898, just twenty-one years after the first indication of the disease.

While superficial cancer of the skin is usually of exceedingly slow growth, sometimes taking years to attain



any considerable size, the following case constitutes a marked exception to the rule. In June, 1896, an unmarried laborer, aged 40 years, came to the clinic of Prof. Wm. T. Belfield and myself at Polielinic Hospital. He complained of a small growth on the right side of the nose just where the nose-rest of his glasses came in contact with the skin. The tumor was nearly as large as a pea, the walls rose suddenly from the surrounding sound skin. There was very severe pain radiating from it every few minutes, although the growth was not red or inflammatory, neither was it sensitive to pressure. It was superficial and easily movable with the skin, and had the appearance of an innocent wart. The patient was positive that the first appearance of the disease was only two weeks previous to his coming to the hospital. He claimed that the tumor had been growing very rapidly the previous week and that the severity of the

pain had been commensurate with the growth. Wishing to observe the case a little more carefully, he was given a mild local application and asked to return again. At his next visit, one week from the first one, the tumor was found to have increased 100 per cent. It was much more painful, but still showing no signs of inflammation.

At the request of Prof. Belfield, I removed the growth and the patient left the hospital one week later. He was free from pain, and union of the wound was perfect. Microscopic examination showed the early stage of the disease well marked. There was projection downward of cells resembling deformed intercapillary processes. The corium showed marked inflammation and numerous tubular, rounded and sebaceous gland-like growths, while infiltration of the free spaces with epithelial cells was distinct. Even below the normal epidermis in the upper reticular part of the corium, there were numerous infiltrating epithelial cells. Three years and ten months after the operation on this rapidly growing epithelioma, I met the patient accidentally, and he was enjoying the best health and the scar was perfectly smooth and healthy looking.

These seeming warts and dry fissures in people past middle life are always suspicious matters, and they are likely to escape detection previous to the moment of ulceration, when the degenerative character is impressed on the physician. If allowed to progress as in the first case, it will invariably proceed to a fatal termination. Had Case No. 1 been operated upon early, as was done with the second, the results would have been just as satisfactory and he would have avoided the awful disfigurement which annoyed him greatly during the last few years of his life.

34 Washington Street.

FACTS REGARDING CRIMINAL ABORTION.*

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I know a man of marked erudition who wrote a book on the primitive religions. His opening paragraph is as follows: "The facts in this book are true." There is more common sense than rhetoric in this remark. We are all liable to be mistaken in our estimate of conditions. Too many statements are accepted as true simply because frequent unchallenged repetition has made us believe there is no possibility of contradiction. Continued reiteration dulls the sense of perception and discourages investigation. Moreover, social conditions change, laws become obsolete, public opinion varies and our appreciation of justice is often irrational and selfish. For this reason it is important to know the truth. In a consideration of criminal abortion no prophylaxis is consistent without a knowledge of etiology, and discussion is without profit unless the naked facts are presented.

When married women become pregnant, I estimate that 80 per cent. of them wish they were not. There rarely seems to be a convenient season for having babies. If the woman has one child she is apt to think it is too soon to have another. If she has never been pregnant, it is too soon after marriage, it interferes with a trip somewhere or some social engagement, or else she is too delicate, or her husband can not afford it. Some excuse is usually found for dissatisfaction, and in most

* Read at a meeting of the Physicians' Club of Chicago, March 26, 1900

cases some attempt is made to re-establish menstruation.

The older ladies of the community are prolific in advice. Hot drinks, hot douches and hot baths are recommended. Violent exercise is suggested and jumping off a chair or rolling down stairs is a favorite procedure. Certain teas are given, especially an infusion of tansy and pennyroyal. Cathartics are supposed to be useful, and the different emmenagogue pills are too easily procurable. As a last resort ergot may be taken, or, if the woman is ignorant, arsenic, metallic mercury or other mineral poison may be used, often with a fatal result.

It is remarkable that among the most intelligent, refined and religious women of civilized communities a suspicion of wrong-doing is so rarely entertained. I believe this is because the idea prevails that there is no life present until the beat of the fetal heart is perceptible. The history of the earliest nations records the fact that, with the sole exception of the Jews,¹ criminal abortion has always been a well-known practice. To-day it is as prevalent as ever, and the only real restraint I know of is the teaching of the Catholic church. It is improbable that any change of sentiment will occur until there develops some systematic effort to teach the truth regarding all matters connected with the reproduction of the species. Judging from my own feeble efforts in this direction,² a maudlin sentimentality and a narrow-minded conception of the duties and privileges of the medical profession will too often interpose objections even to the scientific consideration of these important subjects in medical societies and in medical journals. When a man like Howard A. Kelly, of Baltimore, claims that the child should be kept in ignorance of sexual matters; when he says, as he said to me at the Columbus meeting of the American Medical Association, that the discussion of the subject is attended with filth and we besmirch ourselves by discussing it in public, it is high time that our efforts began with an attempt at the education of some of the eminent members of the profession, so that they may know that there is more in gynecology than the passing of a ureteral catheter, more in the practice of medicine than the perfection of operative technique or the collection of fees.

The methods of proucing abortion recommended by the laity are usually futile. The tenacity with which the fecundated ovum clings to its attachment when once it is anchored to the uterine wall is a matter of surprise. Women have fallen from great heights and have sustained injuries sufficient to fracture limbs; they have been beaten to unconsciousness, and, indeed, have suffered even fatal traumatism without severing the connection between mother and child. It may be of interest for me to cite a few cases:

A woman, about seven months pregnant, fell down stairs and struck astride the edge of an upright open barrel. She complained of intense pain in the left pubic region on the least motion. Whitaker found an oblique fracture of the body of the left os pubis. There was little displacement, no lesion of the bladder or rectum, and no attempt at miscarriage. A roller bandage was applied around the pelvis, opiates were administered and the urine was drawn with a catheter for three days. In six weeks the patient could walk about the room. Normal labor occurred at term. The fracture reopened and symptoms of peritonitis presented themselves. They yielded kindly to treatment, and the patient recovered.³

A woman, 19 years of age, and about six months pregnant, jumped from a second story window, and immediately got up and ran away. Soon she could not walk, and was obliged to remain in bed three weeks, complaining of violent pains over the right hip. For three days after the fall she had a slight bloody flow from the vulva and complained of lumbar pains. Nothing abnormal was found on examination and the patient left the hospital in a few days without further complications.⁴

Lest it be thought that injuries of this kind are usually devoid of danger, it is proper for me to say that my records show many cases of variable traumatism, often fatal, due to falls,⁵ lifting,⁶ jumping,⁷ crushing,⁸ kicks,⁹ tossing by a cow,¹⁰ and other accidents. In one case a woman, eighty days pregnant with twins, lost one fetus as the result of a fall from a wall 10 feet high, but was safely delivered of the other at term.¹¹ There are also cases where very slight injury has produced abortion and sometimes the death of the mother as well, and where the simple procedures advised by the old ladies have produced disastrous results.

While walking across her bedroom in the dark a woman ran against the corner of a table, striking her abdomen, though not with any great force. She thought no more of this occurrence, but two weeks later she had an abortion, and an examination of the fetus, which was not quite four months old, showed that it had been struck upon the spine by the blow referred to. Thomas claims that this was unquestionably the cause of its death and the resulting abortion.¹²

The use of vaginal douches of hot water sometimes induces premature uterine contraction and causes abortion. In a case tried some forty-five years ago in England, in which abortion occurred in consequence of the injecting of some unknown liquid into the vagina, an acquittal was ordered by the judge on the ground that the liquid was not proved to be noxious.¹³ In the United States such proof is not required. It suffices that the intent be proved, for the crime consists in the attempt and not the result. Indeed, there is still crime, even if the woman be not pregnant.

The use of alum-water injections has caused death. A woman four months pregnant was heard walking in her room and an hour afterward was found lying dead on her face, a saturated solution of alum on one side and a syringe on the other. The autopsy showed the decidua vera and placenta partially detached and small blood-clots behind them. There was no sign of contusion anywhere. It was decided that the alum solution had entered the uterine sinuses and thus by way of the venous circulation reached the heart, where more clots were found, which were deemed to have been the cause of death.¹⁴

The methods mentioned are usually persisted in until about the third month of pregnancy. By that time the woman is no longer in doubt as to her condition. She can no longer persuade herself that the cessation of menstruation is due to taking cold. She realizes that she is pregnant and that more effective measures are necessary at once, for she has the idea that after another month there are no means of inducing abortion without materially increasing the danger. She attempts more radical measures, or she consults her family physician, a midwife, or some physician recommended as an expert by the ladies of her acquaintance.

I can not refrain from saying in this connection that the induction of abortion is, to my mind, the most reprehensible of medical practices. I wish I could truth-

fully add that none but disreputable men could be persuaded to undertake it. I know from my experience of twenty-two years as a medical man in this city and from the observation of many cases of criminal abortion in private, hospital and medicolegal practice, that the public, and many physicians as well, look upon the induction of abortion as a matter of routine. I have been told by prominent men that they expected their physicians to take care of them. I have lost the patronage of well-known society women because I refused to "help them out," as they expressed it. I have noticed that pregnancy, in some of these women, did not go on to term, and I know who is their physician now.

And yet, if I am honest, there is another aspect to this subject which can not consistently be ignored. I have seen girls of 13 well advanced in pregnancy. I remember a little one whom I saw in a maternity with which I am connected. All unconscious of any wrongdoing, she sat, with the waiting women, contentedly playing with her doll. There is something wrong with our society if such things can exist. It seems to me that one potent remedy is the instruction of children so that they may know the dangers that beset them. There is, to my mind, something lacking in the intelligence of those men who would deny to the child all knowledge of the usual consequences of sexual intercourse. It is manifestly unjust to condemn her when no attempt has ever been made to give her the slightest inkling of the truth.

The manipulations resorted to for the induction of abortion consist of the injections of liquids or the insertion of foreign bodies within the uterus with a view of exciting uterine contraction by their presence, or rupturing the membranes so as to occasion the death of the fetus or of separating fetal from maternal surface. As a matter of interest I may state that I have known women or their attendants to make use, for this purpose, of catheters, slate or lead pencils, knitting or crochet needles, glove-stretchers, hat-pins, nozzles of syringes, picture wire, hair-pins, corset bone, lemonade straws, toothpicks, pieces of chalk, tents of sea-tangle, tupelo, sponge or laminaria, as well as the direct intra-uterine injections of glycerin or water, plain or variously medicated.

This is only my individual experience. Cases are recorded of the employment of the greatest variety of objects, sometimes with most serious and fatal results. The history of obstetric medicine from the earliest periods down to the present day reveals the practice of most barbarous methods, and shows most pitiable results only equaled by the traumatism and fatalities occurring as a consequence of ignorant or unskilful attempts at delivery at term. I will not go into details regarding these practices, which Ploss has described most fully.¹⁵ I saw one case at Biskra, in the Algerian Sahara, where a woman of the tribe of Ouled-Nail aborted following the insertion into the uterus of a sharpened piece of wood resembling a skewer. Dr. H. Smith reports to the London Obstetrical Society an instance of a woman producing abortion on herself thirty-five times by means of a knitting needle.¹⁶

The injuries that result from the use of these measures are necessarily varied. The average pregnant woman is ignorant of surgical procedures and the difficulty of attempts at abortion on her own person is apparent. Even in competent hands, under justifiable circumstances, the operation has not seldom proved disastrous. When the parts are diseased or structurally weakened, the induction of abortion or of labor has

sometimes resulted in perforation or other injury, or has been the starting-point of a fatal infection.

Death has occurred simply from the introduction of a foreign body into the uterus. Vibert tells of a girl four and one-half months pregnant who had a canula inserted into the cervix. When the abortionist was about to inject some water the girl fell to the floor and died in a few minutes. At the autopsy all organs were found to be healthy, including the uterus, which presented only a few "fibroid bodies," not larger than a nut. Death can only be explained by a reflex action, by an "inhibition" of the nervous system provoked by irritation of the cervix.¹⁷

The intrauterine injection of fluids—preferably of glycerin—has of late years been recommended as a means of inducing abortion. It is said to have the advantage of causing a rapid separation of the membranes from the maternal surface and of speedily exciting uterine contractions. I have had no experience in this method of treatment, but the intrauterine injection is not devoid of danger, as numerous cases of injury clearly show. Death may occur in consequence of the entrance of air into the circulation. Martin, of Berlin, has seen two cases of this character after the use of injections, and additional cases have occurred in this country.¹⁸ Moreover, the instrument used has caused traumatism, in one instance amounting to a perforation of the uterus and resulting in metroperitonitis and death.¹⁹ Mercurial poisoning has also occurred from the use of bichlorid solution.²⁰

When foreign bodies are used to produce abortion, especially by the woman herself, the uterus is not always entered. Thomas's case is well known. A physician's wife, thinking herself pregnant, passed an umbrella rib, not into the uterus, but to the right of the cervix, through the vaginal wall, abdominal cavity and diaphragm until it penetrated the right lung to the extent of two or three inches, in which position it was found at the autopsy. The foreign body had remained *in situ* for at least a week and it was observed that an abscess had formed in the lung tissue around the point. Abdominal section had been proposed but rejected.²¹

Javaux tells about an elastic sound which encircled the cervix and was wound around it in a knot. This sound was introduced by a midwife to induce abortion, and the desired result was obtained in two weeks. The sound, however, remained in place for two years and a half, causing abdominal pain, especially during menstruation, until it was removed with forceps.²²

The injuries resulting from the use of catheters and other foreign bodies introduced within the uterus with criminal intent, and as a rule by the vagina, vary from a laceration to a complete internal perforation. In many instances such an injury heals without serious disturbance of the general health, unless there be infection. In the latter case, septicemia and salpingitis, often with pyosalpinx, are the usual results; but all the well-known effects of an extension of infection are possible. In my own experience I recall a case seen in consultation with the late Dr. Nesbit, of Sycamore, Ill., in which there occurred a metastatic abscess of the brain, first recognized at the autopsy, and another case, which I treated in the Presbyterian Hospital for four months, where fourteen abscesses formed in the patient's legs and arms.

The subsequent history of the foreign body is of interest. Its presence or absence is an element in the prognosis and modifies the treatment very materially. Let us consider the possibilities in detail. First of all.

it may perforate the uterus and pass through into the peritoneal cavity.

I had a unique case of this kind some years ago. A physician was endeavoring to produce abortion in a woman about three months pregnant, by means of a silver male catheter. The patient was nervous and had suffered from melancholia. The point of the catheter was introduced within the uterus, when suddenly the woman made a convulsive movement, and the physician, to his horror, saw the catheter disappear. When I was called to the patient, some hours afterward, I recognized a uterine perforation of the posterior wall through which I could pass a sound some 10 to 15 cm., but I could not feel the catheter within the abdominal cavity. Celiotomy was performed, but nothing was discovered in the pelvis. Finally the intestines were brought out of the abdominal cavity and after some little search I found the catheter under the liver and removed it. The uterine wound was closed with three sero-serous sutures and the right tube and ovary were removed, for it was noticed they were diseased. The patient made an uneventful recovery, and some six months later, after a normal labor, was delivered of a child, which is now 11 years old.

Dr. Gill Wylie reports a case presenting certain points in common with mine. A girl inserted a glass rod into the uterus. It slipped beyond her reach, probably perforating the uterus. The following day the girl went to her work as typewriter. Some five weeks afterward she aborted, and about two weeks after that time a tumor, the size of an egg, was felt in the left ovarian region. Celiotomy showed adhesions about the uterus and left ovary. This ovary and tube was removed, as well as the glass rod which was found near the left kidney. No point of perforation was found. The patient made a good recovery.²³

Dr. Hektoen has on two occasions, at post-mortem examinations, found perforations of the uterus, made during attempts at criminal abortion; in one instance he found a catheter under the liver.²⁴

A case is reported where at the autopsy of a young woman who died when three or four months pregnant, an irregularly-shaped hole was seen in the posterior wall of the uterus, and directly behind it, lying transversely in the pelvic cavity, was found a sea-tangle or laminaria tent about the size of a thumb. Death was due to septic peritonitis, the result of a criminal abortion. It is probable the tent was inserted in the uterus and afterward an attempt was made to remove it. One end of the tent was split and showed marks of forceps teeth or something of the kind and the string was gone. It is probable the operator became frightened and made a desperate effort to get hold of the tent with the forceps and in so doing he forced it through the uterine wall.²⁵

In August, 1892, I saw Wertheim perform a Cesarean section in Schauta's clinic at Vienna. The omentum, if I remember correctly, was to some extent adherent to the parietal peritoneum. At all events, it was injected and showed evidence of inflammation, but the most curious circumstance in connection with this case, which, by the way, was operated on in strict accordance with Sanger's directions and resulted successfully for both mother and child, was a large needle about 7 cm. long, which was found imbedded in the omentum. It is hardly possible a needle of this size could have wandered into this curious location. It seems to me probable that it had entered the peritoneal cavity by way of the vagina in an attempt at an interruption of pregnancy.

Then the foreign body may remain in the uterus, causing various sequelæ in consequence of its presence, sometimes without producing abortion. I instance a few cases.

A woman at the Hospital St. Louis, in Paris, was admitted with hectic fever and dull pains in the loins and hypogastrium. A hard, irregular tumor filled the pelvis and extended into the right iliac fossa. A wooden spit 12 cm. long was removed from the uterus, where it had remained since an abortion produced by it two years previously.²⁶ This woman gradually recovered.

There is a case of an operation for sinus of six months' standing situated over the sacrum. The following day pus escaped from the vagina and a foreign body was felt partly in the vagina and partly in the uterus. It was a bougie over 5 inches long and had been introduced eleven months previously, abortion following in two days.²⁷

Sometimes the foreign body which has produced the abortion remains within the uterus for a variable period, without appreciable inconvenience. Bunge speaks of a needle being pushed into the internal os and remaining there twelve days after the abortion.²⁸

Occasionally the foreign body, retained within the uterus for a considerable length of time, becomes the starting-point for a suppurative process, through the agency of which it is expelled into the adjoining viscera or penetrates the neighboring tissues. I will speak of two cases of this kind.

A seton needle was introduced into the uterus of a young girl for criminal purposes. A three months' fetus was wounded by the instrument and expelled. Two days afterward the secundines followed but the needle remained *in utero*. About a month afterward an abscess formed in the inguinal region, accompanied by severe pain. On the seventy-fifth day the needle, six inches long, appeared at the surface.²⁹

A woman used a branch of a tree to penetrate the uterus. She pushed it in so firmly that it became imbedded in the region of the kidney. The twig, which was six inches long and as thick as a goose quill, remained in the pelvis five months without the patient's knowledge and finally penetrated the rectum.³⁰

A case is reported of fatal injury of the internal iliac artery. A woman, six months pregnant, consulted a charlatan, who performed an operation, which at the end of twelve hours was followed by the death of the patient and brought the man into custody. The autopsy showed an enormous quantity of blood, partly coagulated, in the abdominal cavity. The posterior wall of the uterus showed an opening of the diameter of an ordinary sound extending to the right iliac artery, which was itself perforated a little below its origin. Three other punctures had their starting-point in the cervix. In spite of these punctures the fetus had not been reached, the membranes remained intact.³¹

The cases I have cited are exceptional. The usual history is different. There occurs a death, under suspicious circumstances, of a woman suspected to be pregnant. An autopsy is held, resulting in the discovery of lesions due to violence and the presence of sepsis as the determining cause of death. There are many cases of this character recorded in medical literature. Tardieu especially has fully described them.³²

Evidences of injury are usually found in the wall of the uterus, and consist of lacerations varying in extent from an abrasion to a perforation. The cervix may be bruised and gangrenous inflammation, diphtheric patches or diversified signs of infection may be noticed. Often

the fetus will be found enveloped in its membranes, which may be intact and free from inflammation. The woman in such a case will have died in consequence of an unsuccessful attempt at abortion.

When there is a trial in criminal abortion cases the defense is apt to be an attempt to demonstrate the occurrence of the lesions from external violence, such as a fall or shock, or the assertion that the injuries found are due to disease. Such a defense is, as a rule, easily disproved. A uterus in the early months of pregnancy can not be injured by a contusion severe enough to determine a serious inflammation nor a disorganization of the muscular tissue.

Of course, it is known, as Barnes has pointed out, that the non-pregnant uterus may burst and that rupture may occur at any period of gestation independent of labor. In the former case there is disease of its tissues or there is a closing of the os and an accumulation of fluid in the cavity. During pregnancy, when rupture occurs, independent of trauma, the uterus may have been the subject of Cesarean section or the seat of tubercular degeneration. Cases of spontaneous rupture, or rupture occurring after a long walk, severe vomiting or other apparently trivial cause, are recorded as early as the third month.

In spite of these rarities of obstetric practice, the medical expert will have but little difficulty, as a rule, in determining the probabilities. A microscopic examination of the uterine tissues at the seat of the lesion will be of value, for if no evidence of disease is found the presumption of an external agency will be strengthened. An ordinary abortion does not produce rupture of the uterus nor other extensive or serious lesions. Moreover, the character of the lesion, the appearance of the perforation, if there be such an injury, the color and condition of its borders, the consistency of the neighboring parts—all these will indicate whether the solution of continuity is recent or not, and will assist, in connection with the other pathologic conditions observed, in arriving at a definite conclusion.

I must call attention to two curious cases where women produced abortion on themselves by forcing respectively a hairpin and a knitting-needle into the uterus through the abdominal wall. In the first case a young girl was delivered of a dead infant at term. After she left the hospital it was learned that she had driven a long hairpin through her navel to a great depth with the avowed intention of destroying the child. She had suffered great pain afterward, which she concealed. It was noticed that some pus issued from her umbilicus after delivery, but this discharge gradually ceased and the patient left the hospital in good condition.²³

Duncan relates the other case. A girl six months pregnant tried to produce an abortion by thrusting a knitting-needle through the vagina into the uterus. Failing in this attempt, she forced the needle through her umbilicus. Two days later abdominal section was performed and the tip of the needle was seen projecting from the fundus uteri. It was seized with forceps and removed, a stitch being inserted in the uterine puncture, as there was some hemorrhage. Two days later the patient miscarried and a black spot was seen on the child's buttocks where apparently the needle had penetrated. The mother recovered.²⁴

The facts regarding criminal abortions are not fully stated without reference to the remote effects occasioned by repeated attempts—often successful—at an interruption of pregnancy. A few days ago I met a robust

married woman who told me she had had eleven abortions induced by her family physician during the past six years. She appeared to be well, and perhaps she was. Most women live through the ordeal, or our graveyards would be full to overflowing. The etiologic relationship of criminal abortion to new-growths and degenerative changes has not been fully determined. The connection between many diseased states of the nervous system is well recognized, but not very satisfactorily explained. At the same time it is certain that induced abortion is often the cause of some infection with all that the word implies. In addition to the sequelæ of direct and indirect traumatism, already referred to, it is known that there often results some condition which makes pregnancy impossible. The sterility of prostitutes, remarked by Parent-Duchatelet, is estimated by Fritsch at three-fifths of all such women. Among other women who have suffered abortion during the early years of their married life, it is often observed that pregnancy is impossible when the time comes for a child to be most ardently desired. Pitiable, indeed, is the condition of such a woman. Regrets are useless now. There is only remorse and perhaps indignation that the medical men who, in her youth, acceded to her request, had not the manhood to tell her of her folly and to warn her of her danger.

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Disinfectant for Instruments.

R. Olei olivæ	5vi	24
Liquoris potassæ	5vii	28
Aleoholis	5xxx	120
Aquæ destil.	5xviii	68

M. Sig. Wash the instruments thoroughly or wrap them in cotton saturated with the disinfectant.

Dr. Karl Gilson, in *Deutsche Med. Zift.*, gives the above formula for a rapid method of sterilizing instruments, and states that the hands of the operator and skin of the patient may be disinfected with the same agent. The solution has no effect on the instruments. —*Jour. Surg. Tech.*

THE HEALTH AND WEALTH OF BENGUET PROVINCE, P. I.

CAPT. J. C. MINOR, M.D.

Assistant-Surgeon 29th U. S. Vol. Infantry.
ROMBLON, ROMBLON ISLAND, P. I.

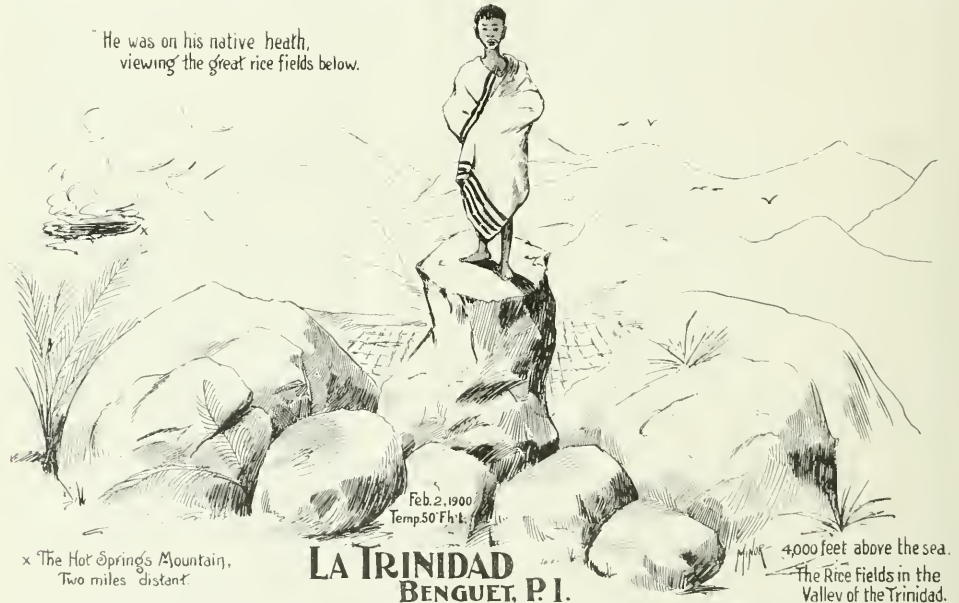
To feel your feet slipping over pine logs in the Philippines and to actually lie down under tall pines and cedars by a rushing, sparkling stream of cold mountain water after a hard day's "hike" through mountains covered with hemp, banana, cocoa-nut, molava, narra and other foreign growths, poetic and useful enough in their place, is to the American soldier like being transported by a miracle from a foreign land to the home of his youth. Such were the nostalgic prodromata noticeable February 1, after marching twenty-four hours over the steepest of most dangerous trails from the China Sea to the mountain side overlooking the little valley of La Trinidad, Province of Benguet. Trinidad is 4000

of these waters. Having resided in Hot Springs, Ark., for the past twelve years, I am naturally interested in the subject of hydrotherapy.

Benguet Province is principally peopled by Igarrotes. There are two classes of the natives: the friendly Igarrote and those who are cannibalistic in their tastes, who do not hesitate to roast, broil or fricassee a white wanderer who may chance to come their way. My therapeutic information, it is needless to say, has been obtained through the other class of Igarrote.

I learned that the springs exhibit a degree of heat from lukewarm to 200 F. There is no variation, however, during the year in the springs themselves, as to either volume or temperature. Nearly all the hot springs contain sulphur, some in small quantity, others in excess. Some of the springs contain calcium hydrate, iron, potash, etc. One which particularly interested me was of water very similar to that of the Arkansas

He was on his native heath,
viewing the great rice fields below.



feet above sea-level, with its protecting circular crest or crown of little mountains enclosing the valley that was once upon a time furiously pouring forth molten lava, but now a most beautiful green plain of some three thousand acres, watered lavishly by the Trinidad river. As we viewed the gorgeous panorama the river appeared to disappear, and so it did, for we learned later that at the northeast corner of the valley the river has tunneled its way through the mountain, to reappear on the east side, water "the great rice fields," and then wend its way westward to the China Sea. The balmy, refreshing air, the homelike odor of pine and cedar, together with the delicious water, present to the doctor but one idea, "What an ideal health resort!"

Approximately 4000 feet above the sea in this wonderland of mineral and vegetation, there flows in torrents an inexhaustible supply of hot and cold waters. During three months field-service in the vicinity of Trinidad, I was enabled to learn much concerning the customs of the people, the salubrity of the climate, and the value

of these waters. Having resided in Hot Springs, Ark., for the past twelve years, I am naturally interested in the subject of hydrotherapy.

Benguet Province is principally peopled by Igarrotes. There are two classes of the natives: the friendly Igarrote and those who are cannibalistic in their tastes, who do not hesitate to roast, broil or fricassee a white wanderer who may chance to come their way. My therapeutic information, it is needless to say, has been obtained through the other class of Igarrote.

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springs, being almost free—apparently—from mineral, but hot and sparkling with carbonic acid gas; it is very palatable, and a favorite with the natives in treatment of rheumatic affections and diseases of the digestive organs. Few of this hardy athletic race are ever afflicted with disease of any kind, but when one is stricken with rheumatism, diarrhea, or a skin affection, he calls the dogs and starts for the great springs. I say "calls the dogs" pointedly, for the "dog" is the favored food of the Igarrote, and although I have not tasted of their pot of "stewed dog and rice," I am constrained to admit that when one has "hiked" in the mountains for several days successively on a meager ration of bacon and "hard tack" the odor of the native dish appears "muy savoroso."

The hot waters of Benguet are famed throughout the Philippine group, and all the prominent Filipinos are aware of their virtues, but the great difficulty at present is to reach them. They are distant from Manila about 250 miles north.

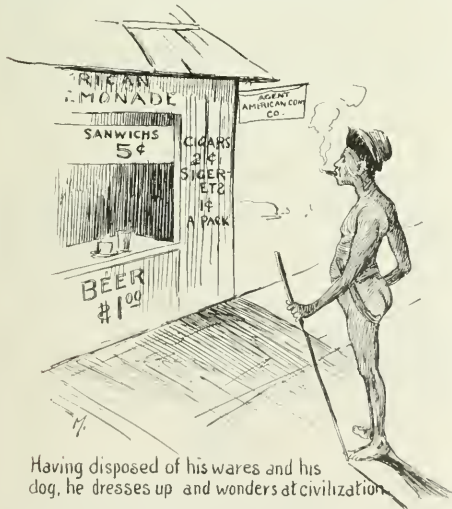
Syphilis is a disease unknown among the Igarrotes. Tuberculosis, heart troubles, rheumatism, and dermal diseases are those met with most frequently, but none of them is common.

It is a noticeable fact that these people are finely built specimens of brawn, erect and athletic, larger than the Filipinos, much larger than the Negrito, and very



When he starts for the market so miles distant, with his caravan of rice, one dog is sufficient.

like the original North American Indian. They are peaceful and of a jovial temperament, not lazy, but usually employed either in the construction of ingenious rice dykes for irrigation, in making rattan wares, cotton goods, etc., for coast markets, in washing for gold, silver and copper, in transporting freight in their ingeniously contrived packs, or on their truck farms.



Having disposed of his wares and his dog, he dresses up and wonders at civilization.

growing coffee, chocolate, tobacco, sweet potatoes, Irish potatoes, beans, cabbage, lettuce, onions, etc.

The reported virtue of these people accounts doubtless for the absence of venereal disease among them. The custom of mating their children by agreement at an early age exists among them; they allow the little couple to play together, to work together until they reach the age of puberty, at which time, if all parties

agree, a day is set for the marriage feast. The ceremony is unique and somewhat similar to that of the Negritos—the aborigines. The bride is taken off by her father or guardian to a certain distance in the mountains, and at a given signal the groom is turned loose to hunt her up. When he spies her, she gives him the chase of his life—so to speak—and when he catches her, he leads her in triumph to the parents. The parents repeat a ceremony of gibberish, all of which is terminated by bumping together the heads of the happy contracting parties. Then comes the feast and the dance. Little or nothing, apparently is in the way among the Igarrotes to prevent rape, that is, little or nothing of clothing. The male Igarrote is in full-dress when attired in a "G" string and a "bolo." The female milks the cow and attends the ball in no more elaborate a costume than a striped native fabric recklessly thrown around her nether portions, and skillfully fastened at the waist by tucking in the ends, presenting an appearance to the American eye far more picturesque than conventional. And yet no one has ever been able to report or attribute to these people the slightest infraction of the laws of decency or modesty, and, as I say, no case of rape has ever been heard of among them, except as committed by their late rulers, the Spaniards.

Taking all other points in connection with the altitude, the delightful bracing atmosphere—temperature never above 80 F.—the delicious drinking water, the valuable mineral and hot waters, the gorgeous scenery, the abundant products of the soil, the grazing and fine cattle, the unexcelled forestry, rich minerals—gold, silver, copper and coal—and the possibility of American enterprise opening the travel way from Manila, it takes no enthusiast to believe that some day in the near future invalids and prospectors from the world abroad will be seeking the comforting and benign influences of nature's wealth in La Trinidad de Benguet.

[A railroad is already projected into the Benguet region which bids fair to become the hill sanitarium of the Philippines; indeed, there is said to be some talk of removing the civil and military headquarters to that region. If the favorable reports concerning the district are confirmed they will probably attract a very considerable immigration, and be of material aid in developing it in other respects. It is only 161 miles by the projected railway from Manila, or about the distance between New York and Albany.]

Board of Health Must Itself Act on Nuisances.—The State Board of Health of Pennsylvania is given authority, in places where there are no local boards of health, and in cases where boards of health or health officers exist, but the sanitary laws or regulations are not enforced, to order nuisances or the cause of any special disease or mortality to be abated and removed, and to enforce quarantine regulations, as it shall direct. But this, the Supreme Court of Pennsylvania holds, in the case of Commonwealth vs. Yost, does not empower it to transfer to its secretary the authority to act for it and in its stead in such matters. The court holds that, without formal action by the board, directing a nuisance, or the cause of any special disease or mortality, to be abated and removed, its secretary can neither speak nor act for it in ordering the abatement and removal of the nuisance, and the disregard of an order so given is not indictable. In other words, in the absence of any action by the board as to a particular nuisance complained of, the supreme court says that it can not agree with the contention that, because the duties of the secretary are defined by the by-laws and regulations of the board, "he speaks for, acts for and virtually is the board itself" in ordering the abatement and removal of the nuisance, even if he does so in the name of the board.

CELLULITIS SUCCEEDING CONTUSION OF
LEG—EXTENSIVE SLOUGHING—SKIN
GRAFTING—RECOVERY.

HENRY W. SAWTELLE, M.D.

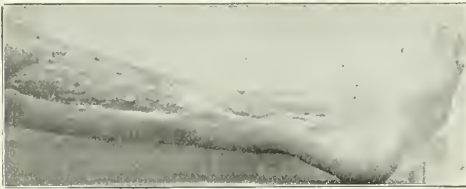
SURGEON U. S. MARINE-HOSPITAL SERVICE,
CHICAGO.

This lesion occurred in a seaman, aged 24, native of Denmark, who was admitted to the U. S. Marine-Hospital, Chicago, August 22, 1899.

The patient gave a history of having had chills and fever while serving in the Spanish-American war, and presented a malarial cachexia.

The day before admission he was struck on the inner side of the left leg by a piece of lumber, producing a slight abrasion of the skin. The following night, and again the next day, he had a severe chill, followed by fever—39 C.—and intense headache. On examination, no bad effects were apparent, excepting a slight contusion at the point of injury; a continuous high temperature and accelerated pulse led to the suspicion of pus infection, which subsequently proved to be the case.

The patient soon complained of pain, and the examination showed indications of the infective process. A free incision was made in the middle of the leg, evacuating a large amount of pus; but unfortunately no examination was made with a view to determining the



character of the pus germ, though from the previous history of the patient the plasmodium malarie undoubtedly was an important etiological factor in the case. Two days later another incision was made near the tendo Achillis and a drainage-tube carried through to the first incision, establishing free drainage, and the limb was immersed in a 1 to 2000 bichlorid solution.

Despite careful antiseptic treatment, the wound during the following eight days underwent extensive sloughing, which required the removal of a large area of skin and subcutaneous tissue.

Several sinuses in the popliteal space and lower portion of the leg were laid open, and as soon as the wound

appeared to be in the proper condition, skin grafting was commenced by Thiersch's method. After several attempts the grafts became firmly imbedded, and a month later, almost the entire granulating area was covered, with the exception of a small spot on the lower portion, and another in the popliteal space, which remained unhealed.

These continued to improve gradually however, and on May 30, 1900, the process of repair being complete, the patient was discharged. The accompanying photograph shows the extent of surface grafted.

The lowered condition of the constitution, which required systemic nutrition from the first, and the extent of the destructive process following a slight contusion, are the chief features of interest in the history of the patient.

New Instruments.

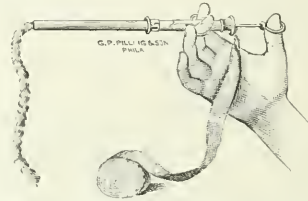
The Darmack Surgical Dressing Packer.

A. GEO. BAKER, M.D.

PHILADELPHIA.

This instrument is used to pack cavities, such as gun-shot wounds, stab wounds, fistulas, sinuses, the uterus, vagina, nares, rectum, etc. It carries the gauze where it is desired and packs tightly or loosely, as is necessary.

The instrument is in the shape of a tube with a piston inside. The front end of this piston or push-rod is bifurcated, pushing the gauze forward, and when the piston is drawn back two small hooks attached to the inside and toward the far end of the tube keep the gauze from coming back. There are



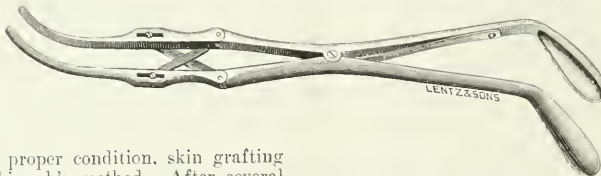
three rings, two on the sides of the tube and one at the near end of the rod, or piston. The thumb is placed into this last, and the fore and middle fingers in the rings on the sides of the tube. There are five sizes, varying from six to twelve inches in length and from five-thirty-seconds to five-sixteenths of an inch in external diameter. The gauze to be used is in long strips, kept in jars or done up in rolls of different widths from one-half inch to six inches wide and from five to twenty yards in length. The packer was made for me by Geo. P. Pilling & Son, Philadelphia.

Modified Goodell Dilator.

CHARLES F. SPANGLER, M.D.

KANE, PA.

The accompanying illustration is a modification of the Goodell dilator. This is designed chiefly for office work, and can be conveniently manipulated through an ordinary speculum without an assistant or an anesthetic. It is neat in construction, light in weight and embodies sufficient strength. It is evenly balanced and can be poised and directed with accuracy



with the fingers of one hand while the other is engaged with the tenaculum. The blades are smooth, delicately curved, permitting a ready introduction and secure a dilatation of $\frac{7}{8}$ of an inch. The body and handles occupy 50 per cent. less space than the original instrument. The degree of dilatation is ample for correcting constrictions of the cervical canal to facilitate medication of the endometrium, or for the use of the ordinary sized curettes; and precludes the danger of unnecessary tearing of the tissues of the cervix, always incident to the use of the larger instruments.

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THE OCCURRENCE AND IMPORTANCE OF EOSINOPHILE CELLS IN THE BLOOD.

The literature contains many and contradictory statements in regard to the occurrence and the diagnostic value of the eosinophile cells. These cells are easily recognized because of the affinity of their protoplasmic granules for eosin and other acid stains; the staining methods are simple. In order to reach a definite opinion in regard to these cells, the numerous, irreconcilable hypotheses now in vogue must be overthrown so that further investigation may rest on well-established facts. Alfred Wolff¹ has made a beginning in this work, and on account of the increasing importance of hematology in clinical medicine a brief review of his results may be helpful.

Numerous differential leucocytic counts show that in normal blood the percentage of eosinophiles varies from 1.5 to 2.5; 6 to 8 per cent. is surely pathologic. Excluding leukemia, there is a large number of diseases—cutaneous, nervous, respiratory, genito-urinary, and parasitic (trichinosis)—in which an increase of eosinophiles has been claimed. In a very few of these diseases is the increase constant. Wolff details an instance of asthma in which the eosinophiles made up about 10 per cent. of the leucocytes, and this during the intervals between the attacks as well as during the latter. The sputum contained innumerable eosinophiles during the attacks. In another case of asthma the eosinophiles reached the high percentage of 15 to 39 per cent. Wolff found eosinophiles in two cases of hay-fever. This phase of eosinophilia could be studied well in the United States because of the great frequency of the disease here. In trichinosis there is such a marked eosinophilia, first shown by Brown, as to be of diagnostic value. In other forms of helminthiasis the relations of the eosinophiles have not been studied. Gonorrhoeal pus is often rich in eosinophiles. Wolff found the pus of acute and chronic gonorrhoea to contain a varying number of eosinophile cells, the number of which in the blood may be increased at the same time, but this is not constant and without diagnostic significance.

The presence of eosinophile cells in the blood of so many animals, and in about the same proportion as in men, points to their having a distinct function in physiologic as well as pathologic conditions, but the nature of their functions has not been established. The

views of the authors on this point vary so greatly that it is hardly worth the while to catalogue the various theories advanced. Except in bronchial asthma, Wolff concludes that eosinophilia has but little significance, which is contrary to the views of Neusser and others. We would mention trichinosis as a second disease in which eosinophilia is of distinct diagnostic value.

As to the origin of these cells, the view generally accepted is Ehrlich's, who traces them to the bone-marrow.

In his extensive "Studies in Leukemia,"² Taylor discusses fully the questions of the nature, origin, and evolution of the leucocytes, including the eosinophiles. The theories of hemogenesis are many, and often more or less speculative, so that in reality but few merit serious consideration. According to Taylor's summary, there are in the circulating human blood at least six distinct types of white cells: the large lymphocyte, and its direct descendant, the small lymphocyte, derived from the lymph-glands and nodes; the non-granular, large mononuclear leucocyte, which probably comes from the bone-marrow; the polymorphonuclear neutrophile leucocyte, derived from the myelocyte; the polymorphonuclear eosinophile, also produced in the marrow; and the polymorphonuclear basophile, again of marrow origin. The best evidence at hand indicates that these types are distinct and not interchangeable. The attractive and on the whole simple schematic division of Uskow and others, who teach that all leucocytes pass through the same developmental cycles and may be grouped as young, mature, and old cells, is not sufficient by long odds to explain the morphologic differences of the nuclei, the varying amount and kind of protoplasm and its characteristic granulations, the differences in the motility, and in the behavior under normal and abnormal conditions of the various leucocytes.

THE ETIOLOGY AND PREVENTION OF SCURVY.

Although it is generally recognized that scurvy is due to absence from the food of certain substances, the exact nature of these has not been determined, and it must be admitted that empiricism has here advanced beyond science in the prophylaxis. In adults the disorder usually develops when the diet is deficient in fresh vegetables and fruits, while it has been observed in infants nourished with artificial food or with sterilized milk. In either instance the affection readily yields to the employment of appropriate corrective measures, namely, the administration of a properly arranged dietary or of lime-juice, orange-juice, or beef-juice. In view of these facts, Corlette³ suggests that the defaulting agent is citric acid, which is a normal constituent of fresh milk in the form of the calcium-salt, together with a small amount of potassium and magnesium citrate. Calcium citrate appears in both an amorphous

2. Contributions from "the William Pepper Laboratory of Clinical Medicine," 1900, 148-328.

3. Brit. Med. Jour., Sept. 1, 1900, p. 573.

and a crystalline form, the former being convertible by boiling into the latter. The salt is more soluble in cold than in boiling water, and the amorphous variety is more soluble than the crystalline. There is, further, good reason for believing that the organic acid of milk is present in the form of calcium citrate, almost to the point of saturation. Now, as a result of the boiling practiced in process of sterilization, the amorphous is converted into the crystalline calcium citrate, and this is precipitated as the process is continued. In this way a child nourished with sterilized milk may fail to receive an adequate supply of citric acid, and scurvy will result if it be due to such a deficiency. Scurvy, it has been observed, does not occur so readily, if at all, in children that receive merely Pasteurized milk, and this fact may be due to the circumstance that the milk is not subjected for so long a time to so high a temperature and that it is subsequently cooled.

The practical deduction from the foregoing considerations is that for the prevention of scurvy in infants a sufficient amount of fresh milk should be given. If, for special reasons, this can not be done, properly Pasteurized milk may be employed. If it be inexpedient or impossible to give anything but boiled milk, lime-juice or a citrate should be administered contemporaneously, using one ounce of the former or fifty or sixty grains of the latter as the equivalent of the amount contained in three pints of fresh milk. Besides, any water, used as a diluent, should be added to the milk, not after, but before, boiling, in order to render the solution of citrate less, rather than more concentrated, and thus less likely to be precipitated by boiling, which should not be continued longer than necessary. The milk should be permitted to cool in the vessel in which it has been boiled, and then be well stirred. The possibility is further pointed out that the crystals precipitated by boiling might be held better in suspension by the addition, before boiling, of a substance of gummy consistence, like gelatin, isinglass, dextrin or gum arabic. Also the solvent power of milk with regard to citrates might be increased by the addition, before boiling, of alkaline phosphates in the proportion of ten or fifteen grains to each pint.

In this connection it may not be uninteresting to refer to the observations of Wright², who reasons that scurvy is the expression of an acid intoxication, resulting from the use of food-stuffs containing an excess of mineral acids over bases, and the exclusion of those of opposite constituency. The local means of prophylaxis and treatment would, therefore, consist in the administration of salts of oxidizable organic acids, for the purpose of retaining or restoring the normal alkalinity of the blood. Accordingly, in a series of cases of scurvy in which the alkalinity of the blood was found diminished, such drugs as potassium acetate, potassium citrate, sodium acetate, sodium tartrate, sodium lactate,

and sodium bicarbonate, were administered, with striking amelioration in the symptoms.

Recently Jackson and Harley³ espoused the view that scurvy is not due to the absence from the diet of fresh vegetables or lime-juice, but rather to the eating of tainted food; but this explanation is scarcely susceptible of universal application. In opposing this view, Home⁴ suggests that the process is an infectious rather than a toxic one, and that the utility of lime-juice and fresh vegetables resides in their antiseptic qualities. It will thus be seen that while we have fortunately been provided with the means of prevention and cure, we are as yet without full knowledge of the factors on which scurvy depends.

MIGRAINE WITH RECURRENT OCULOMOTOR PALSY.

The group of diseases comprehended in the designation of neuroses must be conceived to be dependent on changes in nervous structure as yet undemonstrable by present methods of investigation. There is a growing belief that aberration in function can not take place without alteration in structure—in fact, normal function must be referred to molecular changes in the cellular elements. In either instance the result is attributable to the reaction of sensitive structures to stimuli of varying degree and character. The problems opened by these and allied conceptions are almost illimitable, and we must look for their solution to the new physiological chemistry. One of the most interesting of the neuroses is migraine, which is by some considered the sensory analogue of epilepsy. Both diseases are paroxysmal or explosive, are as a rule unassociated with a gross lesion, may be preceded by an aura, be attended with hallucinations or perversions of the sensorium, or be followed by motor impairment, and are sometimes convertible the one into the other.

A number of years ago Moebius described as periodic oculomotor paralysis, a disorder attended with loss of power in the muscles supplied by the third nerve of one side, recurring at somewhat regular intervals, and subsiding spontaneously in the course of days, weeks or months. The palsy was almost always associated with headache on the affected side, as well as nausea and vomiting. Occasionally sensibility was impaired in the distribution of the ophthalmic division of the fifth nerve on the corresponding side. In some cases the paralysis was purely periodic; in others it was persistent, though with periodic exacerbations. The pathology of the affection is obscure. In some instances organic disease has been found involving the third nerve at the base of the brain; in others it must be attributed to vasomotor influences, sometimes spastic, sometimes parietic; while in still others it may be dependent upon degenerative lesions in the medulla oblongata. The disorder is progressive in course, although it may in individual instances be checked or undergo complete

3. *Ibid.*, April 28, 1900, p. 1184.

4. *Ibid.*, Aug. 4, 1900, p. 321.

involution. No successful treatment is known. The disease has been designated ophthalmoplegic migraine by Charcot, but Moebius contends that it is not a true, but merely a symptomatic, migraine, probably dependent on irritation of the descending root of the fifth nerve by a hypothetic lesion in the neighborhood of the oculomotor nucleus. A case in which true migraine and recurrent oculomotor paralysis were associated has been reported by Seiffer¹ from the clinic of Prof. Jolly, of Berlin. The patient was a man, 49 years old, who presented himself on account of severe headache. His mother had been insane and his father addicted to the moderate use of alcohol. One of his children was dead of spasms and three suffered from periodically recurring headache. The patient denied a history of syphilis and of alcoholism. From the age of 8 he was at intervals of four or five weeks seized with left temporal headache lasting for two or three days, and preceded on the day before by a feeling of torpor and increased appetite. The attack was attended, besides, with anorexia, constipation, nausea, vertigo, chilliness, lachrymation, muscae, and increased irritability. Some ten years before coming under observation ptosis of the left upper eyelid was noticed during the attack, disappearing subsequently, but increasing progressively. Two years later diplopia became an associated phenomenon. Both conditions now grew more prominent and persistent and the eyeball became deflected outward. When examined, the patient exhibited complete paralysis of all of the external and internal ocular muscles supplied by the third nerve on the left side, the pupils being dilated, insensitive to light, and immobile in accommodation, and the globe fixed in permanent divergence. The eye-grounds were normal and there was no other evidence of disease of the nervous system or of other viscera.

PAIN IN THE LOWER ANIMALS.

The question of pain sensations in the lower animals is manifestly difficult to study. There are those who assume that movements or reactions to external stimuli in the lower animals are the outcome of psychical processes thereby induced. They at once assume the existence of the thing to be proved, namely, the existence of psychical processes in the organisms studied. According to this view, such forms as larval crustaceans, flies, the earthworm, the moth, etc., regulate their movements by consciousness. The moth, for instance, flies into the flame because of its curiosity to see more of the strange object.

Others seek to analyze the reactions of animals on mechanical grounds. Loeb shows that the orientation of lower animals with respect to light corresponds to the same phenomena in plants toward the same source of stimulus. Hence, plants must either be "conscious" or orientation of animals is explainable on mechanical grounds as in the case of plants.

Many of the reactions in lower animals against injuries, painful in man, easily suggest that the animals actually are in pain. Touching an earthworm with a needle throws it into violent squirming, but does that squirming mean pain? When an isolated frog's muscle is placed in a strong salt solution, rapid contractions follow; surely these are not due to pain sensations. Norman's¹ experiments with the earthworm show that after cutting it in two the anterior part crawls away, while the posterior part begins to squirm. But the same thing happens on halving of the two first pieces and the pieces resulting from further halving—the anterior half crawls away, the posterior squirms. If these reactions indicate pain, then pain sensation must be attributed to pieces of the animal. The fact that the front half of any piece behaves differently from the posterior half, shows that the form of reaction in any part of an earthworm is different on the direction of the impulse. Forward impulses initiate orderly movements; backward impulses squirming motions. Norman shows further that these reactions are not peculiar to this form of injury, but result also from other local stimuli, and further that in such animals as the starfish, the leech, the crab and the honey-bee, there are no reactions observed after injury, a fact that certainly would go against the theory of pain-sensation, although perhaps not directly proving the absence of pain.

AN UNFORTUNATE DECISION.

The Appellate Court of Chicago has just given out a decision that the State Board of Health has no authority to revoke the certificate of a physician received before July 1, 1899, when the present law went into effect. We do not believe that it was the intention of the law-makers that this interpretation of the law should rule, but strict technical constructions often defeat their purpose in other matters as well as in this. It certainly emasculates the existing law in a very important respect, and if this decision can be taken as definitely settling the matter, the sooner it is amended by additional legislation the better, if indeed that is possible. If, however, there is a chance of a broader view in a higher court let it be taken up at the earliest practicable moment. It is a favorite dogma with lawyers that the law is the perfection of human wisdom, but from a medical and common-sense point of view we too often see judicial decisions make it the reverse.

RESTRICTION OF VICE AMONG SOLDIERS.

A contemporary in speaking of certain sanitary measures adopted in Manila, more particularly the regulation of vice, editorially deprecates what it calls the "attempted Puritan interference," and says "soldiers should be allowed all the liberty that is compatible with the performance of their duties, and they should be shielded as thoroughly as possible from the consequences of immorality." This does not sound well, to say the least; whatever grounds of expediency may

¹ Do the Reactions of Lower Animals Due to Injury Indicate Pain Sensations? Biological Lectures from the Marine Biological Laboratory, Woods Hole, Mass., 1898, 235-241.

justify such regulations, it is poor policy and worse ethics to excuse them on the ground that we should not restrict the liberties of the soldier in his tendencies to immorality, which certainly are not less than those of other men, and need in some regards even more restriction. If such regulations are employed it is better to consider them as necessitated by existing evils than as justifiable on the ground of normal personal rights. If such regulations have the results of lowering the moral standard, they do harm, for conduct in such matters will never surpass the ideal.

DISORDERS OF FAMILIAL ORIGIN.

Congenital diseases may, without being hereditary, have a familiar distribution, occurring in several members of the same generation or in collateral branches. This may be presumed to be due to some latent defect in the progenitors or to some common error in development. Diseases of the nervous system especially occur in familial distribution, as for instance, the psychoses in general, as well as the neuroses, and diseases of the brain, the medulla and the spinal cord. It has been observed that nervous diseases which may be transmitted by heredity often appear in descendants of individuals subjected to chronic intoxication. The organs of special sense and the internal viscera may be affected in a similar manner. The lesions may even be teratologic in character. Thus, twins not rarely exhibit similar deformities. An instance of familial disease of unusual character has recently been reported by Féré:¹ two neurotic women, cousins, 34 and 38 years old, respectively, presented symmetric lipomata in each plantar arch, in the one associated with tarsalgia, and in the other with herpes zoster. Inquiry failed to disclose any hereditary history of a similar lesion.

DEGREE-CONFERRING COLLEGES IN ILLINOIS.

Two years ago an attempt was made to pass a law through the legislature of Illinois limiting the degree-giving power to educational institutions possessed of a certain minimum endowment. More or less similar laws are in force in some other states and the result has been good. When the measure was before the Illinois legislature, however, there was an outcry from the secular press, that it was illiberal, aristocratic, and un-American, and it naturally failed to pass. Since then, however, the country has had an object-lesson of the need of just such a law, a need which is the greater in Illinois, since in that state charters are granted on application and any fraud can incorporate without scrutiny into its character. The exposure of the Armstrong frauds, of which there appears to be an unlimited succession, has taught the public something since 1898, and it may be that a similar measure introduced in the coming session would have better success. Such a law could not hurt existing small colleges, for no state can pass *ex-post-facto* laws, but it would prevent the outrageous frauds that are possible and legal at the present time and which have discredited Illinois degrees throughout the world. The really fraudulent incorporation can be suppressed by law, but it is useless to attempt it when a new one can

immediately rise to take its place. With such an act in force, however, even the Armstrong hydra can be exterminated. It would be well if the medical profession in Illinois, and in this they would be backed by every one who possesses a respectable Illinois degree, could begin now to exert their influence for the enactment of a law similar to the Rogers act proposed two years ago. The question is out of politics and can be only actively opposed by rank demagoguery and quackery; the state has had an object-lesson of its needs, and the prospects are therefore better for its success.

MEDICAL DEFENSE IN DETROIT.

The proposed organization of physicians in Detroit, already editorially noticed in THE JOURNAL, has been perfected, we understand, without the more objectionable features heretofore referred to—the boycott and other trade-union practices. With these eliminated, there is no reason why such an organization should not be a success and of the greatest service to the profession. What medical men, in any locality, need is organization on high professional and ethical lines. This will prevent them from being exploited for the personal advantage of deadbeats in general, or of organized benefit-clubs or fraternal societies. The general public will agree with the *Detroit Free Press* when it says, "every doctor is entitled to remuneration for his services" and that he has "the further right to protect himself and the community against fraud in whatever form it may present itself." Yet, a very large portion of every extensive community has practically acted as if such rights did not exist. Matters may have been worse in this respect in Detroit than in some other localities; we do not know as to this, but they are bad enough everywhere. It may be a difficult task to educate the public out of the idea that physicians are, in a sense, public slaves and that any association for their rights is a trust, but business methods and organization will do it if anything can. There are possibly still some features of the Detroit scheme that may not be perfectly acceptable to all, but we certainly have strong hopes of good to follow its adoption and time will tell what is best to retain and what to reject. There is still another aspect than the purely business one, and one to which THE JOURNAL has often referred in the past, viz., the influence of a better medical organization in the management of public affairs as far as they touch upon the best interests of the profession. There are no men whose influence ought to go further than that of physicians whenever it is exercised for their rights, and yet it has hardly been felt heretofore in public legislation. With proper organization this will be changed, and both individually and collectively the members of the profession will be better able to make themselves felt when matters in which their special knowledge comes into play are before the public or legislative bodies.

ADENOMA MALIGNUM.

Gynecologic literature especially contains numerous references to malignant adenoma. This might lead to the supposition that the tumor was especially common in the uterus. This is, however, far from being

1. Revue de Chirurgie, 1900, No. 8, p. 156.

the case, as there is probably no glandular organ, except the kidney, in which this tumor has not been found. In the lower part of the large intestine it is quite frequent; and it occurs in the biliary ducts, the gall-bladder and the liver, as well as elsewhere. The reason that it has received so much attention from the side of gynecology is probably the difficulty of its differential diagnosis from benign tumors and hyperplasias. Pathologists are agreed that by malignant adenoma is understood a tumor of glandular structure that extends into the adjacent tissues and gives rise to metastases, also often of glandular type. As pointed out by Hansemann,¹ its clinical course is that of carcinoma. Recidivations occur, ulceration takes place, its growth is unlimited, and it induces an increasing cachexia. Occasionally it happens that the metastases and recidivations present a more or less well-marked transition in their structure to cylindrical and other forms of carcinoma. Hansemann describes a clear instance illustrating this course of events. It must be accepted as settled that the malignant adenoma at any time may pass into undoubted carcinoma—malignant adenoma differs from carcinoma not in kind but in degree. There is, consequently, no real reason for establishing malignant adenoma as a distinct type of tumor, as advocated recently by Selberg. Hansemann favors retaining the terms malignant or destructive adenoma, because they signify a tumor in which the glandular character is pronounced and because they carry with them the idea of smaller degrees of malignity than the term carcinoma. He, himself, however, acknowledges that there are malignant adenomas that give rise to early metastases of a typical carcinomatous structure, at the same time as there are typical carcinomas of slow growth, late metastases, and absence of return after removal. It would seem that under these circumstances a distinction was being made without any real difference. In the interests of simplicity of classification and of clearness of statement in teaching, it is indicated that a tumor which is a subordinate variety of carcinoma, structurally and clinically, be called carcinoma—adenocarcinoma. After all, there is no term that better expresses our conceptions, clinical, therapeutic and prognostic, in regard to a malignant epithelial or glandular tumor than carcinoma. Hence, carcinoma should be used in order to avoid all possible risk of misunderstanding. This is done by Cullen, in his recent work on "Cancer of the Uterus."

A PROBLEM IN ELIMINATION.

Certain people are afflicted with what we, according to individual fancy, term lithemia, latent gout, uric-acid diathesis, uricacidemia, etc. These unfortunates complain of a number of vague symptoms, frequently of a neurasthenic character, such as muscular pains and neuralgias, disturbed sleep, susceptibility to colds and to catarrhs of the mucous membranes, headaches, and other similar symptoms. These people feel best in hot weather when perspiring freely, which naturally suggests the probability that the consequent increased elimination of waste products through the skin removes from the blood some toxic substance that is the

cause of the trouble. Especially is this corroborated by the frequent observation that such people feel much worse when a cool day suddenly follows several hot ones. While *a priori* arguments are usually worse than useless, at least when applied to natural phenomena, some speculation is justified in the case of a diseased condition whose source in the intricate metabolism of the body is beyond our present reach. If increased elimination alone accounted for the amelioration of the lithemic symptoms in hot weather, it would be natural to expect that the compensatory increase in the quantity of urine on the occurrence of a cool day would automatically remove the deleterious products. Therefore we may tentatively conclude that, at least in these lithemic cases, there are certain waste products in the circulation which are readily removed by the activity of the sweat-glands, and which are not so readily eliminated even by increased activity of the kidneys. However, we must not forget the possibility that in hot days the body may find it easier to completely oxidize, rather than to eliminate, certain substances that may cause the mischief. Be that as it may, we know that the renal excreting cells possess normally a marked selective action, enabling them to remove from the blood-stream certain substances, while they compel the retention of others. Thus, for instance, all the sodium chlorid above a certain fixed ratio is promptly eliminated through the urine, while serum-albumin, which constantly passes through the cells, is not permitted to escape so long as the cells retain their full physiologic integrity. From these facts may we not suggest the possibility that in the subjects of lithemia and allied conditions there are formed certain substances that are moderate nerve and muscle poisons, for which the renal excreting cells have no selective action? May not this explain why in certain of these cases Turkish baths are vastly more efficient than diuretics? Of course this involves the assumption that the sweat-glands are more efficient in the elimination of these particular substances than are the kidneys. The practical deduction from this theorizing is that we should endeavor to aid these cases by exciting the excretive activity of the skin rather than by wasting efforts in administering diuretics. Hot baths and general massage should therefore be tried early, with the reasonable hope of relieving the autointoxication, which there is good reason to believe is the underlying cause of the unpleasant symptoms.

THE OPERATIVE TREATMENT OF PULMONARY TUBERCULOSIS.

Although we possess no therapeutic agent capable of exerting a specific curative effect on the tuberculous process, wherever situated—perhaps excepting tuberculin, and its influence for good can not always be depended on—there is not wanting evidence that recovery takes place, at least clinically, in a large proportion of cases. Such a result is brought about mainly through improvement in the general nutritive state, principally by means of diet, air and other auxiliaries. Inhalations of compressed air and expiration into rarefied air have also been employed for their directly beneficial influence on the lungs. A few years ago a proposition was made looking to the treatment of pulmonary tuberculosis by

¹ Virchow's Archiv, 1900, 161, 458-461.

means of an artificial pneumothorax with nitrogen gas, for the purpose of placing the affected tissues at rest. Following analogy, Palmer¹ recommends in the early treatment of tuberculosis of the lungs the same remedial measure that is employed in the treatment of the disease when situated in any other accessible organ, and which alone, he contends, offers a really good prospect of success, namely, surgical extirpation. In the absence of personal experience, he is compelled to base his argument on anatomic considerations, on accidents affecting the lung tissue, and on cases in which operation on the lungs has been necessary for other and graver lesions. The most important danger in connection with operations involving the lungs and pleura consists in collapse of the lung; but pleural adhesions are often present, and these will suffice to prevent collapse. Pneumothorax, however, is by no means necessarily fatal. Further, it may be averted by the formation of inflammatory adhesions, spontaneous or induced artificially; or the layers of pleura may be united by sutures; or the lungs may be kept distended by artificial inflation. A second danger to be considered is surgical emphysema, but this would not be likely to occur, as the wound-opening would be sufficiently large to permit of free movement of the air. A third danger is hemorrhage; but the superficial vessels of the lungs are not large. To avoid this complication, the affected tissues, if the lesion be circumscribed, might first be included in a ligature and then excised, or an electric écaiseur might be employed. Under other conditions ligatures could be applied to the larger vessels, including the bronchial tube and its accompanying artery and vein; or the incision with the knife could be followed by the application of the electric cautery. While, theoretically, surgical treatment of pulmonary tuberculosis would seem to be an ideal method, it is not likely ever to become popular or general, as, apart from the risks and dangers of operations on the lung, it is difficult to recognize the disease when it is so circumscribed and limited as to be amenable to this form of treatment; and, besides, it will be almost impossible to exclude the presence of the disease in other portions of the same lung, in the other lung, or in other portions of the body. For certain complications of pulmonary tuberculosis, however, such as abscess or gangrene, surgery no doubt has a wider field of application.

Medical News.

CALIFORNIA.

THE REDDING HOSPITAL building will be completed and ready for patients in a few days.

SCARLET FEVER has appeared in Santa Clara. Five cases have been reported and quarantined.

A DETACHMENT of sixteen men of the army left San Francisco, on the transport *Hancock*, October 1, to disinter and transport to this country the bodies of the men of the army and navy who have died in the Orient during the last two years.

THE GRAND JURY has been requested by President J. M. Williamson, of the San Francisco Board of Health to investigate the charges recently made that employees of the Health De-

partment had systematically levied blackmail on the inhabitants of Chinatown on pain of persistent inspection.

SEGREGATION of tuberculous patients in a new pavilion containing eighty beds, to be erected in the north end of the present City and County Hospital site, San Francisco, was recommended by Dr. Gustave E. Sussdorf, but could not be acted on because of the lack of the amount, \$7000, necessary for its construction.

COLORADO.

DR. HERBERT A. BLACK, formerly of Augusta, Me., but now in practice in Pueblo, was married to Miss Bertha S. Lawrence, at Augusta, September 26.

THE PULLMAN COMPANY threatens not to build the contemplated shops at Denver, which will employ about 400 men, if the city council persists in passing an ordinance requiring the fumigation of all sleeping-cars upon their arrival at and departure from Denver.

AN ALLIANCE, to aid the health department of Denver, is being engineered by Dr. Frank Dulin, assistant health commissioner. It is proposed to include in this combination all physicians in the city, and they will be expected to work together for the common good.

DISTRICT OF COLUMBIA.

DR. LINCOLN JOHNSON, Washington, has gone to the United States of Colombia, to engage in the practice of medicine.

A COMPETITIVE EXAMINATION was held September 24, at the Emergency Hospital, as a result of which Dr. W. R. Moulden becomes resident physician; Dr. Clifford Sperow, Martinsburg, W. Va., senior assistant, and Dr. Robert B. Beale, junior assistant.

THE HEALTH OFFICER of the District, Dr. William C. Woodward, recommends in his report, the construction of a new isolation hospital, an increase in salaries of certain officials of the department, and the control of the milk-supply of the District by proper ordinance.

FLORIDA.

DR. ISAAC CASTELLANOS has moved with his family to Kissimmee from Havana, Cuba.

DR. WADE H. JONES, city physician of Tampa, is reported to be ill and in a serious condition.

DR. URBAN S. BIRD, Tampa, was married to Miss Laura McClellan, Warsaw, Ind., September 20.

ST. ANTHONY'S HOSPITAL has been incorporated at Pensacola by Dr. Warren E. Anderson and others, with a capital stock of \$25,000.

THE EMERGENCY HOSPITAL, Jacksonville, which is too small and unequipped for its needs, is soon to be moved into the building, in Brooklyn, formerly occupied by the Frankie Schumaker Hospital.

JACKSONVILLE has passed an ordinance prohibiting spitting or throwing "hulls, peelings or other litter" on sidewalks, or floors of public places on pain of the imposition of a fine of not less than \$1 nor more than \$5.

ILLINOIS.

DR. VICTOR M. DALY, Pontiac, returned from his trip to Europe, October 1.

DR. J. FRANK WILSON and Miss Della Vandeventer, both of Versailles, were married September 30.

ROCKFORD HOSPITAL has received a bequest of \$1000 from the estate of the late Elizabeth Hulse Moffatt.

THE MOLINE HOSPITAL, during the fiscal year ended June 1, admitted 135 medical, including 69 of typhoid fever, and 113 surgical cases.

SPRINGFIELD HOSPITAL reports that during its first year 122 patients were admitted, in the second year, 201, and in the third year, 341. In all, 65 have died. The hospital has a capacity of 50 beds.

¹ The Lancet, June 23, 1900, p. 1792.

DR. WILLIAM A. STOKER, superintendent of the Illinois Southern Hospital for the Insane at Anna, has resigned, and will become superintendent of the Southern Indiana Hospital for the Insane at Evansville.

THE COTTAGE HOSPITAL, Peoria, which was, if not the pioneer, one of the first hospitals of its kind in the state, is to have a new main building which will be built and equipped in accordance with modern ideas. The capacity of the group of buildings composing the hospital will be about 150 beds.

Chicago.

THE CHICAGO EYE, EAR, NOSE AND THROAT COLLEGE has increased its capital stock from \$10,000 to \$25,000, and its directors from three to five.

THE MEDICAL DEPARTMENT of the University of Illinois, College of Physicians and Surgeons, held its opening exercises October 1. Prof. Robert H. Babcock delivered the opening address.

THE WOMAN'S MEDICAL SCHOOL of the Northwestern University opened for its thirty-first annual session, October 1. Addresses were made by Profs. William E. Schroeder and Leonard L. Skelton.

DR. REINARD HERMAN, who had recently come from Germany and settled in Milwaukee, disheartened because of deferred success in practice, committed suicide in this city, October 3, by taking hydrocyanic acid.

RUSH MEDICAL COLLEGE held its opening exercises in University Hall, Fine Arts Building, October 5. Prof. Llewellys F. Barker, delivered the opening address on "The Study of Anatomy." Eleven graduates received degrees.

HEALTH DEPARTMENT.

Only 398 deaths from all causes were reported to the Bureau of Vital Statistics last week as against 458 during the previous week and 455 during the corresponding week of 1899. The annual death-rate, based on this total, is 12.2 per thousand of the United States Census figures of population—the lowest October mortality-rate on record. The increase of diphtheria, scarlet fever and other contagious diseases of childhood which as a rule, follows the resumption of school attendance, is much less marked this year than usual. The Health Department attributes this chiefly to the system of medical inspection of the schools maintained by the Board of Education. Deaths from acute intestinal diseases were 54, consumption 39, pneumonia 30, heart diseases 29, nervous diseases 23, Bright's disease 21, violence—other than suicide—18, suicide 13, diphtheria 15, cancer 17, bronchitis 10, convulsions 13, apoplexy 10, typhoid fever 7, and scarlet fever 3. Births reported were 544.

INDIANA.

DR. CHARLES H. WAXHAM, North Liberty, has given up his practice there and has gone to Denver, Col.

SEVEN CASES of smallpox are reported in Liberty Township, Fulton county, by county physician Charles E. Gould, Rochester.

THE DOCTORS of Lafayette are sensitive about riding in a patrol wagon and have petitioned the city council to procure a real ambulance.

THE WEDDING of Dr. David F. Trenary, resident physician at the Asylum for the Incurable Insane at Julietta, and Miss Esther Wilcox, Indianapolis, which occurred July 11, has just been announced.

DR. D. J. SWARTS, wife and son, also physicians, of Auburn, have just returned from a lengthy sojourn among the leading medical centers of Great Britain and continent. Dr. D. J. Swarts is 70 years of age, and "still hale and hearty."

A HOSPITAL FOR CONSUMPTIVES is a crying need of Indianapolis, and Mrs. Lewis Wallace, Jr., read a paper on "The Care of Consumptives" before the Flower Mission, which has the project in charge, pleading for the speedy attainment of its desire.

THE STATE BOARD OF HEALTH has prepared an address to the people of the state, warning them against smallpox, which it

fears will be epidemic this winter, and containing illustrations of smallpox patients, and instructions as to vaccination, disinfection and lay recognition of the disease.

KANSAS.

DR. JOSIAH P. LEWIS and daughter, Topeka, received painful injuries in a runaway accident.

DR. WILLIAM H. RIGTER, Topeka, was charged, October 2, with having failed to report a case of smallpox.

THE FIRST smallpox case since the present crusade in Topeka commenced was sent to the isolation hospital, October 3.

PLANS are now in the hands of local contractors for the erection of a large private hospital in Ellsworth to be owned and operated by Drs. Hissem and O'Donnell.

THE NEW HOSPITAL which is to be erected in Pittsburg, at a cost of \$25,000 will be under the direction of the Sisters of St. Joseph. Mr. C. J. Devlin, of Topeka, has donated the land and will defray the expense of the construction of the building.

A SMALLPOX EPIDEMIC is to be averted in Topeka if the local board of health has its way. It has prepared an ordinance providing for compulsory vaccination and a penalty for disobedience of the order. The city physician has also sent out a circular calling attention to the ordinance regarding reports of contagious diseases and quarantine therefor.

KENTUCKY.

DR. JOHN P. GILMER, Louisville, was married, October 10, to Miss Margaret Goodloe, of the same city.

DR. J. I. GREENWELL, a graduate of the Hospital School of Medicine, Louisville, has located in New Haven.

THE REORGANIZATION of Speers Hospital, Dayton, is well under way. Among the new trustees are Drs. Charles B. Schoofield and W. Dallas Richards, of Dayton. The number of trustees has been increased to five, and men have been selected who will work in harmony with the medical staff.

LOUISIANA.

THE LOCAL board of health at Shreveport has been organized by Dr. James C. Egan, health officer, with Dr. Henry C. Coty as chairman.

THE REPROACH against New Orleans in point of health is being taken away. For the eleven weeks ended September 15 the average death-rate was only 16.08 per annum per thousand for the white population.

THE FRUIT COMPANIES of New Orleans have protested against the delay entailed by the State Board of Health, which requires that all ships on leaving Port Limon and Boeas del Toro be inspected and disinfected, and detained and again inspected before being allowed to come up to the city. The board very properly refused to consider the matter or modify its rules.

MAINE.

THE SCHOOL BOARD of Rockland has been asked by the local board of health to refuse to accept the vaccination certificates of the Boston physician who issued 157 without, it is alleged, having made personal examination of the children. The school board very properly replied that it was not within its province to question the validity of certificates signed by a regular practitioner and suggested that the board of health assume the responsibility.

THE PORTLAND Board of Health's report shows that for the year ended Feb. 28, 1900, there were 887 deaths in the city. Zymotic diseases caused 11.85 per cent. of the deaths; constitutional diseases, 24.24 per cent.; local diseases, 50.51 per cent.; developmental diseases, 8.45 per cent., and violence, 4.74 per cent. Of contagious diseases, 191 cases of scarlet fever, 130 of diphtheria and 83 of typhoid fever were reported. The board urged upon the city government the necessity of municipal milk inspection, and of a new isolation hospital.

MARYLAND.**Baltimore.**

DR. G. MILTON LINTHICUM has returned from Europe.

DR. GORDON WILSON has been appointed fellow in pathology in the Johns Hopkins University.

DR. CHARLES E. SIMON has returned from Nova Scotia, where he has a summer sanatorium.

DR. H. B. JACOBS, the American secretary of the International Medical Congress, has returned from Paris.

PROF. CLARBEL CONE delivered the opening address at the Woman's Medical College on "Woman and Her Work."

MRS. FLORENCE LEVY EVERSMAN has given an additional \$500 to the Hebrew Hospital, as a memorial to her parents.

DR. JOHN ARTHUR LEETSCHER, late interne at the Johns Hopkins Hospital, has been appointed a resident physician at the Boston City Hospital.

AT THE WOMAN'S MEDICAL COLLEGE Dr. Melker Elkstromer has been elevated professor of chemistry; Dr. Henry Lee Smith, associate professor of diseases of children, and Dr. Louise Erich, adjunct professor of hygiene.

HEALTH COMMISSIONER BOSLEY is determined to enforce the law prohibiting the exposure of corpses of those who died from infectious and contagious diseases, and restricting the attendance at their funerals. He regards this as a most prolific source of the spread of such diseases.

FOR THE week ending October 6 the deaths were 192, births, 304. Of the latter 158 were males and 146 females. There were 30 deaths from tuberculosis, 18 from cholera infantum, 4 from typhoid fever, 9 from diphtheria and croup, 6 each from cancer and pneumonia, 12 from Bright's disease. New cases of infectious diseases were reported as follows: Diphtheria, 51; scarlet fever, 3; typhoid fever, 38; whooping cough, 1.

THE HEALTH COMMISSIONER has issued a circular asking the co-operation of physicians in fighting diphtheria and scarlatina this fall. He urges physicians to insist that all children in families where there is diphtheria be immunized by antitoxin, when they can not be isolated. The department offers to supply the antitoxin to those too poor to purchase it. He considers that a scarlet fever patient should be kept isolated for at least three weeks after the temperature has returned to normal. In case of diphtheria the room will be disinfected by the officials of the department, after the throats of all members of the family have been proved to be free from germs. In scarlatina, the premises will be disinfected after all desquamation has ceased, the three-weeks' limit being observed as far as possible.

MASSACHUSETTS.

THE CULLIS Consumptive's Home, Boston, celebrated its thirty-sixth anniversary on September 27.

MORE THAN \$1200 has been raised for the Springfield Hospital by the efforts of the City Hospital Aid Association.

LICENSES to practice were given to 26 out of the 33 candidates who took the examination of the State Board of Registration in Medicine at Boston on September 11 and 12.

LYNN HOSPITAL reports receipts for the past year of \$21,175 and a balance of \$4036.47, which has been added to the hospital fund. The average cost of maintenance of patients was \$7.69 per week.

DR. ARCHIBALD J. RANNEY, who has been connected with the State Hospital at Tewkesbury for seven years, has been appointed superintendent of the Boston Almshouse and Hospital, on Long Island.

HARVARD MEDICAL SCHOOL is to have a new home. About 27 acres of land has been purchased in Brookline by a syndicate, who are to hold it in trust for the school. Early in the spring work will be begun on the physiological laboratory, for which \$50,000 has been voted from the Henry L. Pierce bequest. The idea of President Eliot is to have all the departments of applied biology united in one grand school.

MICHIGAN.

DR. F. JOSEPHUS GROSER, Grand Rapids, has been appointed consulting physician at the Soldiers' Home.

TEACHERS throughout the state are to be furnished the "Data and Statements" of the State Board of Health, to assist them in instructing their pupils in hygiene and sanitation.

IT IS REPORTED that, despite the law compelling physicians to register in the county clerk's office on penalty of fine, 55 in Macomb County alone have failed to comply with the law.

THE STATE Board of Health has issued its 10th edition of "Instructions to Consumptives and Their Friends." It is an instructive leaflet, publishing in concise form a store of advice.

"IRREGULARS," numbering 114, were practicing medicine in Berrien County a year ago. Now, thanks to the new law and its enforcement by the State Board of Registration in Medicine only 15 remain, and their local professional life is likely to be very brief.

INCLUDING REPORTS by regular observers and others typhoid fever was reported present in the state in 262 places; consumptives at 177 places; scarlet fever at 31 places; whooping cough at 24 places; cerebrospinal meningitis at 12 places, and smallpox at 4 places.

THE CONTROVERSY between the State Board of Health and certain Detroit physicians regarding reporting cases of tuberculosis has been passed on by the Supreme Court, which holds that there is no danger line that the courts can take judicial notice of, and that the question is one for a jury to decide. A new trial was therefore ordered.

FOR SEPTEMBER, 1900, compared with the average for September in the 10 years, 1890-99, scarlet fever and typhoid fever were more prevalent; cholera infantum, measles and cholera morbus much more prevalent; diphtheria, consumption and pneumonia less prevalent, and whooping cough and remittent fever much less than usually prevalent.

TWO BLACK-LISTS are to be published by the Detroit Physicians' Business Association, one containing the names of those who fail to pay their physicians, and the other, the names of physicians who attend black-listed patients. For the latter crime a fine of \$5 to \$25 is imposed. It also proposes to promulgate a uniform fee-bill and to assess each member \$1 for the family of each deceased member.

MINNESOTA.

HAMLIN UNIVERSITY, medical department, held its opening exercises, October 1. Prof. Norman Dreisbach delivered the opening address.

DR. PETER J. McCORMICK, Yazoo City, has brought suit against the estate of the late Capt. R. C. Shepherd, for \$6000 for professional services. The executor claims that the bill is exorbitant and will contest it.

A PLAN of medical inspection of schools has been submitted to the Minneapolis Board of Education by Drs. Richard O. Beard and Henry M. Bracken, who urged its adoption. It contemplates the appointment, by the board, of four medical inspectors at a nominal salary, who will appoint a staff of un-salaried assistant physicians, each of whom will make a daily visit to the schools to which he is assigned, examine sick children, advise the teachers what to do, and report to the medical inspector.

MONTANA.

THE HEALTH OFFICER of Helena sent two cases of suspected smallpox to the county hospital, September 23.

BIDS FOR CONSTRUCTING a twelve-room brick hospital and hospital steward's house at Fort Keogh have been secured by Col. Pond, department quartermaster. The bids on the hospital range from \$23,087 to \$31,917.

SMALLPOX is rampant in Butte. In the week ended September 24, nineteen cases were sent to the isolation hospital. The authorities have awakened from their apathy and have empowered the city physician to use his discretion regarding compulsory vaccination.

NEW YORK.

DR. LUCIAN HOWE, Buffalo, has returned from Europe.

A SERIOUS epidemic of diphtheria is reported from Ithaca.

THE HEALTH OFFICER of Troy reports for the month of September 33 deaths and only 13 births.

DR. WILLIAM C. KRAUSS, Buffalo, has been made one of the associate editors of the *Psychiatrische Wochenschrift*, published under the direction of Dr. J. Bresler, of Freiburg (Schlesien), Germany.

DR. FREDERICK A. COOK, Brooklyn, who accompanied the Belgian antarctic expedition in 1897, as surgeon, has written his experiences in a volume entitled "Through the First Antarctic Night."

ON OCTOBER 5 the cornerstone of a new hospital at Oneonta was laid with appropriate ceremonies. The building is to be erected and supported by Col. Reuben E. Fox, and, in memory of his wife, is to be known as the Aurelia Osborn Fox Memorial Hospital.

New York City.

THE CORNELL MEDICAL SCHOOL opened in its new home, October 2, and on October 5 President Schurman, of Cornell University, formally accepted the building in the name of the university.

THE FIFTIETH anniversary of the marriage of Dr. and Mrs. R. Ogden Doremus occurred on October 1. Dr. Doremus equipped the first laboratory in this country for instruction in analytical chemistry. He has been a professor in Bellevue Hospital Medical College and in the College of the City of New York for over thirty years.

OHIO.

DR. CHARLES W. MCGUIRE, Toledo, has been appointed demonstrator in the chemical laboratory of the Toledo Medical College.

DR. YEATMAN WARDLOW was married to Mrs. Lillian Beatty, widow of General Beatty, of Cincinnati, at Asheville, N. C., September 27.

Columbus.

DR. R. H. WILSON has started for Bluefields, Nicaragua, where he has accepted a position with a rubber company.

ALL-NIGHT street-car service is demanded by the Columbus Academy of Medicine, which passed with but one dissenting vote, resolutions presented by Dr. William U. Cole, providing for a half-hour all-night schedule.

DR. ROBERT E. RUDY, assistant physician at the State Hospital for the Insane, has resigned and will take up practice in Cleveland. At an entertainment given in his honor, September 28, the officials and employees of the hospital presented him with a handsome chair.

AT THE MEETING of the State Medical Board, October 3, it developed that none of the osteopaths of the state had availed themselves of the privilege accorded them by the last legislature of securing a license to practice by passing an examination. The members of the board are in doubt as to whether the osteopaths are preparing to leave the state or mean to fight the law in the courts.

THE HEALTH DEPARTMENT of Columbus has ordered that the inmates of houses of prostitution be regularly examined each week by the nearest district physician. It is thought that by thus having the members of the department assume the responsibility, the spread of venereal diseases could at least in part be prevented. As a result of the order there has already been a clash between the department and the physicians doing contract work with these houses.

Cincinnati.

MIAMI MEDICAL COLLEGE opened for its fall session, October 2.

DRS. OLIVER P. HOLT and EDWARD S. MCKEE have returned from Europe.

THE CINCINNATI COLLEGE OF MEDICINE AND SURGERY commenced its work for the college year, on October 2.

THE NEW BUILDINGS for the City Branch Hospital for Consumptives will be ready for occupancy about Jan. 1, 1901.

THE MEDICAL COLLEGE OF OHIO opened for regular routine work, October 4. Prof. Phineas S. Conner and Dean Thaddeus A. Reamy welcomed the students.

AT THE REGULAR monthly meeting of the board of trustees of the City Hospital, it was decided that each member of the interne staff should serve a term of six weeks at the consumptive hospital.

PENNSYLVANIA.

DR. J. W. WORRELL has moved from Brownsville to Pittsburg.

DR. THOMAS E. ROCHE and Miss Bridget G. Mulvihill, both of Renovo, were married, September 25.

PITTSBURG has an increasing number of deaths from violence. In 1894, 290 bodies were received at the morgue; in 1895, 311; in 1896, 328; in 1897, 326; in 1898, 409; in 1899, 490, and in 1900 up to September 25, 499.

ON ACCOUNT of the prevalence of smallpox at Erie, the public schools will not be opened for two weeks, in order to permit all the pupils to be vaccinated. There are 7 cases under quarantine, and no new cases have developed for several days.

WARRANTS have been issued in Pittsburg for the arrest of 419 dealers of oleomargarin. It is said that of 800 samples of butter examined, 498 were found to be oleomargarin. All told, 647 suits have been instituted. At Hollidaysburg the State Pure Food Commission has caused a number of arrests to be made for this offense. Six dealers were also placed under arrest for selling impure milk.

ON OCTOBER 3 a boy living at Chambersburg fell from a gate and fractured his leg. His father, it is said, picked the boy up and began singing a hymn, and did not send for a physician because he was a believer in the faith cure. A member of this sect was therefore called in and religious services were held. Subsequently the father called in a physician, who reset the bones. The district attorney has warned the father that if the boy is made a cripple or dies he will be held criminally responsible.

DR. HENRY BEATES, president of the State Board of Medical Examiners of Pennsylvania, is making a thorough examination into the character of an institution which is known both as the Delaware University and University of Delaware, with headquarters located in a saloon, at Wilmington, Delaware. It is believed that the incorporators were a saloon keeper, a railroad conductor and a Doctor Foster, the latter of whom, it is said, made a thorough canvass of England and parts of Germany. England is thought to have been the first territory canvassed by this institute, but through the exposures made by certain parties they did not succeed.

Philadelphia.

THE VACANCY on the resident staff of the University Hospital has been filled by the appointment of Dr. Stanton.

DR. F. X. DERCUM now occupies the chair of mental and nervous diseases, and Dr. J. C. DaCosta that of surgery, in the Jefferson Medical College.

THE COMMON COUNCIL a few days ago appropriated for the vaccinating physicians of the city the sum of \$5000; and for disinfecting the schools and tanks, \$2500.

THE OPENING address at the Medico-Chirurgical College was made by Dr. Joseph McFarland, who called attention to the increased facilities offered by the laboratory recently constructed.

DURING the past summer a number of improvements have been made at the University Hospital. Eight new rooms have been added to the private wards, and a new medical ward for children has been established.

THROUGH the will of Charles Edward Orme an estate valued at \$50,000 has been left to the Episcopal Hospital to maintain as many free beds as the income will support, the same to be known as the "Charles Edward Orme Free Beds."

THE HOME of the Holy Child for Colored Children, located at 627 North Forty-third street, has been placed under strict

quarantine owing to the development of diphtheria among the inmates. Six cases have so far been reported. At the present time there are 26 children in the institution.

THE TWELFTH annual report of the Mary J. Drexel Home of the German Hospital has been made known and contains the following: Number of children cared for during the year, 415; number of house patients, 3199; number treated in the dispensary, 39,680; number of operations performed, 944.

DR. LEO ALEXANDROFF, who came to Philadelphia a year ago as assistant-surgeon on the Russian cruiser *Varlag*, and who decided to remain in this country, and to that end left his ship and took out his first papers, is now in the custody of the United States court, the Russian government having claimed him as a deserter.

DR. ALFRED STILLE's will has been admitted to probate and bequests have been made known as follows: His medical library, manuscript, indexes of pathology and therapeutics, various medical writings and a portrait of John Hunter have been given to the College of Physicians. Various other bequests were made. The value of the estate has been placed at \$80,000.

DR. JOSEPH NEFF, who has for some time been a member of the Board of Charities and Corrections, has tendered his resignation to Mayor Ashbridge. It was accepted, and Mr. William J. McLaughlin has been appointed in his stead. The physicians now on the Board of Charities are: Dr. John V. Shlemaker; Dr. E. R. Kirby; Dr. Albert Dingee, and Drs. C. S. Middleton (homeopath).

THE LAX METHODS by which poisonous drugs have been sold in this city for some time past has been a subject considered by the State Pharmaceutical Examining Board during the past week. A special agent has been visiting the different drug stores to determine the qualification of the clerks employed and the restrictions placed on the sale of these drugs. The poison registers of the drug stores are being looked into carefully.

THE PLAN of work of the United Hebrew Charities is to be largely remodeled after that of Chicago and Cincinnati. By this method, instead of giving separate entertainments and donations for individual charities, the whole organization should receive donations and carry on the necessary work. The society's physicians during the year made 20,748 visits. The total receipts had been \$47,238.29 and the disbursements \$44,547.84.

AT THE University of Pennsylvania, owing to the many changes in the curriculum, the high grading, and lengthened course in the department of medicine, the number of students is reduced to a limited extent. The new schedule provides that juniors having elected the biological course may matriculate in the medical school, at the same time taking the necessary branches in the colleges. In this way they will receive the college degree and likewise will be admitted to the second year class of the medical department on completing the college course.

A MOVEMENT has been set on foot at the Jefferson Medical College to establish a memorial to the late Professor Jacob M. da Costa. This idea was recommended by the faculty and was first proposed by the Hon. William Potter in his opening address to the students of the Jefferson Medical College last week. The following resolution was adopted: "Resolved, That for the purpose of commemorating the eminence of the late Professor Jacob M. Da Costa as a member of the faculty of this college, his notable career as a physician and his distinguished services to humanity and to the advancement of medical science, a laboratory of clinical medicine, to be known as the 'J. M. Da Costa Memorial Laboratory of Clinical Medicine' shall be established in connection with the Jefferson Hospital; and that the medical profession, the friends of Dr. Da Costa, and any others who may desire to contribute to the fund needed for the establishment of such laboratory shall be given the opportunity of subscribing thereto." The following committee was appointed to receive subscriptions: Simon Gratz, chairman; Judge Sulzberger, Dr. W. W. Keen, and Dr. James C. Wilson.

CANADA.

DR. J. J. McFADDEN, Neepawa, Man., has been appointed superintendent of the Insane Asylum at Brandon.

TYPHOID FEVER has been very prevalent in all parts of the city of Winnipeg, but it is now being got under control.

THE HON. DR. SULLIVAN is resuming lectures in surgery to Queen's medics after an absence of one year through sickness.

THE DIRECTORS of the Lake of the Woods Milling Company at their annual meeting, held last week, voted \$2500 to the Winnipeg General Hospital and \$500 to the St. Boniface Hospital, Winnipeg.

DR. C. J. FAGAN, provincial health officer of British Columbia, is having the Indians on the local reserves vaccinated as a precautionary measure. There seems to be danger of the introduction of smallpox into Victoria.

THE ST. THOMAS (Ont.) Medical Society is endeavoring through its members to have the rate per capita for lodge work raised, and the fraternal are threatening in their opposition to this unpopular procedure to import other physicians into that city.

DR. FIFE FOWLER, who has been connected with Queen's University medical department, Kingston, for fifty years, has resigned the position of professor of the practice of medicine. Dr. James Third, late superintendent of the Kingston General Hospital, is his successor. Dr. Fowler will retain the honorable position of Dean of the Medical Faculty.

DR. W. T. BARRETT, medical superintendent of the Samaritan Hospital, Dawson City, arrived in Winnipeg Oct. 1, on his way to visit the hospitals of London and Edinburgh. He states that when he left Dawson the population of that place was more than usually healthy. There is now only one case of smallpox, and other infectious diseases are very scarce. In the doctor's opinion, the Yukon is an eminently healthy country. Dr. Barrett was for several years connected with the St. Boniface Hospital, Winnipeg.

Toronto.

THE DEPARTMENT of Dr. J. J. Mackenzie, professor of pathology in the medical department of Toronto University, is being equipped to the extent of \$4000.

IN THE medical department of Toronto University 110 students have been enrolled in the freshman class this year as against 103 in 1897, 73 in 1898 and 61 for the term of 1897-98. Several additions have been made to the staff of demonstrators.

QUEEN'S UNIVERSITY may appeal to the Ontario Parliament at its next session for a grant for carrying on its work. Toronto University being the only University in the province receiving aid from the government, will necessarily look askance at such a proceeding, being also fearful that Queen's might be raised to the status of a provincial university for the eastern portion of the province.

RE-AMALGAMATION OF TORONTO AND TRINITY.

Sir William Meredith, the new Chancellor of Toronto University, addressing Convocation, which was held on the campus on the afternoon of Oct. 2, spoke concerning this matter. He paid a high tribute to the ability of the medical profession; and thought that while there was another teaching body in the city, they should be on good and fair terms with every school. The subject was now under discussion, and he expressed the sincere hope that some means could be devised by which the energies of the men connected with both schools may be combined for the purpose of promoting the advancement of medical education in this country.

THE EXECUTIVE of the Ontario Consumption Association met in Toronto last week and prepared an application to the city council for \$50,000 for a consumption sanatorium, to be authorized by the people at the municipal elections in January next. To show their good faith in the movement, the Association will undertake to raise \$30,000 by popular subscription, the city will then provide the \$50,000, which, with the offer of the treasurer of the National Association of \$20,000, will make

\$100,000, the amount necessary to erect and maintain an institution of 100 beds at first. A suitable site for the building, about nine miles from Toronto, has been secured.

Montreal.

DR. LABERGE, city health officer, has returned from Paris.

DR. J. ALTON HARRIS has returned from active service in South Africa.

THE LAST case of smallpox has been discharged from the civic hospital.

THE MEDICAL FACULTY of Bishop's College opened on October 1, with a fairly large attendance of students.

THE MEDICAL ASSOCIATION for St. Frances Xavier District met in Sherbrooke last week. An important question discussed was that of a medical tariff, and it was decided to publish the discussion in the Montreal and country papers, so that there might be a clear understanding between the physicians and public generally on the subject.

FOREIGN.

THE LIBRARY of the great chemist, Bunsen, is now being sold at Leipsic.

LANNELONGUE, of Paris, has been made a commander of the French Legion of Honor.

THE PROFESSOR of psychiatry at Jena, Dr. Ziehen, has accepted a call to the chair of psychology at Utrecht.

THE FRIENDS of Senator and Busch, of Berlin, celebrated the twenty-fifth anniversary of their connection with the faculty September 14.

ANOTHER MEDICAL victim to the Swiss glaciers is Dr. Max Schaeffer, a promising young rhinologist of Bremen, who was found dead in a crevasse.

THE COURT PHYSICIAN to the Ameer of Afghanistan is, or was until recently, a woman. Her name is Miss Lillias Hamilton, M.D., Brux, and London School of Med. for Women.

YERSIN was awarded the Audifred prize of 15,000 francs last spring for "his acts of devotion," and has applied the sum to the extension of his plague-serum laboratory at Nha-Trang.

MENELIK, Emperor of Ethiopia, has been awarded the first prize on the list offered by the French Society against the Abuse of Tobacco, as he prohibited the use of tobacco throughout his dominions under severe penalties.

THE DEATH of Sir William Stokes in South Africa was followed in a few days by that of his talented sister, Miss Margaret Stokes, in Dublin. She was the author of several noted works on Irish ecclesiastical architecture and archeology.

THE FRIENDS and admirers of Professor Potain, of Paris, propose to present him with a souvenir medal on the occasion of his retirement from the Charité next spring. Subscriptions are received by P. Masson, 120 Boulevard Saint-Germain.

THE FRIENDS of Dr. Li Willems, of Hasselt, Belgium, have called upon all who profited by his discovery of preventive inoculation of pleuropneumonia in cattle to co-operate in celebrating his fiftieth professional anniversary, October 14.

THE GRAEFE prize for the best works that appear in von Graefe's *Archiv f. Ophthalmologie* during the years 1896 to 1899, has been divided between Dr. Hess, for his work on "Accommodation," and Bernheimer, for his studies on the "Nucleus of the Motor Oculi."

EL SIGLO MEDICO announces that the Spanish government has appropriated \$8000 to enlarge Dr. Cajal's laboratory at Madrid, with \$4,800 annually for its maintenance and a pension of \$1,600 for the distinguished scientist, on whom the Moscow prize was bestowed by the International Medical Congress.

THE PILGRIMS constantly arriving at Rome to celebrate the "holy year" are filling the streets with beggars and the hospitals with incurables. The sanitary conditions are menaced by this state of affairs and the Italian minister of the interior has issued an order forbidding the further organization of pilgrimages composed entirely of the sick and indigent.

THE NEW laboratories at Manguinhos, Brazil, for the production of plague serum and vaccin are completed and are models in every respect, the *Brazil Médico* asserts. The different pavilions are on separate hills, about 1500 feet apart, with the building for the horses in the valley between. The entire establishment is in charge of Prof. Pedro Afonso and Oswaldo Cruz.

THE *Deutsche Med. Woch.* states that the calendar published by the Vienna *Bote* has been confiscated by the authorities on account of the advertisements contained in it of Thierry's "Wunderbalsam" and salve. Another calendar has shared the same fate on account of advertisements of a charlatan in Saxony and the salve of a firm in Budapesth. The Bohemian authorities have forbidden the "Nature-Healing Company" to establish new branch establishments.

THE FRENCH Railway du Nord has constructed a two-story building in connection with its Paris depot for receiving and caring for the injured in an accident. Every detail to ensure asepsis and ample illumination day and night has been carefully studied. The three large rooms on the first floor can be thrown into one if required. There are waiting and consultation rooms, facilities for massage and radiology and the numerous attendants are drilled regularly in the entire processes of preparing for and applying first aid after notification that an accident has occurred. The Lariboisiere Hospital is close at hand and very severely injured persons will be taken directly there, but those requiring merely temporary care will be treated at the railroad emergency station.

Correspondence.

Degeneracy in the Army.

CHICAGO, Oct. 4, 1900.

To the Editor:—The *American Journal of Insanity* for July contains an article by Dr. Charles E. Woodruff on "Degeneracy in the Army," and remarks anent army musicians that "with the high musical sense there seems to be a liability of inferiority in some other ways, for they possess physical stigmata in far greater proportion than does the average soldier. They have to be managed by entirely different rules of discipline." What is true of army musicians is also true of musicians in state institutions for defective classes, etc. The most degenerate individuals of an institution are usually to be found among the members of the band. In many cases they are the most difficult to manage. A notable illustration is that of the band at the New York State Reformatory at Elmira. At one time more than two-thirds of the band were dressed in the uniform of the lowest grade; physical stigmata were so marked as to attract special attention.

It should also be remembered that marked imbecility may co-exist with great musical powers, as witness the case of "Blind Tom." Music, being one of the primitive arts of the race, is hence less likely to be affected by degeneracy than later-acquired arts.

EUGENE S. TALBOT, M.D.

A Uniform Classification for Health Statistics.

LANSING, MICH., Sept. 17, 1900.

To the Editor:—Referring to your editorial in THE JOURNAL of September 15, under the above title, I desire to say that it gives a somewhat imperfect impression of the nature and progress of the movement for the adoption of a uniform classification of causes of death, which is now an assured success. As the subject is one of very great practical importance, I trust that you will afford me the opportunity of making a more correct statement of the facts.

In the first place the classification quoted by you on page 706 in the report of the proceedings of the International Congress of Hygiene and Demography is evidently one of the most condensed forms of the Bertillon classification, and does not fully exemplify its nature as usually employed. This classification is not merely the "Paris classification, but is the classifi-

cation recommended for adoption to the International Statistical Institute by a committee headed by Dr. Jacques Bertillon at its session in Chicago during the World's Fair in 1893. Since that time it has been employed in Paris, Moscow, Madrid, Buenos Ayres, Montevideo, Havana, Boston, Baltimore, Buffalo, Milwaukee, Toledo, and many other cities of this country, besides in the States of Michigan, Vermont and Indiana and the Canadian Provinces of Ontario and Quebec. The classification reported by Dr. Bertillon's committee to the International Statistical Institute was in three forms, viz., an extended or full classification, a short form and an intermediate form. The long form is that usually referred to and is best adapted to the use of states and large cities. It contains about 160 titles, instead of the 38 given by your correspondent from Paris, and is abundantly full for all ordinary statistical purposes. The short forms are presented merely for the use of such cities as may find a condensed list more convenient for use.

The American Public Health Association did not adopt the system at Philadelphia in 1897, regarding it as a measure of very far-reaching importance and one requiring the fullest consideration. After the lapse of a year, however, at Ottawa, Canada, in 1898, the cordial assent of the Association was given, and as I believe, has been a factor of great importance in uniting the registrars of South America, Central America and Europe, with the exception of England only, in the adoption of a uniform classification for the world. I may also say that the International Conference of State and Provincial Boards of Health indorsed the system most fully at the meeting held at Detroit in 1898 just prior to the session of the American Public Health Association at Ottawa.

The action of the American Public Health Association in 1898 not only provided for the general adoption of the classification by the registration offices of Canada, Mexico and the United States after its revision, but also provided a plan for that revision and recommended that it be held at Paris in 1900 under the auspices of the International Congress of Hygiene and Demography. This plan was indorsed fully in its general features by the International Statistical Institute at its session at Christiania, Norway, in 1899, and its completion constitutes the first decennial revision of the International Classification, which you have just announced. It is intended that such a revision shall be made every ten years, with the full-co-operation of all of the registration offices employing the system, to the end that the classification shall be kept fully abreast of the advances of medical science. Unless this is done, it will rapidly grow obsolete, as have many of the systems now in use in this country, which are soon to be supplanted by the modern classification.

A short paper on this subject of uniform classification was read by me before the Section of Hygiene and Sanitary Science of the AMERICAN MEDICAL ASSOCIATION at the last meeting, at Atlantic City, N. J., and a resolution was passed in its favor by the Section. This resolution was indorsed by the Executive Committee, but failed to carry in the general session, owing, I believe, to the expressed opinion that the subject was a new one and the Association unprepared to take immediate action. As so much has been done since 1893, including the adoption of the system by nearly every registration State in the Union, I wish that this information could be brought generally to the knowledge of the members of the Association, so that they may be sufficiently informed to act at some subsequent session of the Association.

Dr. Bertillon informs me that the revised classification will be ready for publication in about a month, and I trust that the American Public Health Association, at its meeting soon to be held at Indianapolis, will make provision for at once preparing a translation and getting it into the hands of American registrars and public health officials, so that its use can be begun promptly on January 1, 1901. We shall then have a definite basis, alike in all parts of the country, on which to base our public health work, and as a result we may fairly expect a much increased use of mortality statistics in sanitary work, of which they form the indispensable foundation.

CRESSY L. WILBUR, M.D.

[If the Bertillon classification is to be universally adopted it is to be hoped it will receive the modification it needs. Up to the present time we can not consider it a satisfactory one by any means; it is in some respects out of accord with modern pathologic ideas and almost ridiculous in some of its minor details, as given in the pamphlet published in this country.—Ed.]

Book Notices.

PRACTICAL GYNECOLOGY. A Comprehensive Text-Book for Students and Physicians. By E. E. Montgomery, M.D., Professor of Gynecology, Jefferson Medical College. With 527 illustrations, nearly all of which have been drawn and engraved especially for this work, for the most part from original sources. Cloth. Pp. 819. Price, \$5.00. Philadelphia: P. Blakiston's Son & Co. 1900.

Fashion in medical book-making seems to be running to the composite, which may be advantageous, and the means of producing a better book than one written by an individual. It may be the old-fashioned notions of the reviewer, but he believes in the old idea of one book, one author, and he should have all the responsibility, all the criticism and all the glory that attach to it. The composite is likely to be written under a "rush" order; so much space, in so much time, for so much money. The work before us is the work of one individual, and the personality of that individual is evident through the whole book.

The author tells us in the preface that it has been under consideration for fifteen years and that much of it has been rewritten several times. This may readily be believed, for the result shows painstaking effort in every detail, in conciseness of statements, in arrangement of subjects and in the systematic order and completeness in which each is considered. The general plan is entirely different from that usually adopted. Instead of a division into chapters, the book is divided into sections, consecutively numbered, and with heavy black-faced "side-heads." While such an arrangement as the author uses has many advantages—an important one being an easy reference to any subject—still it has a drawback in the fact that the main subject is given no more distinctive heading than its subdivisions. This objection, however, may be more apparent than real when one becomes used to the style. By the way, the various lacerations of the pelvic floor, vaginal fistula, etc., are classified under the general head of "malformations," possibly correctly so, but hardly, according to the generally accepted meaning of the term. The manner in which the author considers the subjects of diagnosis and methods of examination shows that he appreciates the needs of the student, the difficulties to be encountered and the importance of a thorough understanding of gynecological examinations. The technique of the various operations, even the minor ones, is described in sufficient detail to enable the student to understand every stage of procedure. This, with the wealth of illustrations, makes the appreciation of the various stages an easy matter.

The author is neither too radical nor too conservative in his consideration of the conditions that may need radical operations. In the introduction he tells us that the true gynecologist must be "so conservative that he will sacrifice no organ whose physiologic integrity is capable of being restored; so bold and courageous that his patient shall not forfeit her opportunity for life or restored health through his failure to assume the responsibility of any operative procedure necessary to secure the object." This is the basal idea that permeates the book; the ultra-radical operator will find no endorsement, and the "tinkering" gynecologist—he who treats all diseases of women by means of a plectet of cotton and a speculum—no encouragement in its pages.

The book is one that can be recommended to the student, to the general practitioner—who must sometimes be a gynecologist to a certain extent whether he will or not—and to the specialist, as an ideal aid in every way complete work on the gynecology of to-day—a practical work for practical workers.

A MANUAL OF SURGICAL TREATMENT. By W. Watson Cheyne, M.D., F.R.C.S., F.R.S., professor of surgery in King's College, London, and F. F. Burghard, M.D., M.S., F.R.C.S., teacher of practical surgery in King's College, London. Volume III. The Treatment of the Surgical Affections of the Bones; Amputations. Cloth. Pp. 305. Price, \$3.50. Philadelphia and New York: Lea Bros. & Co. 1900.

The present volume treats of the surgical affections of the bones and of amputations. As the work is a "Manual of Treatment," the pathology, symptoms, diagnosis, etc., of the various conditions are but briefly mentioned, often to the disadvantage of the work, because the selection of some particular method of treatment so often depends on a recognition of the exact conditions present that it is advisable to discuss the points together.

In the treatment of fractures many little points are detailed which are of great value to the surgeon and which are seldom found described in text-books on surgery. The advice to immediately wire all fragments will be concurred in by most surgeons, but they would prefer to immobilize a knee-joint by splint or cast after wiring a fractured patella before allowing it to remain without fixation, as recommended.

The statement is made that the difficulty in the treatment of the so-called T-shaped fractures of the lower end of the humerus "is so great that it is almost hopeless to attempt to obtain a useful movable joint by treating the fracture merely by splinting and massage; the only probability of getting a really good result is by operative interference." This is entirely too radical, and many excellent results have been obtained in these cases by proper fixation, and better results, too, than would probably follow indiscriminate attempts to fix by pegs or wire the small cartilaginous epiphyses, as it is in young children that the majority of these fractures occur. Unquestionably there are cases attended by displacement or rotation of the fragments that would be best treated by operation, but they are not in the majority.

On the whole, the chapters on fractures are well written and the practitioner will find much information of great value in the handling of these troublesome cases. Under "Fatty Embolism," a distinct contradiction is found. Of the symptoms it is stated: "They generally come on within a few hours." A few lines farther down we find: "As a rule they (the symptoms) do not come on for some hours after the injury."

The chapters on infections of the bones, tumors, etc., are only fair. The various amputations are well described and illustrated, although several methods are omitted, as for instance, Wyeth's excellent method of controlling the hemorrhage in amputation at the hip-joint.

The volume is of convenient size and the publisher's work well done.

SURGICAL ANATOMY. A Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By John B. Deaver, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. In Three Volumes, Illustrated by About 400 Plates, nearly all Drawn for this Work from Original Dissections. Vol. II. Royal Octavo, One-half Morocco, pp. 709. Price \$8. Philadelphia: P. Blakiston's Son & Co. 1900. Comprises the Neck, Mouth, Pharynx, Larynx, Nose, Orbit, Eyeball, Organ of Hearing, Brain, Male Perineum, Female Perineum.

This second volume of Deaver's Surgical Anatomy is in every way up to the high standard of the first, and will make as good an impression as did its predecessor. All that we said last year of the first we would repeat of the second volume. This one covers the most important structures of the body, and the parts that baffle the student in his endeavors to master their intricacies—the head and neck. The author's descriptive style is concise, clear and easily understood, and this, with the excellent illustrations, makes his book one that will be popular, not only with the student, but with the surgeon and general practitioner. Nothing can take the place of the cadaver as a method of mastering anatomy, but Deaver's work will make an excellent substitute. The illustrations are all full page, are works of art, beautiful; but above all, are of great practical value, as they reflect perfectly the artist's true de-

lineation of Nature. There has been an evident disregard of expense in supplying them, both as to quality and quantity. It would not be fair to the author, or true, to say that the illustrations are the more important part of the work, but they are certainly very attractive and place it in the front rank as an illustrated medical work.

Occasionally matter has crept into the text that belongs to a work on surgery and not to one on surgical anatomy. The impression the reader will get is that once in a while the author forgot himself and thought he was writing a text-book on surgery, else why so much on technique and so little on structures in several instances? Quite a number of the full-page illustrations occur twice, among them being elxi, elxii, elxiv, elxv, elxvi, elxxviii. We presume these are duplicated for a purpose, although we fail to understand what that might be.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS. A Clinical Guide for the Use of Practitioners and Students of Medicine and Surgery. By J. Bergen Ogden, M.D. Illustrated. Cloth. Pp. 476. Price, \$3.00. Philadelphia: W. B. Saunders & Co. 1900.

This is a new work on urinary analysis, and a thorough one in its special branch of chemical examination. The author states in his preface that he has aimed to present in as concise a manual as possible the chemistry of the urine and its relation to physiologic processes, the most improved working methods, both qualitative and quantitative, the diagnosis of diseases and disorders of the kidneys and urinary passages. The book is divided into two parts. In the first part the chemical and microscopical methods are described in detail, and numerous illustrations, many original, have been introduced; it will form a convenient and satisfactory manual of its subject. The second part treats particularly of the diagnosis, including our present knowledge of the character of the urine in, and the differential diagnosis of, diseases of the kidneys and the urinary passages, with a brief statement of the different signs in the different forms of disease. A chapter is also given to the characteristics of the urine in diseases outside of the urinary tract, such as fevers, pneumonia; infectious diseases, like cholera, scarlet fever, diphtheria, tuberculosis; disorders of the intestines and of the nervous system, as well as general conditions like anemia, scurvy and certain forms of poisoning. The appendices illustrate methods of recording urinary examinations and give inventories of the reagents and the apparatus required. The work is an eminently satisfactory one and one likely to fulfill its object.

ANATOMY OF THE BRAIN. A Text-Book for Medical Students. By Richard H. Whitehead, M.D. Professor of Anatomy in the University of North Carolina. Illustrated with Forty-one Engravings. 6¼ by 9¼ Inches. Pp. 96. Extra Vellum Cloth, \$1 net. Philadelphia: The F. A. Davis Co.

This brief and convenient manual of the general anatomy of the brain, with its numerous schematic drawings, which are a great advantage to the student, seems, as far as it goes, to represent our present knowledge of the subject. The author, as he says, thought best to omit minor details, and exclude as far as possible subjects which are still matters of controversy. The student, therefore, will find in his further studies many additional facts not here mentioned. The original names for the parts are given, but the terms adopted and recommended by the German Anatomical Society are inserted parenthetically. It would not have been inappropriate and would have been in the line of progress if the author had also parenthetically inserted the nomenclature of Wilder, some of which at least is likely to come into general use. The book is one that will undoubtedly be serviceable and can be recommended to the student.

LECTURES ON THE PRINCIPLES OF SURGERY, Delivered at the University of Michigan. By Charles B. Nancarrow, A.M., M.D., LL.D. With an Appendix Containing a Résumé of the Principal Views held concerning Inflammation, by Wm. A. Spitzley, A.B., M.D. Illustrated. 8vo. Cloth. Pp. 398. Price, \$2.50 net. Philadelphia: W. B. Saunders. 1899. W. T. Keener, Chicago Agent.

This volume is written in lecture style and is evidently intended for students. The changes which take place in normal

wound-repair are first described, and the differences between repair and inflammation clearly defined. The growth of microbes in the wound is made the distinguishing point of inflammation, and the various complications which may arise as a result of the different kinds of infections are briefly discussed. Hemorrhage, shock, methods of sterilization and the administration of anesthetics are also considered, and the volume closes with a brief historical appendix on inflammation, by W. A. Spitzley, A. B., M.D.

The work is clearly written, and expresses the author's own views, without entering deeply into the subjects. It is well adapted to give to the student a general outline of the subject and work before him.

PSYCHOPATHIA SEXUALIS. With Especial Reference to Antipathic Sexual Instinct. A Medico-Forensic Study. By Dr. R. v. Krafft-Ebing, o. ö. Prof. Für Psychiatrie und Nervenkrankheiten an der K.K. Universität, Wien. The Only Authorized English Translation of the Tenth German Edition. Cloth. Pp. 585. Price, \$5.00. Chicago: W. T. Keener & Co. 1900.

It is not often that a foreign work passes through two separate translations into the English language, as is the case with the present one. The reason why this is so is rather obvious, though it can not be especially justified. The book is one of a small class that is much more widely read than it should be, by non-medical readers. Its proper place is on the reserve shelves, sometimes called "hell," of a well-conducted library. The author has enlarged it considerably, and the present translation appears to be a very satisfactory one. We can not recommend the book generally, but it will, of course, recommend itself to those who want to read it. This undoubtedly is the most complete, or at least the largest work, on its subject in our or any other language. The present volume has one advantage, or it may be such, that the Latin language is more frequently made use of than in the former editions. The author's wishes for its good reception will undoubtedly be gratified. What we object to in the work is the morbid popularity it has gained.

IDROTERAPIA. Del Prof. Gaetano Gibelli, Proprietario del gabinetto elettro-termo-baro-idroterapico, Milano, Via Manzoni, 50 Con. 30 incisioni. Cloth. Pp. 237. Milano: Ulrico Hoepli. 1900.

The subject of hydrotherapy is given in a brief compass and apparently covering the subject. The chief thing about the work which makes an unfavorable impression occurs in the rather florid mention of certain empiries and their methods, especially Father Kneipp, who is not considered worthy of the same notice by other works. The book, however, to those who read Italian, will probably be a convenient, though limited, handy manual on the subject.

L'ASSISTENZA DEI PAZZI NEL MANICOMIO E NELLA FAMIGLIA. Istruzioni elementari per infermieri ed infermiere. Dott. A. Pieraccini, Vice Direttore del Manicomio Provinciale di Macerata. Con Prefazione del Prof. A. Morselli, Direttore della Clinica Psichiatrica di Genova. Cloth, Pp. 64. Milano: Ulrico Hoepli. 1901.

This volume, one of the numerous Hoepli manuals, is a hand-book for instruction to mental nurses and asylum attendants, covering apparently the whole ground of their duties. It has the advantage of considering certain subjects which are not ordinarily discussed in nursing-manuals; thus the methods of transporting patients to asylums, distinctions between real and apparent death, the ethics of the business of attendants on the insane, etc., are fully discussed. It is a very excellent little work in its way.

THE MICROTOMIST'S VADE-MECUM. A Handbook of the Methods of Microscopic Anatomy. By Arthur Bolles Lee. Fifth Edition. Cloth. Pp. 532. Price, \$4.00. Philadelphia: P. Blakiston's Son & Co. 1900.

This is the fifth edition of a work which has been before the medical public for a number of years; revised up to date. A number of references and methods have been eliminated as superfluous, and repetition and unnecessary amplifications have been avoided so as to keep the book within the old limits of size. Considerable new matter in regard to methods has been

added. The book will maintain its former popularity not only with the medical profession, but with biologic workers as well.

CLINICAL EXAMINATION OF URINE WITH AN ATLAS OF URINARY DEPOSITS. Including Forty-one Original Plates. Mostly Colored. By Lindley Scott, M.A., M.D. Cloth. Price, \$5. Philadelphia: P. Blakiston's Son & Co. 1900.

In addition to the two books noticed above, we have this one which has the special advantages of presenting in large plates, colored and otherwise, the microscopic features observed in urine examinations. The principal methods and tests are also given, and while not extensive in its scope it will undoubtedly meet with favor among those who wish a convenient, handy, and brief manual of its special subject. It is handsomely gotten up, and the illustrations are scientifically correct, as well as otherwise excellent.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS. A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, LL.D., M.D., Fellow of the Royal College of Physicians and Surgeons, Kingston. Fifth Revised and Enlarged Edition. With Numerous Illustrations. Including Photo-engravings and Colored Plates. Cloth. Pp. 392. Price, \$3.00 net. Philadelphia: F. A. Davis Co. 1900.

This book is evidently being well received, as it is the fifth edition within six years, thus showing that it has met with the favor of the profession. The author has extended it considerably, bringing in accounts of new methods, adding new tables and giving it a general revision.

MEDICAL DIAGNOSIS WITH SPECIAL REFERENCE TO PRACTICAL MEDICINE, a Guide to the Knowledge and Discrimination of Diseases. By J. M. Da Costa, M.D., LL.D., physician to the Pennsylvania Hospital. Illustrated. Ninth edition, revised. Price, \$5.00. Philadelphia and London: J. B. Lippincott Company. 1900.

This work has been thoroughly revised, partially rewritten, and brought up to date in all its departments. Da Costa's has for years been recognized as a standard text-book on diagnosis, and this revision has made it possible for it still to maintain the enviable position it has held so long.

Deaths and Obituaries.

SAMUEL SMITH PURPLE, M.D., died at his home in New York, from heart disease, September 29, aged 78. He was graduated in 1844 from the University of the City of New York. His earliest attention was given to medical editorship, dispensary work and society organization. A special fondness for medical history and biography with a genealogical bias was subsequently developed. He was editor-in-chief of the *New York Journal of Medicine* from 1848 till 1857; president of the New York Academy of Medicine in 1875, and re-elected in 1877; and president of the Alumni Association of the Medical Department of the University of the City of New York, from 1867 till 1871. He made the first donation of 4000 volumes to the library of the Academy of Medicine. At the time of his death he owned one of the largest private libraries in New York, containing many exceedingly rare volumes.

THEODORE N. WISE, M.D., died September 26, at his home in Covington, Ky., from Bright's disease, after a long illness. He was born at Alexandria, Va., June 29, 1817, was graduated from the Medical College of Ohio in 1837, and immediately began the practice of medicine in Covington.

JOSEPH F. MULCAHY, M.D., Lowell, Mass., died after a long illness, September 24, aged 36. He was a graduate of the medical department of the University of New York, in 1891, and was dispensary physician and a member of the staff of St. John's Hospital for several years.

JOSEPH TREPP, M.D., one of the oldest practitioners in Adrian, Mich., a graduate of the medical department of Western Reserve University, Cleveland, O., in 1854, died September 25, as a result of accidental injuries recently received, at the age of 73.

CLARE W. VIRTUE, M.D., who was graduated from the College of Physicians and Surgeons, Chicago, in 1897, and settled in Akron, O., died September 28, at the age of 30, after a five weeks' illness of diphtheria contracted from a patient.

ROBERT B. SIBLEY, JR., M.D., a graduate of the University of Louisville medical department in 1898, who was obliged to go to Colorado by reason of lung disease, locating in Aspen, died recently from consumption.

RICHARD H. WILTE, M.D., a graduate of Trinity Medical College, Toronto, in 1891, and physician of the lung department of the New York Nose and Throat Hospital, died from phthisis, at Liberty, N. Y., September 26, aged 32.

JAMES M. MONTMOLLIN, M.D., formerly surgeon of the Chesapeake and Ohio system, died after a long illness, at his home, Ashland, Ky., September 24. He was graduated in 1862 from Jefferson Medical College, Philadelphia.

JAMES A. INGRAM, M.D., a graduate of the medical department of Western Reserve University, Cleveland, O., in 1880, and a practitioner in Cleveland since that time, died September 24, from Bright's disease, aged 41.

GEORGE F. KOEPSTEIN, M.D., who studied at the University of Breslau, received his degree in 1886, and had practiced for several years at Guttenberg, Ia., died at Finley Hospital, Dubuque, September 28.

S. POTTS EAGLETON, M.D., formerly of Philadelphia, a graduate of the University of Pennsylvania in 1890, and assistant-surgeon to Will's Eye Hospital, died at his home in Ocala, Fla., aged 33.

JAMES A. MOORS, M.D., who was graduated from the college of Physicians and Surgeons, New York, died, September 26, after fourteen years of invalidism at West Winfield, N. Y., aged 43.

SAMUEL S. DOWNS, M.D., Waterville, Ohio, a graduate of Miami Medical College, Cincinnati, in 1873, died after a long illness from tuberculosis, in Ellsworth, Kan., September 18.

H. FINLEY BURT, M.D., who was graduated from the medical department of the University of the South, Sewanee, Tenn., in 1892, died at Sweetwater, Tex., September 26, aged 34.

EDWARD N. WEBSTER, M.D., St. Louis, Mo., who was graduated from Barnes Medical College in 1893, died September 25, four days after a surgical operation, aged 32.

LINNAEUS G. WILLIAMS, M.D., Fostoria, O., who was graduated from the University of Wooster, medical department, Cleveland, in 1876, died suddenly, September 24.

HENRY JERVEY, M.D., Subletts, Va., who was graduated from the Medical College of the State of South Carolina, Charleston, in 1861, died after an illness of six months.

THOMAS J. CONRY, M.D., a graduate of Kansas City Medical College in 1871, formerly surgeon for the Santa Fe Railroad, died September 15 at Seguro, Colo., aged 61.

JAMES W. BRYANT, M.D., Richmond, Va., who was graduated in 1844 from the department of medicine of the University of Pennsylvania, died September 29, aged 80.

WILLIAM H. MUNN, M.D., a graduate of New York University, medical department, in 1868, died at Bellevue Hospital, September 24, from cerebral congestion.

CURTIS F. HAWLEY, M.D., died at his home in Fairfax, Vt., September 24, aged 74. He was graduated from Castleton Medical College, Vermont, in 1849.

DAVID F. RODGERS, M.D., Kansas City, Mo., a graduate of the Medical College of Indiana, Indianapolis, in 1881, died recently at Cape Nome, Alaska.

EDWARD PATTERSON, M.D., Mechanic Grove, near Lancaster, died September 24, aged 66. He was a graduate of Jefferson Medical College, Philadelphia.

SAMUEL S. DOWNS, M.D., Waterville, O., who was graduated in 1873 from Miami Medical College, Cincinnati, died recently in Kansas.

JAMES M. MARTIN, M.D., one of the oldest and most prominent physicians of Brookhaven, Miss., died September 22, aged 73.

Miscellany.

Obstruction of Common Bile-Duct by an Ascaris.—P. Ferrari relates in the *Brazil Medico* a case where the diagnosis wavered between obstruction of the common bile-duct and suppurative hepatitis; the patient was previously a healthy woman. Exploratory puncture was negative, but at the autopsy the duct was found plugged with a macerated ascaris, 20 cm. long.

Last Sign of Life.—W. D. Waller presented to the Paris Académie des Sciences, as related in the *Bulletin Médical*, Sept. 29, the galvanometric test based on the fact that living matter responds to electric stimulation by a current in the same direction. The same matter after it has been deprived of life, fails to respond at all to electric stimulation or else starts a contrary current of polarization.

Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, amounting to about \$180, will be made on July 14, 1901. Essays intended for competition may be on any subject in medicine, but can not have been published, and must be received by the secretary of the college on or before May 1, 1901. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author.

Autofixation of Movable Kidney.—Biondi has been very successful in suspending a movable kidney in thirteen cases without sutures or threads, and recommended his process at the International Congress. He exposes the organ and removes the adipose and fibrous capsules, then tampons it in place with a long strip of gauze wound in and out to fill the entire space in front of the lower pole and below the kidney. The decapsulated organ becomes firmly fastened by granulation tissues in the course of a week, when the gauze is removed. Tests on dogs showed that a new fibrous capsule forms which peels off readily. The kidneys thus treated in his cases retained their weight and showed no appreciable alteration.

Rupture of Vulvar Varices During Delivery.—In 19 cases that have been published, 11 of the patients died, all but three in less than thirty minutes. In three the hemorrhage was controlled and in four it was comparatively slight. The great danger is that the source of the hemorrhage is assumed to be the uterus and the real origin is not discovered until too late. Besson, in the *Jour. des Sci. Méd. de Lille*, urges systematic examination to detect the presence of varices in the vulva. They are usually situated at the upper portion of the labia minora. In grave cases a suture *en masse* is indicated, with injections of artificial serum. These measures saved a patient in his experience, a III-para of 24. As the head was delivered the blood flowed "in cascades" from the varix, which had been previously noticed. The hemorrhage was controlled in ten minutes, but the radial pulse had entirely disappeared.

Infections and Leukemia.—E. Weil observes that the complications are usually the cause of death in leukemia. Even when they are local they have a tendency to rapid generalization. They are usually due to increased virulence of the saprophytes of the alimentary canal, and may terminate in recovery if they remain local. Every infection has a tendency to diminish the leukemic tumors, but the streptococcus has the most pronounced influence in this respect. The leucocytosis is also affected, an ordinary polynuclear leucocytosis taking the place of the previous formula in myelogenous leukemia. In chronic lymphatic leukemia on the other hand, the infection may increase the total leucocytosis to an extreme extent, chiefly at the expense of the mononucleated cells. The polynucleated increase but slightly. The eosinophiles disappear and nucleated reds frequently appear or increase in number. In acute leukemia the leucocytosis diminishes and there may be complete leucolysis. The proportion of polynucleated to mononucleated is slightly increased, the hemoglobin slightly diminished.

Cocain for Differentiation and Relief of Neuralgia.—To determine whether surgical intervention is liable to cure re

bellious neuralgia, Pitres injects 1 to 2 cg. of cocain on the route of the affected nerve. If the pain persists undiminished by the cocain the neuralgia is probably of central origin and intervention would be fruitless. If the pain is abolished by the cocain the lesion is probably peripheral and an operation has every chance of curing by removal of the nerve causing the neuralgia. It should always be divided above the part involved and the exact point can be established with the cocain. The lancinating pains in ataxia can be relieved for three hours by intraspinal injection of about 15 mg. of cocain, which is also usually effective in relieving the pain of sacrodynia, coccydynia, talalgia, etc., in the absence of organic lesions. Some of these neuralgias may be permanently cured by this procedure.—*Int. Med. Congress.*

Treatment of Mucomembranous Colitis.—At the Thirtieth International Medical Congress held recently at Paris, Mathieu recommended among other things, correction of the constipation that is usually present. For this purpose measures should be employed that do not increase the secretory irritation, the pains or the tendency to spasm. Castor-oil, large enemata and belladonna are especially useful. The first should be given in small doses in the morning before breakfast. Its employment should alternate with that of the large enemata, which should be given at low pressure, slowly and at a temperature of about 104 F. in amounts of from 3 to 5 pints. These enemata soothe the painful and spasmodic irritation of the intestines, induce evacuation of the material accumulated within it, and act as a mechanical antiseptic. They may consist of boiled water with a weak solution of sodium bicarbonate or sodium salicylate, or a dilute solution of neutral ammonium ichthyolate. Care should be taken to avoid all agents likely to cause irritation of the bowel, such as drastic purgatives, as-tringer injections and massage in cases attended with marked hyperesthesia of the intestine or painful spasm of the colon. Food rich in vegetable detritus—green vegetables, stewed fruits, bread made from whole wheat, etc.—has sometimes been recommended, but in many cases this will not be tolerated, and it becomes necessary to prescribe a regimen that favors constipation while it lessens the irritation of the digestive mucous membrane. Enemata of oil are often useful, especially when combined with large enemata at low pressure. Belladonna is frequently successful, soothing pain and antagonizing the tendency to spasm. More rarely recourse may be had to opium and its derivatives. Hot local applications and hot baths have a useful sedative effect. Prolonged baths and large hot enemata form the basis of treatment at certain health resorts. It is often of advantage to administer sedatives and employ hydrotherapy for the effect on the general neurosis. Often the patients are debilitated and emaciated, and it is necessary to improve the nutrition and at the same time to prescribe a regimen more appropriate to the state of the digestive canal. Dysenteriform attacks should be treated with enemata of a weak solution of silver nitrate, and hemorrhage by preparations of hamamelis and large enemata at a temperature of 113 F.

MARINE HOSPITAL NOTES.

THE REEDY ISLAND QUARANTINE STATION was seriously damaged on September 22 by the steamship *Falladon Hall*, which ran into the signal tower of the station. Damages estimated at \$15,000.

THE MARINE HOSPITAL established this spring at Dutch Harbor, Alaska, for the care of sick and disabled seamen, will be closed for the winter, as all communication with that point is discontinued on account of ice. It will be opened again in the spring as soon as commercial communication can be had.

PLAQUE SITUATION IN GLASGOW.

A report from P. A. Surgeon Thomas, Sept. 18, 1900, records seven new cases, with two deaths, leaving twenty-one cases then under treatment. The new cases originated in old foci. One female employee at the hospital had a mild attack after being inoculated with Yersin's serum. Infalkin's prophylactic has not been used because of the reaction which follows. Under the use of Yersin's serum there has been great uni-

formity of symptoms, namely, slight soreness for a day or two and, at the end of eight days, usually some urticaria and, less commonly, joint pain. A local dermatitis has probably been due to the disinfectant used on the arm.

NO YELLOW FEVER THIS YEAR.

There has been no yellow fever in the United States this season, which has now so far advanced as to give assurance against an epidemic. It is a cause for special congratulation, particularly as it has prevailed in greater or less degree each of the last three preceding summers and falls. The chief points of danger to the United States have been Havana and Vera Cruz. The smaller cities on the Pacific Coast of Central America are many of them in wretched sanitary condition, and some of them are foci of yellow fever; and as these Pacific Coast ports are annually coming into closer commercial relations with the Atlantic ports, their importance from an epidemiological standpoint becomes magnified. It is gratifying to know that Guayaquil, in Equador, which has heretofore been notably afflicted with a pernicious fever, is being severed and drained under an American civil engineer. There have been a few cases of yellow fever in one or two of the Central American fruit ports, but no epidemic. There have been a few cases of yellow fever at Tampico, Mexico, and also Merida, which is in close communication with its seaport, Progreso. While the number of infected places has been in a measure limited, in the beginning, of course, it was impossible to say how many there would be, and protective measures were taken early by the Marine-Hospital Service with regard to all yellow fever suspected seaports. Its operations may be considered to have begun in the winter, when Acting Assistant Surgeon Hodgson was sent on a tour embracing all the Pacific and Atlantic Coast towns of Central America. His reports, showing the conditions, have been printed in the public health reports. At the beginning of the quarantine season seven acting assistant-surgeons were appointed in as many cities on the Atlantic Coast of Central America at what was termed the fruit ports, to put in operation measures which would enable fruit vessels to be admitted without detention at quarantine at this end (which detention is ruinous to their cargoes), even should a case or two of yellow fever be discovered at the port subsequent to their departure. These fruit port regulations have been rigidly enforced. At Vera Cruz an acting assistant-surgeon of the Marine-Hospital Service was detailed in the office of the United States consul and directed to sign bills of health with the consul. He also kept track of people who left Vera Cruz for the United States overland, and on the Texas border of Mexico, at three points, namely, Eagle Pass, Laredo and El Paso, officers of the Marine-Hospital Service have been and are still stationed to detect any passengers arriving from an infected area and to hold any such a sufficient length of time to cover the incubation period of the disease. Each station is provided with a detention camp and the records of the officers show that a number of persons were thus detained and held. In Cuba there has been no serious outbreak of yellow fever excepting in Havana. Here the Marine-Hospital Service has had a large force of officers and employees, with practically three establishments: one the quarantine station proper at Mariel, some twenty odd miles from Havana, for the reception of infected vessels; another, the disinfecting steamer *Sanator*, for the disinfection of ships leaving for the United States, and the third, a shore plant for the disinfection of baggage of passengers leaving, supplementary to the work of the *Sanator*. All are under the charge of an officer of the Marine-Hospital Service, who, by executive order, has been designated as chief quarantine officer of the Island of Cuba, and is detailed on the staff of General Wood, thus insuring harmony of action between the island military authority and the Marine-Hospital Service. The regulations have required all baggage from Cuba labeled either "inspected" or "disinfected," and since the outbreak of yellow fever in Havana all baggage from that port has been, and is still being, disinfected. The *Sanator*, a description of which was published in THE JOURNAL, under date of May 26, 1900, has proved a very efficient vessel. It is the finest vessel of its kind afloat.

Therapeutics.

Castor-Oil Made Palatable.

B. Saccharin	.....gr. xii	75
Olei gaultheriæ	.....m. xx	133
Alcoholis	.....ʒiv	16
Olei ricini	.....Oj	512

M. Sig. One tablespoonful at bedtime.

The addition of saccharin, aromatic oil and alcohol is of use in rendering cod-liver oil palatable
—*Canada Lancet.*

Creolin in Intestinal Fermentation.

B. Creolin	.....ʒiiss	6
Alcoholis diluti	.....m. xv	1
Ext. glycyrrhizæ	.....ʒi	6
Pulv. glycyrrhizæ, āā	.....ʒiiss	6
Gum tragacanthæ	.....gr. xv	1

M. Ft. pilulæ No. 100. Sig. One pill three times a day.

—*Theor. Gazette.*

Creolin is a dark alkaline fluid derived from coal-tar. It is an antiseptic devoid of irritating properties and is beneficial in treatment of many skin affections. David Walsh, in the *Therapist*, recommends it in the treatment of eczema:

B. Creolin	.....ʒi	4
Aque destil.	.....Oj	512

M. Sig. Sponge the parts well two or three times a day, then apply the following dusting powder:

B. Europhen	.....gr. xxx	2
Zinci oxidii	.....ʒiij	8
Amyli	.....ʒi	32

Chronic Eczema.

In chronic eczema Walsh uses the following ointment:

B. Creolin	.....ʒss	2
Hydrarg. ammoniati	.....gr. x	66
Vasellini	.....ʒi	32

M. Sig. Rub well into the dried patches night and morning.

Eczema of the Upper Lip.

B. Thiol	.....gr. vii	5
Acidi borici	.....gr. lxxv	5
Menthol	.....gr. ʒ½	03
Vasellini	.....ʒi	32

M. Sig. Apply morning and night.

Or,

B. Hydrargyri oxidii flavi	.....gr. x	66
Vasellini	.....ʒvi	24

M. Sig. At night wash the inflamed parts with a hot boric-acid solution, then touch them with spirits of camphor and apply the ointment.

During the day apply the following:

B. Resorcin	.....gr. iii	2
Acidi salicylici	.....gr. iv	25
Zinci oxidii	.....gr. xlv	3
Lanolini	.....ʒiiss	6
Vasellini	.....ʒiii	12

M. Sig. Apply to the lip in the morning after cleansing with hot water.
—*Brocq.*

Thiol is a product of hydrocarbons obtained in a similar manner to ichthylol. It is a brownish-black powder, soluble in water and alcohol, and is used extensively in the form of an ointment in the treatment of various skin diseases, and can be substituted for ichthylol.

For Recent Rheumatic Neuralgias.

B. Phenacetini	.....ʒi	4
Salol	.....gr. xl	266
Caffeina citrata	.....gr. v	33

M. Ft. cachets No. x. Sig. One every four or five hours.

—*Domanski: Zco Manual of Ther.*

Typhoid Fever.

B. Acidi carbonici	.....mx	66
Syr. aurantii	.....ʒss	16
Aque destil., q. s. ad.	.....ʒiij	64

M. Sig. One teaspoonful every two hours. —*M. A. Davis.*

Intestinal Antiseptic.

R. Ichthoformʒiiss	10
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Ft. capsule No. xxx. Sig. One or two capsules three times a day.

Wilcox, in *Jour. Med. Science*, notes the study of the above preparation by Rabon and Galli-Valerio. It is a combination of ichthylol and formaldehyde. Experiments have shown it to hinder the development of bacterium coli, bacillus typhosus, bacillus icteroides, bacillus pyocyaneus and staphylococcus pyogenes aureus. It may be administered in doses of 30 to 45 grains per day.

Surgical Shock.

R. Digitalin	.....gr. 1/3	02
Strychnine arsenatis	.....gr. i	06
Nuclein	.....gr. lx	4
Atropine sulphatis	.....gr. 1 10	006
Syrupi tolutani	.....ʒiv	128

M. Sig. One teaspoonful repeated in an hour or two as necessary.

Martin, in the *Medicus*, states that he has obtained excellent results from the use of the above prescription. In connection with this treatment he uses hot applications to the feet and around the body and administers hot coffee freely.

Tests prove that any other portion of the gastrointestinal tract will absorb strychnin more rapidly than the stomach.

—*Med. Sum.*

Treatment of Hiccough.

R. Sodii bromidi	.....ʒi	4
Potassii bromidi, āā	.....ʒi	2
Ammonii bromidi	.....ʒss	2
Syrupi simplicis, q. s. ad.	.....ʒiv	128

M. Sig. One tablespoonful every hour until relieved.

H. Klein, of Chicago, states that he was successful in checking the hiccough in a patient, which had continued for four days, by the administration of two doses of the above preparation.

Traction of the Tongue in Hiccough.

J. Noir, in *British Med. Journal*, states that he has had success in treatment of hiccough by means of Laborde's method of applying vigorous traction to the tongue. In one case of six hours' duration, traction on the tongue for one and a half minutes arrested the trouble. He also reports another case of six days' duration in which a cure was effected in two minutes by the same method.
—*Canadian Pract. and Review.*

Treatment of Obesity.

The *Canada Lancet* gives an outline of von Hosslin's treatment of obesity:

1. Nourish the patient with a purely albumin diet.
 2. Increase metabolism by means of hydrotherapy, in the form of cold applications and sweat baths.
 3. Administer thyroid extract.
 4. Increase oxidation by means of bodily exercise.
- Von Hosslin insists on carrying out the above lines of treatment in detail and reports that the omission of any part of it is likely to cause increase in the patient's weight.—*Med. Age.*

Milk Leg—Phlegmasia Dolens.

R. Ext. hamamelidis fluidi	.....ʒi	32
Elixiris simplicis	.....ʒi	32
Syrupi simplicis, āā	.....ʒss	16

M. Sig. One to two teaspoonfuls three or four times a day.
—*Preston: Dominion Med. Monthly.*

Or,

R. Ext. belladonnae fluidi	.....ʒi	4
Tinct. opii	.....ʒi	32
Tinct. iodi	.....ʒi	4
Olei olivæ	.....ʒviii	256

M. Sig. Apply to the leg as warmly as can be borne and bandage.
—*Smith.*

Ovarian Neuralgia.

R. Ext. belladonnae	.....gr. iv	25
Ext. stramonii	.....gr. v	30
Lactophenin	.....ʒiiss	6

M. Ft. pilulæ No. xx. Sig. One pill three times a day.

—*C. S. Martin.*

Acute Bronchitis.

R. Vini ipecacuanhæ	.....	℥i	8
Vini antimonii, āā	.....	ʒii	8
Glycerini	.....	ʒiv	16
Sol. ammoniac acetatis	.....	ʒi	32
Aquæ, q. s. ad	.....	ʒiii	96

M. Sig. One teaspoonful every three or four hours.
—*Med. Record.*

Rheumatic Joints.

R. Acidi salicylici	.....	ʒss	16
Olei terebinthinæ	.....	ʒss	16
Lanolini	.....	ʒi	32
Adipis, q. s. ad	.....	ʒiii	96

M. Spread on lint and apply, cover with oil silk and soft bandage.
—*Goillard's Med. Journal.*

Arthralgia (Rheumatic Pains in Joints).

R. Etheris	.....	℥i	8
Aleoholis	.....	℥i	8
Methyl salicylatis, āā	.....	ʒi	32
Linimenti saponis, q. s. ad	.....	℥i	512

M. Sig. As a liniment to be rubbed thoroughly into the joints.

Methyl salicylate is the active principle of wintergreen, of which oil of gaultheria contains 90 per cent.
—*Encyclopedia of Med. and Surgery.*

Gonorrhæal Epididymitis.

R. Sodii salicylatis	.....	ʒii	8
Codeinæ sulphatis	.....	gr. x	66
Aquæ menthæ piperitæ	.....	ʒiii	64

M. Sig. One teaspoonful every three hours.
—*Interstate Med. Journal.*

Mastitis.

With Threatened Abscess of Mammary Gland.

The *Annals of Gynecology* recommends the following:

R. Tinct. phytolacæ dec.	.....	ʒss	16
Aquæ	.....	℥i	512

M. Sig. To be used as a dressing.
The water should be warmed before applied.
—*Med. Summary.*

To Prevent Abortion.

R. Ext. hydrastis fluidi	.....	℥i	8
Ext. hamamelidis flu.	.....	℥i	8
Ext. viburni prunifolii flu. āā	.....	ʒi	32
Tinct. opii	.....	ʒi	6

M. Sig. One and a half teaspoonful in half glass of water three times a day.
Bossi: *Med. Sum.*

Vermifuge Enema—Threadworms.

R. Ext. quassie fluidi	.....	ʒi	48
Aquæ	.....	ʒi	80

M. Sig. One tablespoonful with an equal quantity of warm water as an enema, to be retained as long as possible.
—*Gould and Pyle.*

Emetic for Children.

R. Pulv. ipecacuanhæ	.....	gr. xx	133
Aquæ (boiling)	.....	ʒv	20

Pour on and strain and add:
Honey of squills,..... ʒss 16
Sig. Give one teaspoonful every ten minutes until emesis is produced.
—*Gould and Pyle.*

Pulmonary Emphysema.

R. Potassii iodidi	.....	ʒi	4
Aquæ, q. s. ad	.....	ʒii	64

M. Sig. One teaspoonful after each meal in water, avoiding starches.

Give the above for twenty days in each month and during the remaining ten days the following:

R. Sodii arsenatis	.....	ʒss	2
Aquæ, q. s. ad	.....	ʒii	64

M. Sig. One teaspoonful after each meal.
And every eighth day give gr. iss of aloes with the meal; light diet, plenty of milk, no alcohol nor tobacco.
—*Jour. de Méd. de Paris.*

Arthritis.

R. Extracti hyoseyami	.....	gr. xv	1
Iodoformi	.....	gr. xxx	2
Sodii salicylatis	.....	ʒi	6
Petrolati	.....	ʒv	20

M. Sig. As an external application. —*Therapist.*

Erysipelas.

R. Iodoformi	.....	ʒi	32
Creolin	.....	ʒss	16
Lanolini	.....	ʒi	32
Vaselin, āā	.....	ʒi	32

M. Ft. unguentum. Sig. Apply locally.
Macleek: *Texas Med. Jour.*

Palatable Effervescent Quin.

R. Quinæ sulphatis	.....	ʒi	4
Acidi citrici	.....	ʒi	10
Syrupi aurantii corticis	.....	m. xv	1
Syrupi simplicis	.....	m. xv	1
Aquæ destil., q. s. ad	.....	ʒv	20

M. Sig. Add ten or twenty drops to two ounces of water containing five or six grains of sodium bicarbonate.
Ten drops of the mixture contains about one grain of quin.
—*Therapist.*

Medicolegal.

Temporary Mental Aberration No Defense.—In the case of Castlin vs. State, in which it affirms a conviction of murder, the Court of Criminal Appeals of Texas says that it knows of no such defense as temporary mental aberration, as produced by adequate causes and arising from surrounding circumstances. It says that if the party accused of the crime was insane, and did not know the nature and quality of his act, then he was not amenable to punishment. If he was not insane, and did know the nature and quality of the act, and did know right from wrong, at the time of the commission of the offense, then he would be amenable to the law.

Contradiction by Certificate.—In Smith vs. Standard Life and Accident Insurance Company of Detroit, an action brought to recover on an accident insurance policy, the Supreme Court of Minnesota holds that, in view of the testimony of an attending physician to the effect that the death of the insured was the result of an injury, it was error to exclude from the consideration of the jury a certificate of the cause of such death, signed by that physician, which, to some extent, contradicted his oral testimony, a proper foundation for the introduction of the certificate having been laid.

Notification of Imminence of Death Not Needed.—To render admissible in evidence an ante-mortem statement as to the cause of death, made by a person soon after receiving an injury from which he died, the Supreme Court of Idaho holds, in State vs. Yee Wee, that it is not necessary that it be first shown that the attending physician informed the maker of the statement before he made it that he was going to die. To make such a statement admissible it must be shown that it was made under the belief that death was impending, the imminence of death being apparent at the time. But it makes no difference, the court says, what influence induces the person, whose death is apparently imminent, to believe that he is about to die—whether from his own condition and feelings, or the advice of a physician. His statement as to the cause which brings about his death, made under such circumstances, is admissible in evidence.

Plea for a Medical Defense Union in the United States—The medical profession has many difficulties with which to contend, and one that undoubtedly weighs heavily upon its members is the disadvantages under which they labor in defending malpractice suits. An action of this description brought against a physician does not only affect him personally, but upon his victory or defeat depend to a certain extent the good name and financial position of his medical brethren at large. This being so, it is reasonable to expect that every effort will be put forth by the accused to win his suit, as he is as a matter

of fact fighting in the interests of the entire medical profession. But unfortunately it often happens that the money necessary to employ the best measures to insure success is lacking, and that consequently irreparable injury is done to physicians throughout the country. Dr. Donald B. Pritchard, writing in the *St. Paul Medical Journal*, July, proposes that a medical defense union, formed on the lines of that now in existence in England, should be established in this country. His idea is to organize a mutual association, the membership of which should be confined to those who belong to the state or some properly organized medical society. In order that the organization might be of the highest standing, it would not be proper to defend one guilty of gross malpractice. That this might be accomplished, every case should be submitted to a standing committee, who after a thorough examination would decide whether or not it would be proper for the association to defend. If the decision is not satisfactory to the member, then a board of arbitration should decide the matter. When the association undertakes the defense, the member involved should be pledged to be absolutely guided by it in the conduct of the case, and that it should not pay any part of the verdict, simply incurring liability for all expenses of the trial. Dr. Pritchard says that he has communicated with a number of well-known lawyers, and that they all say that there is no legal bar to such an association, and that there is no more likelihood of juries being adversely influenced than in the case of any other corporation. The suggestion is at least worthy of consideration, and the good work done by the English Medical Defense Union should act as encouragement for the establishment of a similar organization in this country.—*New York Med. Record*, Sept. 15.

[Would it not be more economical, and far better, to have each state society take up this as one of its duties to its members than to organize an association especially for the purpose as suggested above? Ed.]

Opinion of Medical Expert as to Cause of Death.—The Supreme Court of South Carolina says, in the case of *State vs. Foote*, that it is very common practice to allow a medical expert to state his opinion as to the cause of death, based on his own personal observation. And it holds that, while it is quite proper that the jury, as far as practicable, should be informed as to the facts or circumstances on which the opinion is based, it is not error to permit such expert opinion when it appears to be based on the witness' personal observation. If the objecting party desires, he may, on cross-examination, it explains, develop all the circumstances inducing the opinion which are capable of reproduction to the jury, and thus test the value of the opinion. But a hypothetical statement of facts as the basis for the opinion of a medical expert as to the cause of death, the court holds, is not necessary when the opinion is based on the personal observation or examination of the witness. Then, exception was taken, in this case, a prosecution for murder, to the reason which the trial judge assigned for refusing to grant a new trial for insufficiency of evidence, namely, "that, if the doctor had stated that the death was not caused by the wound, the jury had the right to disregard the testimony and find that the wound caused the death of the deceased." Still this, the court holds, did not constitute error of law. A circuit judge, it adds, is not bound to set aside a verdict, even if the jury in reaching its conclusion may disregard the opinion of an expert.

Witness Not Allowed to Exhibit His Own Injury.—In the case of the *Grand Lodge, Brotherhood of Railroad Trainmen, vs. Randolph*, certain medical witnesses for Randolph testified, in effect, that a fractured leg never gets well, and that a person who has suffered such a fracture will be disabled from performing train service on railroads. The fraternal benefit society named sought to dispute this testimony by the experience of one of its witnesses, and by the exhibition of his leg to the jury. This witness was permitted to testify that his ankle had been crushed and injured as seriously as Randolph's leg had been, and that it had so far healed that he was still able to perform his duties in the train service of the railroad company. But he was not allowed to exhibit his injured ankle to the jury. In this the Supreme Court of Illinois holds that

there is no error. It says that it is obvious that the point at issue was the extent of the plaintiff's (Randolph's), and not of the witness', injuries, and that to have permitted the close scrutiny requested into the nature and extent of the injury to the witness' ankle would have raised a collateral issue, and diverted the minds of the jury from the issues submitted to them. And the supreme court affirms a judgment holding that Randolph was permanently disabled by being thrown from a locomotive engine and having the bones of his right leg broken, so as to be entitled to recover the amount stipulated in the constitution of the society for a total permanent disability.

County Association Entitled to Fines.—Section 153 of chapter 398 of the laws of New York of 1895 provides that "when any prosecution under this article (for practicing medicine without lawful registration as a physician) is made on the complaint of any incorporated medical society of the state, or any county medical society entitled to representation in a state society, the fines, when collected, shall be paid to the society making the complaint," etc. In the case of the *New York County Medical Association vs. the City of New York*, the right of the former to such a fine, which had been collected in a case where it had made complaint, was tested. The association showed that it had been since 1890 a duly incorporated society of the state of New York, entitled to representation in the *New York State Medical Association*, which was incorporated in 1884, and that the state association is the accredited society in the national body of physicians known as *THE AMERICAN MEDICAL ASSOCIATION*. Such being the case, the Supreme Court of New York, New York County, holds that the *New York County Medical Association* meets all the requirements of the act of 1895 above mentioned, and that there appears to be no solid legal reason why it should be excluded from the benefit of its provisions. "Association" and "society," the court holds, are convertible terms. To this it adds that the statute was not enacted for the benefit of any particular corporation, but for "any incorporated medical society" entitled to representation in the state society, and that it was passed to protect the public from illegal medical practitioners, and that the more numerous the informers and rigid the prosecution the better for the public and the medical profession. Nor does the court yield assent to the argument that the act was for the exclusive benefit of three societies—the regular, homeopathic and eclectic—because they were named in certain prior acts, and possess certain rights which the *New York County Medical Association* does not possess.

Societies.

Coming Meetings.

New York State Medical Association, New York City, Oct. 16-18.
American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Medical Society of Virginia, Charlottesville, Oct. 23.
Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13-15.

Oklahoma Territory Medical Society, Oklahoma City, Nov. 15.
The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, Nov. 13-15.

THE SENECA FALLS (N. Y.) MEDICAL ASSOCIATION was organized September 26, with the following officers: Dr. Frank M. Severson, president; Dr. Frederick W. Lester, vice-president; Dr. Hubert Schoonmaker, secretary and treasurer.

THE MALDEN (Mass.) MEDICAL SOCIETY, at its annual meeting, September 18, elected the following officers: Dr. Charles E. Prior, president; Dr. Charles D. McCarthy, vice-president; Dr. Frank W. Plummer, treasurer, and Dr. William J. Weeks, secretary.

THE ABERDEEN (S. D.) DISTRICT MEDICAL SOCIETY, at its annual meeting at Aberdeen, September 22, elected the following officers for the ensuing year: Dr. William Edwards, Bowdle, president; Dr. Frank Miller, Aberdeen, vice-president; Dr. George E. Countryman, Aberdeen, secretary and treasurer.

THE BOURBON COUNTY (Ky.) MEDICAL SOCIETY was organized in Paris, September 20, and the following officers were elected: Dr. Washington Fithian, Paris, president; Dr. William V. Huffman, Millersburg, vice-president; Dr. Frank L. Lapsley, Paris, secretary, and Dr. Silas Evans, Paris, treasurer.

THE BALTIMORE COUNTY (Md.) MEDICAL ASSOCIATION held its regular meeting September 20 at Towson. Dr. William S. Gardner, Baltimore, read a paper on "Uterine Hemorrhage," and cases were reported by Drs. William P. E. Wyse, Pikesville, Charles G. Hill and L. Gibbons Smart, Baltimore; H. Burton Stevenson, Rider; R. Percy Smith, Sunny Brook, and Jackson Piper, Baltimore.

THE FRANKLIN COUNTY (Vt.) MEDICAL SOCIETY held its semi-annual session at Swanton, September 27. An address was delivered by the vice-president, Dr. Edmund T. Brown, Montgomery Center. Dr. Clarence E. Allen, Swanton, read a paper on "Gonorrhoea, Its Influence on the Uterus and Its Appendages." Papers were also read by Prof. John B. Wheeler, Burlington, and Dr. Harlow E. Dunton, Swanton.

THE ST. JOSEPH COUNTY (Ind.) MEDICAL SOCIETY met in South Bend, September 25. Dr. John B. Berteling, South Bend, made a report of the meeting of the Kankakee Valley District Medical Society at Hammond; Dr. George W. Van Bensehoten, South Bend, read a paper on "The Relation of General Health to the Eye and Its Diseases," and Drs. Fred P. Eastman, Charles Stoltz and others reported cases.

THE NORTH CENTRAL OHIO MEDICAL SOCIETY held its seventy-sixth quarterly session at Mansfield, September 28. Papers were read by Dr. Feorus F. Lawrence, Columbus, on "Pelvic Suppuration"; Dr. James B. Herriek, Chicago, on "Some Points in the Diagnosis of Gall-Stones"; Dr. William D. Hamilton, Columbus, on "The Dangers of Delay in Cases Having Surgical Possibilities"; Dr. Albert F. Hyde, Shelby, "Brief Talks on Various Subjects," and Dr. Adam H. McCullough, Mansfield, on "Hay Fever."

THE GOLDEN BELT (Kad.) MEDICAL SOCIETY met at Enterprise, October 4. President Dr. James R. Crawford, Salina, in the chair. Papers were read by Dr. Wilher E. Fowler, Brookville, on "A Scientific Poultice," Dr. Joseph F. Brewer, Minneapolis, on "Etiology and Treatment of Some of the Diseases of the Stomach," Dr. William Frick, Kansas City, Mo., "More Complications of Gonorrhoea"; Dr. Henry M. O'Donnell, Ellsworth, "X-Ray and Its Advantages in Country Practice," and Dr. Charles Hewitt, Wakefield, on "Practice of Medicine in an Early Day." Clinical cases were also reported by other members of the society.

THE SARATOGA COUNTY (N. Y.) MEDICAL ASSOCIATION was organized September 28 at Saratoga Springs, as a branch of the New York State Medical Association. Dr. Tabor B. Reynolds, Saratoga Springs, was made temporary chairman and Dr. Fred J. Ressegine, Saratoga Springs, temporary secretary. Dr. Frederick Holme Wiggins, New York City, stated the objects of the New York State Medical Association and the benefits to be derived from affiliated county organizations. The following officers were elected: Dr. Frank A. Sherman, Ballston Spa, president; Dr. George F. Comstock, Saratoga Springs, vice-president; Dr. John E. Humphrey, Saratoga Springs, secretary, and Dr. William E. Swan, Saratoga Springs, treasurer. It was decided to adopt the code of ethics of THE AMERICAN MEDICAL ASSOCIATION and to request the council of the State Medical Association to accept the Saratoga County Association as an affiliated branch.

THE IDAHO STATE MEDICAL SOCIETY held its eighth annual meeting at Boise October 4 and 5, conjointly with the autumnal semi-annual meeting of the Southern Idaho Medical Association. President Dr. Ed E. Maxey, Caldwell, in the chair. Papers were presented by Dr. Hubert A. Castle, Pocatello, on "Inter-uteroplacental Hemorrhage," Dr. Lucien P. McCalla, Boise, on "Hydraulic Pressure a Means to Open the Common Duct, Which Remained Closed After Removal of Impacted Gall Stone," Dr. R. C. Coffey, Portland, Ore., on "A Method of Retaining a Fixed Dressing for Fracture of the Ilium," Dr. C. E. Worthington, Mullan, on "Reciprocity Between State

Medical Examining and Licensing Boards," Dr. Harry D. Niles, Salt Lake City, Utah, on "The General Practitioner and the Specialist," Hon. E. J. Dockery, Boise, on "Physicians as Expert Witnesses," Dr. Edwin F. Guyon, Montpelier, on "The Proper Method of Using the Sound in Cases of Urthral Stricture," Dr. Carl Schulin, Helena, Mont., on "Homatropin in the Refraction Room," Dr. Warren D. Springer, Boise, on "Position in After-Treatment in Abdominal Operations," Dr. Michael A. Hughes, Salt Lake City, Utah, "Report of Some Cases," Dr. Alexander Hunter, Kendrick, "Report of a Case of Tetany," and Dr. Ed E. Maxey, Caldwell, retiring president. delivered an address on "The Clinical Importance of Examining the Blood."

THE ASSOCIATION OF ASSISTANT PHYSICIANS OF HOSPITALS FOR THE INSANE held its eighth annual session at the Central Indiana Hospital for the Insane, Indianapolis, September 26, 27 and 28. Papers were read by Dr. W. A. McCorn, on "Genesis of Hallucinations"; Dr. George Boody, Independence, Ia., on "Katatonia"; Dr. Fred L. Pettijohn, Indianapolis, on "Asexualization as a Means of Prevention"; Dr. Vaclav Podstata, Hospital, Ill., and August F. Lemke, Chicago, on "Delirium in its Various Forms, and Special Reference to the Differential Diagnosis and Prognosis"; Dr. Emmet F. Enos, Hospital, Ill., on "A Case of Punctured Wound of the Brain"; Dr. William MacLack, Ann Arbor, Mich., "Report of a Case of Diabetes, with Remarks on Treatment"; Dr. John B. Briggs, Jr., Baltimore, on "The Systematic Relations of Bacteria and the Infectious Diseases"; Dr. Theophile Klingman, Ann Arbor, Mich., on "The Pathology of Incipient Insanity"; Dr. Albert M. Barrett, Independence, Ia., on "Pathology," and Dr. Irwin H. Neff, Pontiac, Mich., on "The Use of Hypnotics and Sedatives in the Insane." The last day of the session was occupied by the discussion of the developments in the clinical study of psychiatry. The following officers were elected: Dr. Fred L. Pettijohn, Indianapolis, president; Dr. Vaclav Podstata, Hospital, Ill., vice-president; and Dr. Irwin H. Neff, Pontiac, Mich., secretary and treasurer.

San Francisco County Medical Society.

Regular Monthly Meeting, Sept. 13, 1900.

President Elmer E. Kelly, M.D., in the chair.

ETIOLOGY AND SYMPTOMATOLOGY OF RICKETS.

DR. WILLIAM FITCH CHENEY presented a paper on this subject. It affects not only nutrition of bone, but of all the soft tissues of the body. The most important causative factor is deficiency of fat in the food. A loss of proteids is also a causative factor, for if fat and proteids are both deficient, rickets is more apt to occur than if fat alone is deficient. The probability of the disease is greater also if an excess of carbohydrates is present with a deficiency of fat, and it is for this reason that rickets is so often seen to occur in infants fed on condensed milk. Another important factor is poor hygienic surroundings.

The sweating of the head so often seen in infants while sleeping at night is a symptom of great importance, and should always make the practitioner suspicious of this disease. Restlessness at night, constipation and delayed or irregular dentition are also important symptoms. The enlargement of the epiphyses of the long bones, the rosary, which is very prominent in some rachitic children, should be looked for. The delay in closure of the anterior fontanelle and the square box shaped head are evidences of the development of rickets. The children usually complain of tenderness of the whole body, dislike being carried, and sometimes cry out in being lifted or handled. Flabby muscles and ligaments are frequently overlooked, but are often an evidence of rickets in children slow in beginning to walk. The protuberant abdomen is seen early. There is a tendency to gastrointestinal bronchopulmonary catarrh. There are many symptoms referable to the nervous system. Rickets is one of the great predisposing causes to convulsions, and should always be looked for. Laryngismus stridulus is usually due to this affection, and the tendency on the part of an infant to hold its breath, even until it is black

in the face, usually occurs in rachitic children. By these symptoms one can recognize this disease before deformities of bone occur, when it may be possible to prevent them.

THE ETIOLOGY AND DEVELOPMENT OF DEFORMITIES OF THE SKELETON IN RICKETS.

DR. H. M. SHERMAN confined his remarks to a consideration of those types of the disease ordinarily seen in California, excluding the severer forms sometimes seen in Eastern and European clinics. That moderately severe cases are seen here is evidenced from the photographs which he presented. Cranio-tabes is very rare here. It is due to deficient ossification, plus the pressure of the head on the pillow or on the bed; gravity then is one cause of the thin bone and the flattened occiput, the skull not being strong enough to bear its own weight, and that of the contained brain. Deformities of the skull are common; most frequent is the somewhat flattened vertex, with the depression at the anterior fontanelle; next is the flattened occiput, due to prolonged recumbency. In cases of cranial asymmetry he suspects rachitis. Deformities of the thorax are due to muscular force on one side and atmospheric pressure on the other, together with gravity. If the child has rickets early and spends much time lying on its back it would get the broadening of the thorax and the lessening of its depth. If the rickets came a little later, when the child was already sitting or standing, the atmospheric pressure would flatten the ribs anterior to the angle, and by so doing would throw the anterior end forward, carrying the costal cartilages. Whether the sternum were prominent or depressed would depend on the strength of the costal cartilages. If strong enough, the sternum would be carried forward with them; if weak, the sternum would be depressed by atmospheric pressure. The transthoracic groove—Harrison's groove—marks on the outside the attachment of the diaphragm on the inside. As this muscle pulls, the resistance offered by the ribs is less than that offered by the distended abdomen, and instead of the abdominal contents being forced down, the ribs are drawn in; the lowest ribs are however, tilted outward by the distended abdomen, and this gives them their flare, and makes the lower boundary of the Harrison groove. Ordinarily the deformities of the thorax are symmetrical. He regards scoliosis as a deformity of the rachitic thorax. He has never seen a scoliotic that did not show obvious marks of a rachitis, so that the real cause of the deformity of youth and of adolescence must be looked for in the dietary of infancy. It is not common to see deformities of the arms or forearms apart from enlargements of the wrist epiphyses, and some slight increase in the natural curves of the bone. The deformities of the trunk and upper extremities are not of great surgical interest, as they usually do not require correction by surgical methods. The deformities of the lower limbs often require correction, because they are frequently extreme, and because they interfere with the function of the part.

Coxa vara, or the bending downward of the neck of the femur, is probably often a manifestation of late rickets. The natural curve or spring of the shaft of the femur is frequently increased in rachitic children. If the child has been walking, the body-weight is contributed to the deformity, but it exists in children that have not walked as a result of mechanical action. The curve of the femur may be part of the general curve which reaches from the hip to the foot, the leg bones being curved on about the same radius. This deformity is the common bow-legs. In these cases the knee-joint contributes to the deformity, the relative length of the condyles being disturbed, so that the outer is too long. This increased length is probably because of over-growth of the outer condyle, due to the rachitic congestion of the bone and lack of pressure, for, where the body weight is on such a leg, the force on the convex side of the leg is plainly tensile, and not compressive. Furthermore, the ligaments at the knee in these cases are always lax, so that there is actual separation between the outer femoral condyle, and the outer tibial tuberosity, when the child stands. This condition at the knee is genuvarum. The reverse condition at the knee, or genuvalgum (knock-knees may occur, but it is never part of the general curve, though it may be one

of the many deformities. The rachitic child always has a tendency to flat-foot, from structural weakness of muscles and ligaments, but this tendency is increased by the outward curve of the leg bone, their shape tending to transmit an inward thrust to the tarsus, and so to roll it over inward. Serious cases of rigid flat-foot combined with slight excurvation of the leg bones in their lower portion are not uncommon. The author concludes that: 1. Structural weakness in the bone is the essential cause of the skeletal deformities in rickets. 2. The active deforming force is either muscular action, or too great superincumbent weight, or pressure by some external object, or gravity. 3. The bone yields always in the direction of the greater force, and this direction is often determined by the natural shape of the bone, the tendency being to increase normal curves. 4. In some cases where there is no other reinforcing bone, there is a hypertrophy of the deformed bone, to antagonize the deforming force. 5. Symmetrical deformities are characteristic of rachitis, the similarity of structure of the two limbs, and the similarity of the mechanical conditions in them, tending to produce similar resulting deformities.

TREATMENT OF DEFORMITIES DUE TO RACHITIS.

DR. I. J. HUNKIN presented a paper on the above subject. For deformities of the skull, the ribs and the pelvis surgery offers but little remedy, and these are the forms fortunately rarely seen with us. Under proper care, also, nature proves often fully competent to attend to most of the deformities of the upper extremities, and to a large extent also to the long outward curves of the femora. In the vast majority of cases the surgery of rachitic deformities has relation to changes in the tibia. Surgically, there are three plans of treatment: expectant, mechanical and operative. The expectant method relies largely on the efforts of nature, aided, of course, by the hygienic and medical control of the case. This usually succeeds in mild, and often in medium, degrees of deformity, when the patient is 2 years, and perhaps 3 years of age. The long curves of the femora and humeri are especially amenable to treatment in this manner. The mechanical treatment has two divisions: ambulatory and recumbent. The ambulatory, meaning the attempt to correct the deformity by the wearing of splints and braces during locomotion, is to be condemned. There is no doubt that any of these deformities can be corrected by mechanical applications in the hands of the surgeon in young children, and perhaps in older children, if the patient is kept recumbent during treatment, but even here it is a waste of time and energy. If the child is to be confined to bed during the treatment it is far better that the proper operative procedure should be adopted, the deformity corrected at once, after which simple retentive splints are alone necessary. The patient needs no special care and in six or eight weeks is up and about and in as good condition as he would be in as many months with apparatus alone. There are three operative procedures: osteoclasis, osteotomy and osteotomy. Osteoclasis is the simplest operation and most generally applicable in the great majority of cases, especially where the deformity involves most of the shaft of the bone, or where the summit of the curve is not close to a joint. The author uses for this purpose of the osteoclast of Grattan. While it is generally taught that the force should be applied at the summit of the greatest concavity, he usually prefers the point of the greatest convexity, believing that he gets earlier reposition, and less danger of twisting the bone before the blow is delivered by the instrument. Osteotomy is performed with the regular osteotome. The leg being supported on a sand-bag, the incision is made with the osteotome, the edge being held perpendicularly to the leg and the division being made by forcing the blade through the soft tissues with the hand, or preferably with a sharp tap of the mallet. When the bone is reached the blade is rotated in the tissues until the cutting edge is across the bone, into which it is driven to the desired depth. No attempt is made to cut through the whole bone, for division of 3/5 of the circumference allows ready reposition of the deformity. The osteotome being removed, the proper correction is made manually. The incision receives no attention, except being covered with a clean pad. The position secured

is maintained with a plaster-of-paris splint. Union is usually prompt and satisfactory. Osteotomy, or osteostomy, is performed through an open incision and consists in removing a wedge of bone from the apex of the deformity, the base of the wedge being from the convex surface. This wedge is resected with the chisel, or the osteotome, and the mallet. No bone suture is necessary. The periosteum and skin are closed separately and a plaster-of-paris splint applied. The union after all these operations is generally prompt and relapse is very infrequent. For deformities of the shaft at any point, when the apex of the curve is 5 cm. or more from the joint, osteoclasia is the operation par excellence in the great majority of cases. Close to the joint line osteotomy is always to be preferred.

DIAGNOSIS AND TREATMENT OF RACHITIS.

DR. E. G. FRISBIE called attention to the fact that scorbutus and rickets may co-exist, and that the diagnosis of the latter can be made by the absence of the intense pain in the region above the epiphyses, and if teeth are present, by the absence of ulcerative stomatitis. From acute rheumatism rachitis may be differentiated by reason of the less acute pain and absence of any considerable fever and joint swelling; from Pott's disease, by the longer spinal curvature and less rigidity of the spine, although this differentiation may in some cases be very difficult. From osteomalacia the differential diagnosis is impossible, but happily this disease is so rare in this region that it may practically be excluded. The constitutional treatment of rickets should consist of hygienic, dietetic and medicinal measures. Since by far the larger number of rachitic patients are among the poor, it becomes of the first importance to see that the hygienic conditions are improved. The dietetic management is important both as a prophylactic and a curative measure, and in the nursing infant this should begin with attention to the diet of the mother. Artificially-fed infants should be fed on a modified cows' milk. For older children, the author advises an abundance of fresh butter spread upon bread, and the continuance of the use of a larger proportion of milk, as well as beef juice and meat broths.

The medicinal treatment consists of the careful regulation of the bowels and the use of cod-liver oil, which the author considers the most generally useful drug. Phosphorus he also considers beneficial in doses of 1/200 to 1/100 of a grain for children of 2 to 6 years, and smaller doses to younger children. For the anæmia accompanying the disease, the syrup of the iodid of iron is the preparation of his choice.

American Electrotherapeutic Association.

Tenth Annual Meeting, New York City, September 25-27, 1900.

Dr. Walter H. White, Boston, in the chair.

ELECTRIC LIGHT AS A THERAPEUTIC AGENT.

DR. CHARLES O. FILES, Portland, Me., said that the electric light acted by impairing the vitality of the bacilli, partly by the action of the light per se, and in part by the incidental generation of ozone. The treatment was preferably given in connection with an arc-light cabinet. In all of the incipient cases of tuberculosis in which he had tried this method, there had been improvement.

DR. WOLFF FREUDENTHAL, New York City, read a paper on "Electric Light; Its Physiological Action and Therapeutic Value in Tuberculosis of the Throat and Lungs." He discussed the evidence at hand concerning the germicidal action of light, and reported several cases in illustration of what might be accomplished by the electric-light treatment.

A REPORT ON THE PRACTICAL VALUE OF CROTTE'S METHOD OF TREATING CONSUMPTION.

DR. EGBERT LEFEVRE, New York City, presented this report. It was founded on a three-months trial of the method in St. Luke's Hospital with the object of fairly testing the claims of the inventor. To that end careful records were kept of both the local and general condition of all the patients taking the treatment both before and after. Not one of the cases in the first stage of the disease showed any abatement of the local

process, and in two of these patients the change for the worse was so apparent after two weeks that the treatment was discontinued. Three of this series showed some temporary improvement, but no more than they had exhibited during the stay in the hospital under hygienic and dietetic treatment. A case of tuberculosis of the glands was made so much worse by the irritation set up by the iodine and by the electrical application, that the glands broke down, necessitating an operation. Coincident with this breaking down of the glands there was a rapid increase of the disease in the lungs and the case ran a very rapid course. In the advanced cases the treatment apparently did harm. The treatment consisted in giving the patients static electricity while seated on an insulated stool. In addition to this a towel moistened with a solution of formalin was placed on the chest, and a solution of iodine in spirits of camphor was painted over the chest at the site of the pulmonary disease. When the pathologist of the hospital reported that he was unable to find, after examination of the patient's secretions, any evidence of absorption of either iodine or formalin, Mr. Crotte retorted that he was not competent to carry on such an investigation. To be perfectly fair, Crotte was then allowed to have this part of the work done by his own chemist, but the latter was also unable to find evidence in support of Crotte's contention and boasted claim that these substances were driven into the patient's system by cataphoresis. Crotte's claim having thus fallen to the ground, and the clinical investigation having demonstrated the worthlessness of this method of treatment, it was abandoned.

DR. WILLIAM J. MORTON, New York City, said he had gone to St. Luke's Hospital to find out the Crotte method, and had been unfavorably impressed by what he had seen there. A patient was being treated at the time with static electricity obtained from a modern American machine. On the other side of the room stood a French ebonite plate machine, from which he could elicit no sparks, yet he was informed that this French machine was their main reliance in giving the Crotte treatment, the other machine having "no cataphoric power!" Dr. Morton went on to say that he was not aware that vapors could be introduced into the body by cataphoresis, and if the Crotte method were to receive any further attention from the scientific physician it was essential that a clear understanding should be had of the electrophysics on which it is based. At his suggestion, the association appointed Drs. William J. Morton, Robert Newman and Emil Heuel, New York City, a committee to settle definitely this vital question.

GENERAL WORK OF A GYNECOLOGIST.

DR. FRED H. MORSE, Melrose, Mass., read a paper on the above subject. He said electricity was invaluable in making a diagnosis of deep-seated pus formations, and electrical treatment in his hands had been most satisfactory in cases of metritis, endometritis, subinvolution, displacements, ovarian neuralgia and painful menstruation. He preferred to use large electrodes made of asbestos cloth, and looked on an ammeter and a good high-tension faradic battery as necessary parts of the office armamentarium of the successful physician.

THE MORTON WAVE CURRENT.

DR. W. B. SNOW, Atlanta, Ga., said it was the only current of very high potential that could be passed through the body with little or no discomfort, and the fact that it penetrates every part of the body gives it a unique position as a therapeutic agent. This current when applied to the human subject produces: 1, a marked lowering of arterial tension; 2, a reduction in the frequency of the heart's action, with an increase in the volume of the pulse; 3, increased oxidation and metabolism; 4, a sense of drowsiness, and 5, a sense of fatigue if the treatment is unduly prolonged. It was most important to repeat the application, in cases of neuralgia before the pain has returned with an degree of severity. For sprains and bruises it is unexcelled.

DR. WILLIAM J. MORTON, New York City, also made some remarks on this current. He believes that it embodies all that is to be obtained from the static machine in current form. The treatment is more agreeable than with the static induced current, it is just as easily localized, and its action is more

widely distributed in the body. It produces marked analgesic effects.

DR. C. R. DICKSON, Toronto, DR. LUCY HALL-BROWN, Brooklyn; DR. MARGARET A. CLEAVES, New York City, and DR. WALTER H. WHITE, Boston, all spoke favorably of the action of this current in neurasthenia, neuralgias, neuritis, rheumatoid arthritis and other diseased conditions.

THE CAUSES OF SOME CASES OF NEURASTHENIA AND THEIR TREATMENT.

DR. FRANCIS B. BISHOP, Washington, D. C., read this paper. As a result of his studies of the urine in cases of neurasthenia he had learned that there was quite commonly a diminution in the urea and an increase in the phosphates. The object of treatment, he reasoned, should be to promote such changes as result in the formation and elimination of a larger quantity of urea. Muscular exercise is good, but as these patients are already fatigued, he selected electricity as the agent best suited for his purpose. The treatment begins with mild galvanization of the brain and spinal cord, and is followed by general faradization and finally by exposure of the whole body to the static breeze by the use of an apparatus which he calls an ozone cage. This last application he finds particularly soothing and pleasant to these patients.

X-RAY PHOTOGRAPHY.

DR. E. R. CORSON, Savannah, Ga., presented a paper on this subject. He insisted that good skiagraphs of bones should give good detail in the bones themselves. He recommends using a coil giving only an 8 or 10-inch spark, and using all the current the X-ray tube can stand. All his negatives are intensified until they are very black and dense.

ELECTRICITY IN BRAIN FAILURES.

DR. D. R. BROWER, Chicago, read a paper on the above subject. He finds that these cases are very often associated with a dilated stomach, and here he strongly advises the daily use of intragastric galvanization, using Einhorn's electrode. In addition he resorts to galvanization of the brain, using a current of one or two milliamperes for two minutes. This is followed by transverse and bulbar galvanization, and lastly by static insulation.

ELECTROTHERAPY OF INSANITY.

DR. ALFRED T. LIVINGSTON, Jamestown, N. Y., described his very favorable experience with the use of electricity in cases of melancholia—a method almost unknown to those who have most to do with insanity. The treatment is founded on the theory that insanity is largely dependent, in the first instance, on circulatory changes in the brain. A current of 10 to 15 milliamperes is used on the lower pair of sympathetic cervical ganglia, one of 8 or 10 milliamperes on the second pair, and one of 5 or 8 milliamperes on the upper pair, the electrodes being carefully slid along so as not to produce a break in the current.

The following officers were elected: President Dr. Ernest Wende, Buffalo; vice-presidents, Dr. Fred H. Morse, Melrose, Mass., and Dr. D. R. Brower, Chicago; secretary, Dr. George E. Bill, Harrisburg; treasurer, Dr. R. J. Nunn, Savannah; chairman of executive committee, Francis B. Bishop, Washington. The next annual meeting will be held in Buffalo, beginning the first Tuesday in September, 1901.

California Academy of Medicine.

Monthly Meeting, September 25, 1900.

ECTOPIC PREGNANCY.

DR. J. HENRY BARBAT exhibited both Fallopian tubes removed from a patient who was taken, twenty-four hours previous to the operation, with severe pain in the abdomen, accompanied by pallor and faintness. She had missed her menses the month before, after having been regular for four years, and had felt that something was wrong with her, as she had some pain in the pelvis, and thought she might be pregnant. A diagnosis of ectopic pregnancy was made and operated on immediately. When the abdomen was opened fully a liter of blood poured out, containing a number of clots. The left tube

was lifted out of the belly and found to contain a large quantity of blood, its fimbriated extremity being completely occluded. It was removed, leaving the ovary, which was normal. The right tube was then lifted out and found ruptured near the distal end. It was removed and, on opening it, a fetus of about three weeks was discovered. The left tube contained fluid blood and a decidua which formed a closed sac at both extremities of the tube.

He describes a second case of tubal pregnancy in which the fetus was not more than two weeks old. The menses had been delayed several days, and when they appeared, kept dribbling longer than usual. The patient also noticed a sharp pain in the pelvis on the right side, but otherwise felt perfectly well. A diagnosis of ectopic pregnancy was made and the tube removed, which was not yet ruptured, but was leaking blood from its fimbriated end. A peculiar coincidence is that the patient's sister died a few years ago from ectopic pregnancy.

A CASE OF LEPROSY.

DR. D. W. MONTGOMERY reported a case of a white woman who contracted leprosy in San Francisco. This woman presented herself on Nov. 14, 1899. She was 50 years of age and was suffering from paralysis agitans. Her father still lived and was 80 years of age. Her mother had died three years previously at the age of 75. On coming from Ireland to San Francisco, in 1870, she married an Irishman, who had lived in Ireland, Boston and San Francisco, and nowhere else. He had died in 1882 from hemorrhage of the stomach. Patient said her husband had never had any blotches on his skin. She had had two children and one miscarriage. There was a group of smooth, glistening, firm, prominent tubercles on the left cheek, and there was a tubercle near the vermilion border of the upper lip, to the left of the philtrum. There was one tubercle on the nose tip, and the lobes of the ears were infiltrated and nodular, and there were leucoplasia-like patches on the roof of the mouth. There were tubercles or red maculae scattered over the skin of the upper and fore arms.

There was no demonstrable enlargement or tenderness of the right ulnar or median nerves, but the left ulnar nerve was slightly enlarged and very sensitive to touch. The skin of the backs of the hands and, to a slight extent, of the left fingers was swollen, smooth, waxy-looking, and had tubercles scattered in it. The sensations of touch and pain were normal in both upper extremities. Both legs were swollen, with red blotches and tubercles in the skin. Microscopic examination was made of the juice squeezed from one of the tubercles, and a large number of lepra bacilli were found.

The woman was said to have subsequently died of pulmonary tuberculosis.

This is the second case of leprosy in a Caucasian that he had ever seen during a practice of over fourteen years in San Francisco. He assumes from this that while the danger of the spread of leprosy in California among the whites is not pressing, it must be remembered that it is a disease that slowly and tenaciously invades a country, the invasion to become appreciable often requires several generations. In the fullness of time, when many lepra centers are established, the invasion seems to be more rapid.

DR. J. HENRY BARBAT thought there was some possibility of the nodes on the skin of this patient being tuberculous, as the patient had died of pulmonary tuberculosis. The similarity of the lepra bacillus to the bacillus of tuberculosis might account for the apparent finding of the lepra bacillus in the tubercles of this patient.

DR. PHILIP KING BROWN said that the bacilli being found in the skin in large numbers would, in itself, be almost diagnostic of leprosy. In post-mortem examinations he had found large numbers of the bacilli all through the skin, as well as in the nodules.

DR. MONTGOMERY said that almost all cases of tubercular leprosy die of tuberculosis. He finds no difficulty in differentiating between the lepra bacillus and the bacillus tuberculosis. The bacillus tuberculosis is very seldom found in cases of lupus, which, by the way, is a very rare disease in California.

Cleveland Medical Society.

Regular Meeting, September 14.

President Dr. Henry S. Upson in the chair.

DR. P. M. FOSHAY introduced a resolution, which was unanimously adopted, requesting the State Board of Medical Registration and Examination to raise the standard which it has prescribed for those wishing to enter on the study of medicine.

POPLITEAL ANEURYSM.

DR. CARL A. HAMANN presented a case of popliteal aneurysm which had been cured by digital pressure of the femoral artery for forty-six hours. The aneurysm had been about the size of a hen's egg, and had been accompanied by the usual signs, that is, a distinct bruit, expansile pulsation, some edema of the leg, and also distension of the superficial veins. Operation was contraindicated by the existence of a dilated aorta and a hypertrophied left ventricle. He said that digital compression is the best way of treating popliteal aneurysm, and this should always be tried before an operation is resorted to.

PRACTICAL POINTS ON THE MANAGEMENT OF LABOR.

DR. FRANK S. CLARK read a paper on this subject, in which he emphasized the importance of all antiseptic precautions in obstetric work, and suggested that obstetrics was neglected by medical societies. He stated that in all instances puerperal sepsis is due to lack of cleanliness on the part of the physician or the nurse. He suggested that the fees in obstetrics are much too low, which is probably one reason for which physicians are inclined to be somewhat careless in their work, particularly in the matter of making sufficient visits after confinement to be personally assured that their patient is doing well.

DR. HARRIS G. SHERMAN, in the discussion, said that ophthalmia neonatorum is one of the great causes of blindness and can always be avoided by the physician himself washing out the eyes with some simple antiseptic. Nitrate of silver, as often used, is too strong.

DR. RALPH J. WENNER thought that obstetrics was not more neglected than other branches of medicine. He had seen ophthalmia neonatorum in a few cases arise under what appeared to be perfectly aseptic conditions. While there is some carelessness in obstetric work, no sweeping charges against the entire general profession were justified.

DR. GEORGE S. SMITH thought with the essayist that there is a great deal of carelessness on the part of the general practitioner and the teaching of obstetrics in medical colleges. He was convinced that fees for this work in the Western cities are much too low.

DR. CLARK, in closing, agreed with Dr. Sherman's remarks concerning the care of the infant's eyes. In reply to a question by Dr. Joseph E. Cook, he stated that he had never attempted repair of a cervix immediately after labor, for fear of infecting the uterus.

THIOSINAMIN IN CORNEAL OPACITY.

DR. HARRIS G. SHERMAN reported thirty-three cases of corneal opacities treated by thiosinamin given in one-grain doses three times a day. He had secured favorable results, although not complete absorption of the opacities. He was convinced that the drug possesses very marked power of absorbing overgrowth of connective tissue. He urged others to use the drug in suitable cases to determine its further value.

DR. WILLIAM E. BRUNER said that he had used the drug in a few cases of corneal opacity, and recalled one which was markedly benefited.

DR. JOHN B. MCGEE said that the practical point brought in this paper was the use of the drug in absorbing abnormal growths of connective tissue. He had had some favorable results with it and some that were not so favorable.

DR. SHERMAN, in closing, said that the one most interesting fact in regard to the drug is its action in absorbing lupus and scars of a deep-seated nature. Some investigators have reported most favorable results with it in such conditions. Glandular growths have also been successfully treated with it.

In his cases, while complete absorption did not result in every instance, the vision was very markedly increased in all.

MYOMA COMPLICATING LABOR.

DR. JOHN J. THOMAS reported a case of labor complicated with fibroid tumor, in which great difficulty was experienced in determining the conditions during labor, and in which the tumor disappeared completely afterward without operation or treatment of any kind. He also reported a case of acute catarrhal laryngitis in a child 4 weeks old, accompanied by severe and prolonged spasm of the larynx.

Chicago Medical Society.

October 3, 1900.

President James H. Stowell, M.D., in the chair.

DR. JOHN B. MURPHY read a paper on "Tuberculosis of the Testicle, With Special Consideration as to Its Conservative Treatment." It will appear in an early number of THE JOURNAL.

THE VALUE OF ANTI-SEPTIC NEBULE IN PULMONARY TUBERCULOSIS.

DR. HOMER M. THOMAS followed with a paper on the above subject. At the outset the author reviewed the various methods of cure for tuberculosis which have been brought forward since 1882. A candid consideration of all those methods of treatment emphasizes his belief that they are merely collateral agencies; that the fundamental processes of cure are established by nature, not by the physician. The author's earlier papers were devoted to a review of animal experimentation. These progressively demonstrated the presence of antiseptic nebulae from the nasal passages down to the throat, trachea and larger bronchial tubes. Additional animal experimentation microscopically showed the presence of oil globules in the pulmonary alveoli. The following benefits seem to the author to be established, as a reason for the general use of antiseptic nebulae in the treatment of pulmonary tuberculosis:

1. The respiratory capacity, which is very limited in tubercular patients, is increased.
2. The catarrhal condition of the air-passages is diminished, thereby aiding a better introduction of air into the lungs.
3. The pulmonary passages are kept in an aseptic condition, and the danger of new invasion by tubercle bacilli is minimized.
4. The marked relief of cough and dyspnea.
5. The alimentary tract is undisturbed by drugs, giving ample opportunity for the increase of vital resistance by suitable diet and constitutional treatment.
6. The treatment of pulmonary tuberculosis by the inhalation of antiseptic nebulae is rational and practicable.

PRESSURE THERAPY IN GYNECOLOGY AND OBSTETRICS.

DR. PALMER FINDLEY said that the method which he proposed is a modification of Freund's so-called "resorption cure." It consists of the introduction of a Carl Bruns' colpeurynter into the vagina, filled with 500 to 1000 grams of quicksilver. Over the abdomen is placed a bag of shot weighing one to three pounds. The patient is placed on her back or side, depending on the site of the pelvic exudate, and the pressure is continued for from one to several hours. The foot of the bed is elevated and the hips are elevated by pillows. The bladder and rectum are first emptied. This treatment is repeated daily until the desired results are obtained. When pain is caused, the pressure is relieved by removing the quicksilver and shot-bag. The danger of continuing the treatment in such an event lies not alone in the discomfort, but in the liability of exciting an acute exacerbation of the subacute or chronic inflammation, and in the dissemination of an unrecognized virulent infection. This is particularly likely in latent gonorrhoeal infection.

The indications for the treatment are parametritic exudates, particularly those lying low in the pelvis; cellulitic exudates, and in this lesion the treatment is especially applicable, because the exudate lies low in the cul-de-sac or in the broad ligaments, and is therefore directly compressed by the colpeurynter. It is in fixed retroplacental uteri that the method is most applicable. Here, in two or three treatments, the uterus is brought forward by direct pressure from behind and

by the stretching of the adhesive bands, and at the same time the posterior vaginal wall is put on a stretch, thus throwing the uterus forward.

The method has lately been advised in retroverted, incarcerated pregnant uteri. Halban reports a reposition of the uterus by a single trial. Incarcerated pelvic tumors may be treated by the same method, if located low in the pelvis.

The method is not recommended as a substitute for massage in all cases. There are cases in which massage is preferable, as, for example, in adhesions attached to the fundus of the uterus, or involving normally placed appendages, but in the majority of instances the procedure is more convenient of application and the results are more quickly gained, requiring days where pelvic massage may require weeks and even months.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), September 29.

- 1 *Some Personal Observations on the Effects of Intrapleural Injections of Nitrogen Gas in Tuberculosis. Henry P. Loomis.
- 2 *Electricity in Gynecology and the Present Reluctance of Gynecologists to Use Electricity. Robert Newman.
- 3 *A Cure of a Case of Hypertrophic Alcoholic Cirrhosis of the Liver, with Remarks. M. Luzzatto.
- 4 *The Co-operation of the Medical Profession of the United States with the National Confederation of State Medical Examining and Licensing Boards in Establishing Interstate Reciprocity for the License to Practice Medicine. Emil Amberg.
- 5 *Treatment of Fractured Patella. William B. Trimble.

New York Medical Journal, September 29.

- 6 *Hypertrophy of the Turbinate Bodies, and Their Relations to Inflammation of the Middle Ear, with Report of Fifteen Hundred Operations. Christian R. Holmes.
- 7 Case of Oozema of Probably Sphenoidal Origin. John W. Farlow.
- 8 *The Treatment of Umbilical Hernia in Children and Adults: Some Points in Technique; A New Method of Radical Cure. J. Coplin Stinson.
- 9 A Chinese Physician. William E. S. Pales.
- 10 *The Use of Piperazin in Nephrothiasis. Charles J. Aldrich.
- 11 Some Observations Upon Syphilitic Manifestations in the Optic Nerve and Retina: Inflammatory Manifestations. (To be concluded.) Paul Turner Vaughan.

Philadelphia Medical Journal, September 29.

- 12 *Appendicitis. Samuel Lloyd.
- 13 *On Some Cases of Pleural Exudate with the Physical Signs of Pneumonia. Herman B. Allen.
- 14 *A Digest of 200 Cases of Pneumonia. C. Z. Weber.
- 15 Pyrectomy for Adenocarcinoma, with Report of a Case. Jos. H. Branham.
- 16 *Inhibition of the Heart as an Aid in Diagnosis. Albert Abrams.
- 17 *Hemorrhoids: Etiology, Pathology and Treatment. J. William J. Doyle.
- 18 *Some Clinical Effects of Ammonio-Formaldehyd. Edward L. Keyes, Jr.

Medical News (N. Y.), September 29.

- 19 Medicine and Superstition. G. W. Guthrie.
- 20 *Some Studies in Metabolism in Chronic Nutritional Disease. G. W. McCaskey.
- 21 The Art of Keeping Cool, with Special Reference to the Proper Use of Water. Ralph W. Parsons.
- 22 *The Dose of Potassium Iodid, with Reference to Its Unfavorable Effects Upon the Upper Respiratory Tract. Lewis S. Somers.
- 23 A Rare Case of Injury to the Membrana Tympani. Thomas D. Tuttle.

Boston Medical and Surgical Journal, September 27.

- 24 *A Study of the X-Ray Plates of One Hundred and Forty Cases of Fracture of the Lower End of the Radius. E. A. Codman.
- 25 *Traumatic Joints. Homer Gage.
- 26 *A Critical Review of Thirty Cases of Pyloroplasty. G. S. Whiteside and W. J. Walton.
- 27 Post-Operative Hematemesis. Kenelm Winslow.

Cincinnati Lancet-Clinic, September 20.

- 28 *Does Physical Law Apply to the Human Body? W. O. Owen.
- 29 Fistula in Ani and Rectum. George J. Monroe.

Medical Age (Detroit), September 25.

- 30 Chronic Inflammation in Structures of the Elbow Following Injury—Villous Degeneration of the Knee-Joint. James H. Halloway.
- 31 Two Pathologic Conditions: 1. Foreign Bodies in the Eye. 2. Inflammation of the Middle Ear. Louis W. Flanders.
- 32 Renal Calculus (Nephrolithiasis-Urolithiasis). Ewing Marshall.

Virginia Medical Semi-Monthly, August 24.

- 33 Malaria. J. T. Wilson.
- 34 The Mosquito in Malaria. P. L. Campbell.
- 35 Blood Changes in Malaria. J. E. Wilson.
- 36 Hematuria of Malaria. Samuel E. Milliken.
- 37 Modern Pathology and Treatment of Appendicitis. Pinckney French.

Virginia Medical Semi-Monthly, September 7.

- 38 *The Angiotribin in Abdominal Surgery. Hugh M. Taylor.
- 39 Enterocolitis. William F. Fitch.
- 40 Relation of Visual Defects to Occupation. William B. Meney.
- 41 Diseases of Stomach. Edgar J. Sprattling.
- 42 Acute Affection of the Tympanic Cavity and Eustachian Tube. J. R. Garrett.
- 43 Anemia, the Cause of Indigestion, and Indigestion the Subsequent of Anemia—Treatment. Wm. H. Vail.
- 44 The Blood as an Index of the Beneficial Action by Iron. Tighman P. Marden.

American Practitioner and News (Louisville, Ky.), September 1.

- 45 *The Conservative Tendency in Genito-Urinary Work. F. R. Charlton.
- 46 *Therapeutic Value of Electricity. L. T. Lowder.
- 47 Operative Treatment of Hernia. J. T. Dunn.

Illinois Medical Journal, September.

- 48 *Medicine or Surgery. A. C. Corr.
- 49 *On the Evils Resulting from Naming Diseases or Their Supposed Causes After Individuals and the Importance of Maintaining a Clear Distinction Between Etiology and Pathology. N. S. Davis.
- 50 A Report of 240 Cases of Mitigated Smallpox with Symptoms and Diagnosis. C. E. Wilkinson.
- 51 Our Milk Supply; Some Observations at Home and Abroad. S. E. Munson.

Archives of Ophthalmology (New Rochelle, N. Y.), July.

- 52 *The Ophthalmic History of an English School (A. D. 1856 to 1900). Sydney Stephenson.
- 53 On Hemorrhagic Retinitis in Consequence of Endarteritis Proliferans, with Microscopic Examination of a Case. M. Reimar.
- 54 *Anatomical Examination of a Case of So-Called Coloboma of the Optic Nerve. Martin Goerlitz.
- 55 *Distention of the Sheath of the Optic Nerve with Cerebrospinal Fluid. Osteoplastic Resection of the Outer Wall of the Orbit (Kroenlein's Operation). Matthias Lanckton Foster.
- 56 The Axis of Rotation of the Ocular Muscles, with a Simple Method of Calculating Their Position, and the Correction of Certain Errors. Harold Wilson.
- 57 The Theory of Accommodation. W. N. Suter.
- 58 *On Strictly Simple Evisceration of the Eye-Ball. H. Gifford.

Cleveland Medical Gazette, September.

59. Clinical Lecture on Cataract. D. B. Smith.
- 60 Intubation and Antitoxin. H. H. Jacobs.
- 61 Notes on the Enemata Employed After Abdominal Sections. Hunter Robb.
- 62 The Diagnosis of Tubercular Disease of Bone. Charles G. Foote.
- 63 Two Cases of Mastoiditis. W. E. Shackleton.
- 64 Formalin and Some of Its Uses in Ophthalmology. Edward S. Lauer.

American Journal of Obstetrics (N. Y.), September.

- 65 *The Evolution of My Technique in the Treatment of Fibroid Uterine Tumors. Howard A. Kelly.
- 66 *Membranous Dysmenorrhoea. Lydia M. De Witt.
- 67 The Technique of Operations for Intra-ligamentary Tumors. Wm. H. Vathen.
- 68 Puerperal Eclampsia. John F. Moran.
- 69 Compression of the Ureters by Myomata Uteri. J. H. Mason Knox, Jr.
- 70 *On Suspending the Uterus on the Round Ligaments. Carl Beck.
- 71 Spontaneous Amputation of Tube and Ovary. George H. Noble.
- 72 The Role of the Liver in the Production of Eclampsia. W. A. Newman Dorland.
- 73 A Case of Metastatic Papillary Adenocarcinoma of the Recto-Vaginal Septum. Henry D. Beyer.
- 74 *Clinical and Pathological Records of Two Rare Gynecologic Conditions. William H. Weir.
- 75 Puerperal Metritis, Etc., with Subsequent Acute Infection of Fistula in Ano. J. Coplin Stinson.
- 76 A Case of Extruterine Pregnancy with Retention of Fetal Bones for Seventeen Years. I. P. Klingensmith.
- 77 Placenta Previa. L. W. Attee.

Hot Springs Medical Journal.

- 78 *Modern Surgical Treatment of Hemorrhoids. Gustavus M. Blech.

University Medical Gazette (Philadelphia), September 1.

- 79 The Technique Employed in the Surgical Department of the University Hospital. Service of Dr. J. William White, Alfred C. Wood.
- 80 Obstetrical Technique in the Maternity Department, University Hospital. Service of B. C. Hirat, M.D. John C. Hirat.
- 81 Care of Surgical Cases in the Gynecological Department of the University Hospital. Brooke M. Anspach.

- 82 The Preparation for Operations in the Author's Service at the University Hospital. Edward Martin.
- 83 Technique Employed in the Children's Orthopedic Department of the University Hospital. De Forest Willard.
- 84 *An Operation for Ununited Intracondylar Fracture of the Neck of the Femur. Gwilym G. Davis.
- 85 A Splint for the Treatment of Equinovarus. Gwilym G. Davis.
- 86 Spurious Meningocele. Joseph Sailer.
- Louisville Monthly Journal of Medicine and Surgery.**
- 87 Mind and Vital Force: Their Action Upon the Human Organism Through the Brain and Nervous System. J. Glahn.
- 88 Typhoid Fever. J. E. Pace.
- 89 Obstetric History—Taking in Private Practice. Joseph B. Cooke.
- 90 Death from Hemoglobinuria Without Fever, Except the Initial Attack. H. E. McKay.
- 91 Summer Diarrhea of Children. J. Rowan Morrison.
- 92 An Interesting Case: A Bone Lodged in the Rectum. L. Lazaro.
- 93 The Use of Saw Palmetto Co. in Genito-Urinary Diseases. Walter P. Ellis.
- 94 A Report of Surgery (continued). H. Horace Grant.
- Buffalo Medical Journal, September**
- 95 *Practical Hygiene. Henry R. Hopkins.
- 96 *Anesthesia by Nitrous Oxid Gas and Ether. Prescott Le Breton.
- 97 Gonorrheal Rheumatism. J. Henry Dowd.
- 98 *The Abuse of Quinia. W. P. Church.
- 99 *The Great Danger Attending the Use of Long-Tube Nursing Bottles. Ernest Wende.
- Med Cal and Surgical Monitor (Indianapolis, Ind.), September.**
- 100 Hemophilia, with Report of an Aggravated Case. John L. Masters.
- 101 Some Medical Observations of the German Speaking Countries. J. F. Barnhill.
- International Medical Magazine (N. Y.), September.**
- 102 *Venomous Snakes, Their Bites and How to Treat Them. Joseph McFarland.
- 103 *Defects in the Present System of State Medical Examinations. John S. Lewis.
- 104 Laceration of Perineum, Uterine Displacements, Ovarian Cysts, Tubercular Peritonitis, etc. Franklin H. Martin.
- 105 The Treatment of Pott's Disease. James K. Young.
- 106 The Quantitative Estimation of Sugar in the Urine. A Robin.
- 107 The Classification and Symptomatology of Abscesses. Charles L. Leonard.
- 108 Gastric Neurasthenia. D. J. McCarthy.
- 109 Gastric Atony or Deficient Motility (Motor Insufficiency, Mechanical Insufficiency, Myasthenia Gastrica). Boardman Reed.
- 110 A Few Remarks About Carcinoma of the Liver. G. McConnell.
- Pooria Medical Journal, September.**
- 111 Pharyngeal Adenoids. H. M. Harrison.
- 112 The Question of Our Milk Supply. W. T. Shidley.
- Interstate Medical Journal (St. Louis), September.**
- 113 *Report of the Treatment of Aneurism with Gelatin Injections. H. L. Neiter.
- 114 Injuries to the Eyeball, With Report of Cases. Ellett O. Sisson.
- 115 Remarks on Stomach Diagnosis and Treatment, with Report of Cases. M. D. Schmalhorst.
- Columbus Medical Journal, August.**
- 116 President's Annual Address Before Hempstead Memorial Academy of Medicine. Joseph S. Bardin.
- 117 Phenacetin for the Relief of Pain. Frank Warner.
- 118* Subphrenic Abscess Following Appendicitis; Two Cases. J. F. Baldwin.
- Denver Medical Times, September.**
- 120 *Reflex Neurosis from Disturbed Pelvic Mechanism. Byron Robinson.
- 121 Water as a Remedy. J. W. Gunn.
- 122 The Physician as a Man. John A. Donovan.
- 123 *Early Corrective and Educative Treatment of Convergent Strabismus. Wm. C. Bane.
- Colorado Medical Journal, August.**
- 124 Syphilis of Lungs, Heart and Vessels. H. B. Whitney.
- 125 *Treatment of Syphilia. Wm. P. Munn.
- 126 Syphilis of the Abdominal Viscera. Henry Sewall.
- 127 *Inherited Syphilis. Sol. G. Kahn.
- 128 *Is Syphilis Ever Actually Cured? F. Finney.
- 129 *Trophylaxis of Syphilis. E. Staver.
- 130 *Syphilis in Amies. Henry Lippincott.
- 131 *Syphilis and Trauma. Leonard Freeman.
- 132 Injuries to the Eye from Accidents in the Mine. (Concluded.) Melville Black.
- 133 *The Rational Treatment of Abortion in Country Practice. J. W. Cline.
- Pacific Medical Journal (San Francisco), September.**
- 134 Endometritis. Ch. W. Bryson.
- 135 Suppurative Middle Ear and Mastoid Disease and Some of Their Brain Complications. Some Cases Cited. Redmond W. Payne.
- 136 *Studies on the Digestion of Breads. Alfred W. Perry.
- 137 An Interesting Case. J. T. Stewart.
- Terck's Archives (N. Y.), September.**
- 138 Treatment of Morphininism. Charles J. Douglas.
- 139 *The Limitations of Ergot. F. A. Seymour.
- 140 Some Medical Philosophy. W. C. Cooper.
- Medical Examiner and Practitioner (N. Y.), September**
- 141 Interesting Phase of a Medical Examiner's Work. Talbot Jones.
- 142 Life Insurance and Cardiac Disease. F. G. Finley.
- Southern Allorinia Practitioner, September.**
- 143 Report of a Case of Fibroma Involving Tympanic Cavity. E. W. Fleming.
- 144 Occipito-Posterior Positions. Idris B. Gregory.
- 145 What are Necessary and Desirable Data Upon Health Reports? Edward O. Otis.
- 146 *Pyorrhea Alveolaris and Its Relation to General Surgery. Geo. E. Abbott.
- 147 Some Suggestions Concerning the Use of Vegetable Digestive Ferments in the Treatment of Phthisis and Other Wasting Diseases. H. Minnsfield.
- Alabama Medical Journal, September.**
- 148 The Need of a Separate Prison for Consumptive Convicts. W. H. Blake.
- 149 Difficult Labors and Their Management. Thomas E. Dryer.
- 150 Pneumonia. Richard M. Fletcher.
- 151 *The Effect of Flashes of Electric Light Upon the Eye. Dunbar Roy.
- 152 Notes on Some Remedies of Recent Introduction. H. A. Moody.
- Charlotte Medical Journal (N. C.), September.**
- 153 Infantile Diarrheas. M. H. Fletcher.
- 154 Protonitrile as a Remedy in Tuberculosis. C. W. Canan.
- 155 Bilious Fever. F. B. Cullen.
- 156 Alcohol in Diseases of Children. I. A. McSwain.
- 157 The Proper Method of Vaccinating. A. H. Ohman-Dumesnil.
- Texas Medical News, November.**
- 158 Appendicitis. J. G. Boyd.
- 159 The Insane from the Standpoint of the General Practitioner. G. H. Moody.
- 160 *The Spirit of Commercialism in the Modern Practice of Medicine. V. P. Armstrong.
- 161 Dysmenorrhoea. Ethan A. Sherrill.
- 162 School Hygiene. Charles A. R. Campbell.
- Fort Wayne Medical Journal—Magazine, September.**
- 163 A Case of Tetanus Treated with Anti-Tetanic Serum. N. L. Deming.
- 164 Hygienic Management of Kidney Disease. Frederick R. Charlton.

AMERICAN.

1. Nitrogen Gas Injections in Phthisis.—Loomis has had good results with the method of injecting nitrogen into the pleura, advised by Murphy, in cases of tuberculosis, and reports a series of cases. He has not seen any absolute cures, but has seen an apparent arrest in two cases and no bad results in any. Improvement, especially constitutional, is marked and he finds the injections particularly beneficial in cases of pulmonary hemorrhage.

2. Electricity and Gynecology.—The use of electricity is commended by Newman, who finds from his own experience that better results are obtained from it than from any other means in many gynecologic conditions, and the lack of favor with which it is received by gynecologists has not been explained. He thinks we should have better instruction in electrotherapy.

3. Cirrhosis of the Liver.—The case reported by Luzzatto shows, he thinks, that alcohol is not the sole cause of cirrhosis of the liver, and that, when it is the cause, the disease is curable, more often the hypertrophic form, but the atrophic form also. It often shows symptoms characteristic of infectious disease. In his case the patient was entirely cured with milk, potassium iodid and diuretics.

4. Interstate Reciprocity.—Amberg's paper advocates the co-operation of the profession at large with the confederation of medical examining boards for the purpose of advancing the general interests of the profession. He suggests an interstate reciprocity committee, to be appointed by the national confederation, which will keep in touch with all other similar committees and, if thought advisable, will publish a journal.

5. Fracture of the Patella.—Trimble describes his method of operating for fracture of the patella, and claims that by operation only can good results be obtained. The aponeurotic

fringe can be removed only by operation, and if nothing has been interposed at the time of injury, the pressure required to control the contraction of the quadriceps interferes with the circulation and is also unendurable. Fibrous or ligamentous union is the best that can be expected from non-operative measures, and this will permit stretching to such a degree as to produce serious consequences. The operation should not be attempted after the fifth day, and other contraindications are diabetes and albuminuria. His method is the use of the wire suture.

6. **Hypertrophy of Deformed Bones.**—Holmes holds that in the second stage of hypertrophic rhinitis there is only one successful treatment, that is, careful surgical interference. He describes and illustrates his method and insists on the comparative importance of the operation. In all cases he removes as little of the edge of the inferior turbinate as possible for restoration of sufficient breathing space and saves as much of the anterior end of the bone as possible, inclining the line rather upward and backward from the lower edge of the anterior end, so as to incline as much as possible of the posterior hypertrophy, the saw having been pushed backward until its blunt tip is in the pharynx.

8. **Umbilical Hernia.**—The conclusions drawn from a comparison of the various methods by Stinson are: 1. That with careful antiseptic precautions, provided the operator is skillful and familiar with the special anatomical and pathological conditions associated, an operation for the cure of umbilical hernia has a mortality of about nil, or less than that associated with the condition previous to the operation. 2. That sterilized chromicized tendon or, in its absence, carefully chromicized catgut, is the most suitable material for buried sutures. 3. That before closing the wound the sac should be removed, the contents cleared out, the edges of the serosa overcorrected and then united with a layer of continuous sutures; the internal ring or opening in the transversalis fascia should be closed by continuous sutures; the internal ring should be reinforced and the remainder of the breach in the abdominal wall closed by uniting the broad edges of the fascia—the linea alba and linea semilunares—in two layers, avoiding tension by loosening one or both of the recti muscles from their sheaths, and bringing them together in the median line by sutures to fill and close the gap; the recti muscles are also to be used to close the breach when the fascial layers are atrophied; the skin is closed with continuous stitches without drainage. 4. That in the immense majority of suitable cases the patients are cured by the operation. 5. That the operation described closes the breach in the abdominal wall firmly and durably and without tension; has all the advantages of other operations, and that, having many additional advantages, and fulfilling all the indications for a radical cure, it should be followed by the best results.

10. **Piperazin.**—Aldrich reports two cases in which he thinks that piperazin prescribed in a diurnal of 20 to 25 grains in a large quantity of water was successful in relieving the condition of nephrolithiasis. He suggests the use of carbonated piperazin water in these cases as more agreeable and effective.

12. **Appendicitis.**—The general facts in regard to appendicitis, its tendency to recur, the classification of cases, etc., are discussed in full by Lloyd, and the technique of the operation described. He thinks there can be no longer any question in regard to the advisability of operating. His own experience shows of 160 appendectomies, 4 deaths—a ratio which he thinks will compare favorably with any medical statistics that can be offered and justifies early and radical operation.

13. **Pleural Exudate With Physical Signs of Pneumonia.**—Allyn reports a case of empyema which began with symptoms closely resembling pneumonia—chill, fever, cough, expectoration and physical signs on admission in accordance. At the autopsy there was found a thickened pleura with about 250 c.c. of pus, a fibroid lung with bronchiectasis, and old tuberculous foci in both lungs. There was probably just enough area above the small air-space to act as a resonator for the

voice and breath-sounds and transmit them through the dilated bronchus. He asks whether there is any certain way in which the pleural exudate can be recognized and admits that there is no pathognomonic sign. The most important test is, of course, the puncture with a needle, but this may be also misleading, and it is sometimes difficult to obtain fluid, and when found, it may possibly come from a local subphrenic abscess. The X-ray would be of great service.

14. **Pneumonia.**—After an analysis of the cases, the author offers the following general observations: The most frequent predisposing cause of pneumonia is some pre-existing disease. Idiopathic pneumonia may be attributed entirely to depressing influences. Pulmonary inflammations are not only more prevalent in special periods, but the type also is more virulent at certain times. La grippe not only augments largely the number of cases during its prevalence, but has increased also the mortality. The left-sided croupous form has proved more difficult to manage and more frequently passes into phthisis than the other forms. Catarrhal pneumonias, when the apices of the lung are involved, are also associated with delirium. Alcoholism and typhoid do not enter as factors in the mortality of the cases discussed, but both have been observed to retard the stage of resolution and otherwise to lengthen the convalescence. As regards the treatment, he would first use counterirritants, arterial sedatives, antipyretics and anodynes. In the second stage he would cautiously, but vigorously, employ arterial sedatives, antipyretics, and even counterirritants, with the idea of limiting the area of infiltration and hepaticization. In his experience it is usually in this stage that the physician is first called, and he found ammonium carbonate and iodid especially indicated, while only sufficient of the antipyretic, as, for instance, sodium salicylate, is employed to keep the temperature well in hand. He seldom uses opium in combination, but alone when indicated. Venesection has been employed twice without special effect on the lung itself. Cuppings to relieve pleuritic stitches were beneficial. In the third stage, where is the greatest danger, antipyretics are discontinued and alteratives, tonics, etc., are employed. When the affected lung is once restored to the normal condition, he thinks the official compound syrup of hypophosphites is serviceable.

16. **Inhibition of the Heart in Diagnosis.**—Abrams summarizes his investigations on the value of inhibition of the heart by forcible contraction of the muscles of the neck as follows: 1. The inhibition maneuver may cause organic cardiac murmurs to become faint and even, in exceptional cases, inaudible. 2. Transmitted murmurs are more amenable to the maneuver. 3. The fainter the murmur, the more easily it is suppressed. 4. When a transmitted murmur can be inhibited the tone which it masks can be auscultated. 5. The heart-tones are less amenable to inhibition than are the heart-murmurs. 6. Hemie murmurs are more readily inhibited than those of organic origin. 7. As a rule, anemic murmurs can be suppressed and their disappearance is marked by the reappearance of tones. 8. Exocardial murmurs are easily influenced by inhibition. 9. When the maneuver is incorrectly executed, the result is to increase the intensity of the murmur owing to increased exertion, which intensifies the heart's action. 10. When often repeated the inhibition murmur is futile owing to over-stimulation of the vagi. 11. In irregular action of the heart or in delirium cordis, the inhibition maneuver, by momentarily inhibiting the rapidity of the heart, renders signal service in determining the time of a murmur, being practically in its effects like the physiologic action of digitalis on the heart. 12. Inhibition maneuvers enable us to determine the condition of the vagi as to cardiac inhibition and guide us in the administration of the cardiotonics.

17. **Hemorrhoids.**—After noticing the treatment of hemorrhoids and advising the ligature treatment, Doyle offers special objections to the use of carbolic acid injections, which, he thinks, are still sometimes practiced by responsible practitioners.

18. **Ammonio-Formaldehyd.**—Keyes sums up his conclusions as follows: 1. Urotropin seems to be almost a specific

in the treatment of some cases of acute catarrhal pyelitis, uncomplicated. 2. To prove effective it may have to be administered in high doses until the urine is practically clear of bacteria, after which a smaller dose may suffice. 3. In judging the effects of the drug, the centrifuge and microscope should be employed. 4. The dose must not be sufficient to cause pollakiuria and dysuria by irritation of the neck of the bladder. 5. The possibility of such an irritation can not be overlooked, even when very small doses are employed. 6. Urotropin is extremely serviceable as a prophylactic of the various forms of urinary septicemia and urethral chill. 7. Its routine employment both before and after operations on the urinary passages is indicated. 8. The urine containing urotropin occasionally has an escharotic effect upon wounds, which may constitute a contraindication to its employment.

20. Studies in Metabolism.—The subjects noted by McCaskey are especially the excretion of urea and uric acid. In urea hypo-excretion we have a depressed condition where the functional and nutritional processes must be stimulated. With increased urea excretion, of which diabetes mellitus is one of the most prominent conditions, the excessive metabolism must be cared for, and if in the excretion strictly within the normal range we still have nutritional disturbances, we should look for toxic conditions resulting from dis-order of some principal organ of the body. As regards uric acid, he thinks that the theory of its being derived from the nuclein of the white blood cells is not entirely supported by clinical observation. In one case of splenic myelogenous leukemia he observed that the quantity of uric acid fluctuated widely, and all that he can say as regards these variations is that they indicate a disorder of the normal metabolic processes which has a more or less important bearing on chronic nutritional disorders. Other points of interest found by urine analysis are the presence of leucin and tyrosin and the variations in the quantity of different organic salts, especially the phosphates and chlorids as bearing on the metabolism.

22. Potassium Iodid.—The inconvenient effects of potassium iodid occasionally observed are noticed by Somers, who shows that these are sometimes caused by nutritional disease as well as by an apparent cumulative effect in long dosing. The individual variations are very great and we can not consider the tolerance to the drug as indicating the presence or absence of specific infection. The recent explanation of some of the peculiarities of reaction by von Cyon is that the iodid salt circulating in the blood in small doses were changed into iodiothyryn by the thyroid gland and this substance produces reaction; while in large doses they are eliminated by the kidneys in the form of soluble salts. It is to a certain extent possible to prevent the phenomena by the use of drugs such as arsenic and belladonna and by increased dilution of the iodid.

24. Fracture of the Radius.—From a study of the X-ray plates of a large number of cases of fracture of the radius, Codman divides the fractures into ten distinct types: 1. Fracture through the base of the styloid process, which does not affect the hand or wrist and which is properly treated by plaster straps around the wrist. 2. Fracture of the inner angle of the lower end of the radius without radical displacement of the hand, and its treatment is similar to the above. 3. Transverse fracture at or a little above the epiphyseal line (in adults) without displacement. Of these there are quite a number. 4. Comminution of distal fragments. 5. Separation of the epiphysis of the lower end which often present themselves with fragments completely reduced, but may show the typical silver-fork deformity. As a rule they are easily reduced, but generally tend to become readily displaced. Careful reduction and fixation in splints or plaster for a couple of weeks is almost sure to produce a good result. 6. This class is quite common. It consists in separation of the epiphysis of the lower end with a chip from the posterior surface of the diaphysis. Fixation and the dorsal pad are enough in most cases. If there is radial displacement cross traction as in Class 5 may also be employed. 7. The impaction of the lower fragments into the shaft is rare, occurring only twice in 140 cases.

Unless contraindicated by age, it is better to break up the impaction and use anterior and posterior splints. 8. This class is the typical Colles' fracture and Codman divides it into two forms: *a*, with marked radial displacement of the fragment, and *b*, that in which posterior deformity is most decided. The skiagraphs show both the lateral and antero-posterior view of this fracture. The important point in the treatment is the pulling down and the pushing of the lower fragment over the end of the dorsal edge of the upper. Once reduced it can be kept in place, but has a tendency to slip out when pressure is omitted, and a simple pad of sheet wadding or felt pressed over the dorsal surface of the lower fragment and an anterior pad along the front of the radius about three-fourths of an inch wide and one-fourth of an inch thick are necessary. This latter stops just short of the sharp edge, which is fastened on the arm by adhesive straps before the splints are applied. A posterior splint to the knuckles of the first phalanges and an anterior, to the thenar eminence holds these in position. To control the tendency of the hand to become displaced to the radial side a cross-traction method is used. Two adhesive straps are looped about the wrist in opposite directions, one tending to pull the ulna toward the radial side and the other to pull the fragment with the hand to the ulnar side. These are placed at the same time as the anterior and posterior pads, the splints are held by an assistant, and after putting a circular strap about the upper end of the splint, traction in the opposite direction is put on the lower straps and the ends curled about the splints and caught. This leaves the ulnar side free opposite the ulnar fragment and the radial side free opposite the upper fragment and ensures a good circulation. The fingers and thumb are allowed free movement throughout and the splints are cut off at the wrist at the end of the second week. 9. Stellate fracture of the lower end of the radius with longitudinal fissures extending into the shaft. It has occurred six times, or in 4 per cent. of 140 cases. A simple band around the wrist is the only fixation required. 10. Reverse Colles' fracture, anterior displacement of the lower fragment, which has been carefully described by Roberts, of Philadelphia. The author does not claim that all fractures of the lower end of the radius are included within one of these classes, as other varieties are possible, but he wishes to call attention to the variety of the conditions found. In conclusion he emphasizes the following points: 1. True Colles' fracture formed by 46 per cent. of 140 cases of fracture of the lower end of the radius. 2. A knowledge of the position of the fragments is necessary for intelligent treatment. 3. The application of padding and splints should vary according to the displacement shown in the skiagram. 4. If the X-ray shows that marked deformity is still present after the splints have been applied, ether should be given, and another energetic attempt at reduction made. 5. Concomitant fracture of the ulnar styloid occurred in at least 62 per cent. of 140 cases, and in 39 cases in which this process was obscure in the skiagram are deducted, fracture occurred in 86 per cent. 6. In true Colles' fracture pressure over the anterior edge of the upper fragment should be avoided and cross-traction should be used to correct the radial displacement of the lower fragment. 7. Statistics of the result of Colles' fracture are not of value unless the pathology of each case is determined by a skiagram.

25. Traumatic Joints.—The conclusions of Gage's article are as follows: 1. All injuries to joints accompanied by loss of function are always attended by more or less laceration of the tissues in or about the joint. 2. Delays in the restoration of function are due in most instances, not to any complicating diathesis, but to the changes incident to the repair of these lacerations and their effects. 3. Such delays are best avoided by an early resort to massage and active or passive motions, and are favored by too long a continuance of rest and fixation. 4. When such delays have occurred, they are best overcome by more vigorous and persistent manipulation, supplemented by the application of heat or such other agents as may best stimulate the local circulation and favor the elasticity of the tissues.

26. **Pyosalpinx.**—From a study of thirty cases, Whiteside and Walton conclude that the gonococcus can not be proved to be the cause in so large a number of instances as is generally supposed. Pure cultures are obtained of other organisms, such as bacillus mesentericus, pneumococcus, colon bacillus, streptococcus pyogenes. It can not be proved that the gonococcus pre-existed in these cases and prepared the way, nor can it be disproved by such results as they have obtained. The experiments attempted to demonstrate the possibility of producing pyosalpinx by the pure cultures of these organs were all entirely negative. They do not consider the blood-count of great diagnostic or prognostic importance in this condition, and from a study of several cases they think the majority, when first seen by the surgeon, have had previous attacks. The symptoms are noted in detail and from their series of cases they conclude that the mortality of the operation taken as a whole is 16 per cent. The greatest dangers to be apprehended are in streptococcus infections from peritonitis, in all drained cases from fecal fistula, and in tubercular cases from extension of the disease to other organs.

28. **Diet in the Tropics.**—The question of diet in the tropics is discussed by Owen, who maintains from his results that the average worker in hot climates requires more food than in a cooler temperature. The laborers in the tropics do not live on vegetable food from choice, it is simply because it is more easily obtained and less liable to deterioration. This condition is exactly reversed with the Eskimo, who lives on fats. It is a matter forced upon the races by the circumstances of the surroundings, though custom has given a liking to each for his own diet. He maintains that if there is any change to be made in our diet for the tropics it should be in the nature of an increased allowance. It is not a reduction of the diet that is required, but the food should be handled with more care and be better prepared. He admits, he says, that the body may create less heat in hot climates and that his argument is not quite complete.

38.—This article has appeared elsewhere. See THE JOURNAL of August 4, p. 267.

45. **Conservatism in Genito-Urinary Work.**—Charlton notices the over-treatment of many cases of gonorrhoea, a disease which is so dangerous in its effects and very common, though he repudiates the statement of Tait that every man has suffered from it. The too active treatment of stricture and the necessity of early conservative operation in kidney disease are also emphasized.

46. **Electricity.**—Static electricity is the special form here mentioned by Lowder, who finds it most beneficial in headache, painful menstruation, insomnia, nervous troubles, etc. He says we can abort an incipient cold, ease pain of an abscess, make more rapid convalescence from fevers, debility, brain fog, bronchitis, etc. Static electricity as used by him is one of the most wonderful therapeutic agents at his command.

48.—See abstract in THE JOURNAL, xxxiv, p. 1333.

49.—Ibid.

52. **Ophthalmic History of an English School.**—Stephenson reports the history, as regards contagious eye troubles, of an English charitable institution in London—the Hanwell School. The one great lesson it offers is that trachoma, no matter how prevalent and of how long standing, can be stamped out and that the continuance of such a condition in any institution is a standing reproach to its management, both lay and medical. The special measures taken were the erection of an isolation building and the complete remodeling of the main structures, which hastened and brought to rapid end the disease which had been under strictly medical measures in the old structures with only very gradual lessening.

54. **Coloboma of the Optic Nerve.**—Goerlitz reports the examination of a so-called coloboma of the nerve, which was found to be a case of unilateral malformation of the disc which corresponded to the ophthalmic picture usually given under this name. Macroscopically the enucleated ball showed a small cornea and a dilated intervaginal space. Below the

nerve and between the sclera and the sheaths of the nerve there was a small elevation; the optic disc was enlarged in all its diameters and depressed in its lower portion, while its vessels had an anomalous course. Microscopically there was found a defect in the choroid leading into a circumscribed ectasia of the sclera having irregularly thickened walls. In the defect the choroid was wanting entirely, as was also the pigment epithelium. The scleral defect was filled with nerve fibers running from the disc, and a trace of other retinal elements. The optic nerve was fairly normal except for some irregularities and defects of the lamina cribrosa. The inter-vaginal space was conspicuously distended. The author says, comparing the anatomical condition in this case to previous ones it appears that this malformation is not so much a coloboma of the optic nerve as a coloboma of the choroid and retina with secondary formation of a scleral cyst of the lower margin of the disc.

55. **Distention of the Sheath of the Optic Nerve.**—The case reported by Foster and in which the Kronlein operation was performed, was one of distention of the sheath of the optic nerve with cerebrospinal fluid, a condition which has rarely, if ever, been described. The author discusses the condition and notes especially the absence of optic neuritis, showing that the collection of fluid in the sheath of the optic nerve, even when it is very large, does not necessarily produce this condition.

57. **The Theory of Accommodation.**—Suter defends the Helmholtz theory of accommodation as opposed to that of Tscherning, and reports experiments made by him on the eye which seem to favor his view.

58. **Evisceration of the Eye-Ball.**—What is called simple evisceration is really, as Gifford says, evisceration plus keratotomy. For two years past he has been doing an operation which is a strictly simple evisceration; instead of cutting out the cornea he has made a meridional incision entirely within the sclera or extending partly or entirely across the cornea, and has completed the operation through the opening thus made without removing any of the cornea. The results have convinced him that this should be the operation of election. The simple evisceration he claims tends to avoid the bursting open of the wound, first, by permitting the incision, which can be better coapted than where keratotomy is done, and second, and most important, it leaves so much more space within the globe that there is more time for the scar to organize before the contraction of the sclera attempts to stretch it over the artificial vitreous.

65.—See abstract in THE JOURNAL, xxxiv, p. 1338.

66. **Membranous Dysmenorrhoea.**—From a study of the literature of several cases reported, De Wit concludes that the theory which seems to her most consistent with the histologic findings in the reported cases, as well as in those examined by herself, since inflammation is not a uniformly accompanying condition, and conception may often be positively excluded, is that perhaps under some abnormal local nerve influence, which may be congenital—since in many cases the disease begins at puberty—or even as suggested by Gautier, hereditary, or which may, through injury or local disease, be later acquired, the normal menstrual congestion and blood extravasation or fluid exudation is so greatly increased that the deeper tissues break and thus loosen the thickened decidua menstrualis *en masse* before nutrition has been sufficiently interfered with to cause its degeneration.

70. **Suspension of the Uterus on the Round Ligaments.**—Beck describes the operation previously published by him in the *Centralblatt für Chirurgie* in 1897. The main features of this method consist in opening the abdomen in the linea alba by a small incision, seizing the fundus uteri with a traction forceps and pulling it outside the abdominal cavity. This procedure is facilitated by Trendelenburg's position. The round ligament of one side is then selected and freed to the extent of nearly three inches, the isolation beginning near its uterine attachment. Superficial incisions along both sides of the ligament permit the introduction of a grooved director.

by means of which the peritoneum can be stripped away bluntly, so that no hemorrhage occurs. The bared ligament is then held up by an aneurysm needle and pulled out from the abdomen to such an extent that the peritoneal wound margins can be united underneath. Six to seven catgut sutures suffice for the purpose. The ligament now rides on the peritoneum. To strengthen this peritoneal anchorage, fascia and muscle are also united underneath, while the ligament is suspended like a loop of a coat on a broad hook. One additional suture through the ligament itself usually suffices for fastening the ligament to the suture row. The remaining portion of the wound is dealt with in the usual manner. The margins of the integument are brought together by subcutaneous catgut sutures. Two relaxation sutures, consisting of iodoform silk, are applied through the skin, three-quarters of an inch distant from the wound margin, so that there is no direct contact with the wound-line. For prolapsus uteri the suspension of one ligament alone is sufficient, though a lateral position can not be avoided, but is usually harmless. In retroversion, fixation of both ligaments is, of course, necessary. From his experience of four years he claims that the only disadvantage of this operation and its modification is that it requires an opening of the peritoneum, but it has the great advantage of suspending the uterus in a perfectly normal position, which permits of such free motion that there is no interference either with the bladder or the rectum and no obstacle to pregnancy, as is usually the case with the ventrofixation methods.

74. Cancer of Cervix and Fibromyomata of Uterus.—The "rare conditions" described by Weir are primary cancer of the cervix uteri in a nulliparous woman, and fibromyomata of the uterus associated with fibroid of the right ovary.

75.—This article has appeared in various journals and was abstracted in THE JOURNAL, xxxiii, p. 977.

84. Fracture of the Femur.—Davis describes the method of uniting a fracture of the neck of the femur by a straight incision down from the anterior superior spine of the ilium, being careful not to go so far down as to endanger any large blood-vessels or nerves, opening up between the capsule of the joint on its anterior surface between the two arms of the Y-ligaments and permitting the free entrance of the index finger and the use of instruments. This opening need not be closed before using the ivory pins to hold the fragments after getting them into position, leaving the pins in place. He thinks a still more efficient way would be to use a silver-plated screw. Two cases are reported; in the first he used steel pins, in the second, ivory pins were used with good results.

95. Practical Hygiene.—The subjects of tuberculosis, scarlet fever and typhoid fever form the chief theme of Hopkins' article. As regards tuberculosis, he maintains that Koch's discovery of its germ has been the most "hopeful gospel" to mankind for 1800 years, and he reiterates the usual instructions in regard to its prophylaxis. As regards typhoid fever, he says that this has become in New York state a rural disease due to insanitary conditions in the country districts, and calls attention to the necessity of better attention to sanitary conditions of the farms as well as to the farm products that come from them, which may carry the infection. As regards scarlet fever, he maintains that its infection is slight in the beginning, but becomes intense during the desquamated period and points out how, especially in country homes, isolation in this period should be secured.

96. Nitrous Oxid Gas and Ether.—Le Breton describes the Hewitt inhaler and Bennett modification and the Goldan apparatus, which has the advantages of simplicity and comparative cheapness. He calls attention to the practical points of rapidity in the transition from gas to ether and the necessity of not continuing the gas administration too long. The advantages are, comfort to the patient; freedom from excess of mucus and saliva; the smaller quantity of ether employed; the less liability of kidney complications on this account; the comparative cheapness of the combined method; the greater ease with which certain cases, alcoholics, especially, are anesthetized; the time saved, and the safety. The chief disadvantage is the cost and the bulkiness of the apparatus.

98. Abuse of Quinin.—The over-usage of quinin by the laity is here deprecated by Church. He thinks the drug is given too much and it would be better if the laity knew less about it, as well as about morphin and some other drugs. He reviews the testimony as to the physiologic effect of quinin and names some of the evil consequences that sometimes have followed its use, such as blindness, headache, nervousness, etc. He says that quinin is contraindicated in inflammation of the middle ear and labyrinth, in renal irritation, in acute inflammation of the gastrointestinal tract and in still other cases it is not well borne.

99. Nursing-Bottles.—Wende's article points out the dangers of long-tube nursing-bottles and illustrates them by microscopic pictures showing the possibilities of infection by these long tubes.

102. The Venom of Snakes.—McFarland mentions the different kinds of venomous snakes inhabiting the United States, which are rattlesnakes, about twelve species, the moccasin and copperhead and the coral snake of the South. He describes the mechanism of their poisoning apparatus and the different effects of the poisons of different species. Usually the size of the animal has much to do with the seriousness of the injury, that by the copperhead and little ground rattler seldom producing general poisoning, though the local effects are usually marked. The various remedies are mentioned, especially antivenene, and in conclusion he says that, briefly outlined, the treatment of snake-bite is: 1. Immediate interruption of the circulation of the bitten member, so as to prevent absorption of the poison. 2. Free incision and enlargement of the fang-wound and forcible suction to extract the poison. 3. Hypodermic injection of three to six drops of a fresh water 10 per cent. solution of chlorid of calcium in about a dozen different areas about the wound. 4. Strychnia given hypodermically to stimulate the respiratory center. 5. Immediate and frequent repeated hypodermic injections of ten to 20 cubic centimeters of the antivenomous serum, or as Calmette calls it, "antivenene." The most urgent need of the patient is for immediate, unlimited administration of antivenene. It would be a wise precaution for persons who are in continual danger of snake-bites to provide themselves with this remedy and carry it with them.

103. State Medical Examinations.—The difficulties in the way of uniform state medical examinations and the common standard are noticed and Lewis mentions the objections to the present rules. He believes that it would be perhaps possible to secure reciprocity if the District of Columbia standard were generally adopted to meet all the conditions. Should the National Board of Health movement now under contemplation be successful, it might be best to utilize that body for this purpose.

113. Gelatin Injections in Aneurysm.—Four cases of aneurysm treated with gelatin injections are described by Nietert, and the conclusions drawn therefrom are stated as follows: 1. Great pain at site of injection often follows introduction of a large amount of the fluid. 2. The gelatin being a good medium for the development of micro-organisms, great care is required to keep it sterile. 3. The symptomatology is greatly improved in every case; the pain is usually lessened, the patient breathes easier and shows less pressure symptoms on important surrounding organs. 4. In most cases the tumor becomes more firm and expansibility less marked. 5. It is likely that great good can be effected by the gelatin injected in aneurysm of the smaller vessels. 6. Post-mortem examination in every case shows large organized clots, filling the cavity of the aneurysm, which are undoubtedly due in a great measure to the gelatin.

118.—This article has appeared elsewhere. See abstract in THE JOURNAL of July 29, [26, p. 257.

120. Reflex Pelvic Neuroses.—Robison details the elaborate nervous supply of the genital organs, describing the cervicouterine ganglion as the pelvic brain, giving its connections, and calling attention to the gastric, cardiac and other reflexes produced by the irritation of these parts.

123. **Convergent Strabismus.**—Banc emphasizes the importance of examining the eye at the earliest possible moment on the appearance of strabismus and the correction of any errors of refraction with spectacles, even if the child be but 2 years old; also the use of the occlusion pad in all suitable cases. Operation is advised as soon as there is positive evidence that further gain can not be made by the educative treatment.

125.—See abstract in THE JOURNAL of September 1, p. 578.

127.—Ibid., p. 577.

128.—Ibid.

129.—Ibid.

130.—Ibid., p. 578.

131.—Ibid., p. 577.

133.—Ibid., August 18, p. 447.

136.—**Digestion of Breads.**—The questions as to the dryness or moistness of bread eaten and the sterility from baking are discussed by Perry. He finds that there is no reason for ascribing gastric disorders to the presence of living bacteria, for the heat of baking in loaves of less than 2 pounds weight is enough (203 F.) to kill all gastric fermentation bacteria that may have been in the materials used. Those found in the London examination of Walsh were other innocent species and were found only in 4-pound loaves. The dryness of the bread with porosity, on which depends the amount of saliva which is absorbed in chewing is the main factor in determining the digestibility of the bread. If bread which is dry and porous is soaked in liquids before eating, or in the mouth while eating, its character of easy digestibility is taken away.

139. **Ergot.**—The physiologic action of ergot, as Seymour says, is to stimulate the vasomotor nerve-centers. Its action upon unstriated muscular fibers produces contraction of the blood-vessels and with the single exception of uterine hemorrhage, the arrest of non-traumatic bleeding is best effected by the induction of vasomotor paresis. The use of vasomotor excitants might be rational only if their action could be restricted to the immediate territory involved. We have been misled by taking uterine hemorrhage as the type of all hemorrhages in these cases. He has seen ergot produce a persistent diarrhea due to its action, undoubtedly, on the peristaltic muscles, yet it is often given for the control of intestinal hemorrhage. A protective clot stands a poor chance of adhesions under its grip. Its use in the cerebral or pulmonary bleedings is still more perilous. The blood-pressure within the cranium may be disastrously intensified and in pulmonary hemorrhage the increased vasomotor tension exaggerates the condition.

146.—**Pyorrhea Alveolaris.**—The relation of Riggs' disease to general surgery is here noticed by Abbott, who believes that it is responsible for many conditions, such as putrid exudates, etc. He mentions a case where this has developed extensive inflammation and septic infiltration of the lymphatics and glands of the floor of the mouth, the throat and the neck. In other cases it may produce antral disease, and he has heard of a case of cystitis which cleared up at once after the extraction of the diseased tooth. He asks what surgeon would allow his patient to take five or six drops of pus three or four times a day, yet this must be the case with sufferers from this disorder.

151. **Electric Light and the Eye.**—Roy reports a number of cases of irritation of the eye from the use of electric light, both arc and incandescent. The chief points of interest are whether the dangers produced are of chemical or traumatic origin, the presence of contraction of the pupils from retinal irritation persisting for days, and pain occurring several hours after the accident.

160. **Commercialism in Medicine.**—Armstrong gives his views as to the pervading spirit of commercialism as he sees it, and especially the need of modification of the Texas medical laws. He writes forcibly and as far as medicine is concerned, leaving out the politics and poetry, which may not agree with everybody, his views deserve general acceptance.

FOREIGN.

British Medical Journal, September 22.

A Discussion on the Correlation Between Sexual Function, Insanity and Crime.—The chief paper in this discussion is furnished by H. MACNAUGHTON-JONES, the distinguished gynecologist, whose conclusions are given as follows: 1. Functional disorders of ovulation are frequently attended by mental aberration, and in a proportion of cases originate the mental disturbance. The same remark applies to disorders of ovulation which have a pathological cause. 2. In the great majority of such cases, the nervous disturbance is of the neuro-thenic character, and is associated with various visceral or other neuroses. In only a small proportion does the alienation assume so grave a type as melancholia, mania, or dementia. 3. Where in an insane person, ovulation and its external manifestation, the menstrual discharge, are erratic or absent, the erraticism or absence may be a consequence of the general and insane condition, and not a causal factor in its production; but under any circumstances such abnormal menstruation appears to have an aggravating effect on the insanity, and there is sufficient evidence to support the view that when such irregularity—especially if it be due to a pathological cause—exists, it should be treated therapeutically or by operative measures. 4. The question of a gynecological examination of an insane woman must be a matter for the discretion of the psychologist, influenced by the gynecological view as to its expediency from the signs and symptoms present in the sexual organs. For many reasons, as a universal practice, with our present knowledge it is not advisable. 5. Sufficient evidence is now advanced to justify the removal of the adnexa or uterus in insane women, when there are gross lesions of the former or tumors of the latter. Here, again, such operation must be advised according to the psychological condition of the patient and the type of her insanity. 6. From a mass of evidence, including some of the largest experiences in Europe, Canada, and America, it does not appear that there is in healthfully-minded women, who suffer from diseases of the genitalia, any special risk of post-operative insanity. On the other hand, if there be a psychopathic predisposition, which had existed prior to and independently of the sexual disease, there is in such cases a larger percentage of post-operative mental disturbance than follows other operations. In such women the prudence of a radical operation may have to be carefully discussed. The post-operative mental effect does not appear generally to be of a serious or permanent nature. 7. It may be generally affirmed that when mental disease of a graver type follows upon sexual disorder there has been in the woman affected an underlying and often unrecognized psychopathic predisposition; the disorder of the menstruation or the disease in the genitalia completing the chain of the vicious circle needful for the final manifestation of the mental condition. 8. The relation of aberrant sexual function or a disorder of menstruation to any criminal act ought to be taken into consideration in determining the responsibility of the women.

Acute Delirious Mania. JOHN TURNER.—Turner recognizes three divisions of acute delirious mania: 1. Those of alcoholic origin. 2. Those of septic origin. 3. Those in which we are not able at present to identify any particular poison as the cause. It is the latter form that the author chiefly treats of in this article. The main point to which he calls attention is that the most of these cases present definite alterations of certain of the cortical nerve cells—chiefly the giant cells of Betz—so much so that they are almost characteristic. He says almost, because in at least one case he was not able to find this change though other cells showed pronounced changes. He remarks on the symptoms, reports cases, and figures the changes that he has observed. The naked-eye appearances consist chiefly in intensely congested areas in the meninges and some times thrombosis and hemorrhage. From his study he believes that all forms of acute delirious mania are of toxic origin, but while some are obviously caused by the introduction of poison from without or the absorption of certain matters there is a third class due to auto-intoxication, probably from perverted metabolism which is probably caused by a disordered

nervous system. In these acute cases occurring in the prime of life we almost always meet with fatty degeneration of the liver, an organ one of whose functions is probably to prevent the introduction into the system of poisonous intestinal products. It may be asked why some nerve-cells suffer while others in their neighborhood escape. It may be, he says, that these particular cells, which are chiefly concerned in the production of the symptoms are those which will feel the chief effect of the poison. If, as some hold, accumulation of pigment in the nerve-cells is an expression of past and probably recent activity, the fact that the cells which are most pigmented are usually those most affected will bear out this contention. The subject is, however, as yet too speculative for beneficial discussion. The cells just described are found here and there in many other forms of insanity with different clinical histories and even in some cases of acute delirious mania only a minor proportion of the giant cells are markedly affected. As a rule, however, in cases with high delirium and a rapidly fatal termination we generally meet with a condition in which all the giant cells are profoundly altered and the author believes from an inspection of such a section a diagnosis can be formed of the mental condition preceding death.

Organo-Therapeutics in Mental Diseases. C. C. EASTERBROOK.—The origin of organo-therapeutics dates from Brown-Séquard's experiments in 1859 and the doctrine of internal secretion formulated by him that "all glands and all tissues have an internal secretion and all injected subcutaneously have a tonic effect" is taken as the text of this article. During the past five or six years Easterbrook has administered in various forms of insanity extracts of the following animal organs: The thyroid gland, the parathyroid bodies, the thymus, the pituitary body, the brain, the choroid plexus, the spleen, the suprarenal bodies, the testes, the ovaries, the uterus, and the mamma. With the exception of the thyroid, none of these have been very generally employed by alienists, and parathyroid extract so far as he knows has not been employed before at all. He carefully selected his cases among patients not progressing toward recovery under other treatment, and sought to avoid the fallacies of calling temporary remissions recoveries, or to attribute to the drug any improvement or change that might be due naturally to the course of the disease and he has also excluded all psycho-therapeutic influences in any form so far as possible. His patients were first weighed and put to bed on a diet sufficient to maintain the body temperature and body weight, careful notes made of the state of the bodily and mental functions, the excretions, the blood, urine, etc., with careful quantitative and qualitative examinations and microscopic studies. Sphygmographic tracings, and observations of the blood-pressure with sphygmometer were also made in some cases. In the 130 cases tested with the thyroid extract, including a large number of forms of insanity and almost the whole range of symptoms of the disease, large and small doses were given separately and effects noted as producing changes in the temperature, circulation, nervous system, urine, etc. Small and moderate doses were tolerated well by all. Large doses were badly borne by those under 20 and over 60 years. Easterbrook suggests that, in the old, the thyroid gland is feebly functional and the system is not prepared for much thyroid secretion, while in the young it is freely active and the system well supplied, therefore any addition is superfluous. In the 130 cases there are 12 recoveries which he thinks can be attributed to the drug and 29 cases were improved. All the recovered cases had been selected as failures from former treatment, the average duration of treatment before thyroid medication having been eight months. Several cases that had been treated, recovered some time after, which indicates that a patient not cured by the thyroid method may still recover by other means. Nevertheless his experience is that if the patient is going to recover under this drug it will be done with the first few large doses. When used in chronic insanity temporary improvement is common and he has found it useful in aborting periodic attacks of violence. The therapeutic effects of parathyroid were negative, the same is true as regards mental symptoms with thymus and pituitary extracts, though there was in some cases temporary improvement

with both. Brain extract was used in 19 cases, of which 2 recovered and 3 were improved. Choroid plexus extract was negative in its results. Suprarenal extract he thinks had some effect in increasing the blood-pressure and he would advise a systematic trial in maniacal cases. It seems also to produce a specific diminution of tissue oxidation. With the splenic extract there was in two cases temporary improvement physically and mentally with subsequent relapse. Of the 8 cases treated with orchitic extract 3 were improved mentally while 2 others were physically benefited. Thirty-six cases were treated with the ovarian extract, 2 of the patients recovered long after the treatment, probably independently of it and 4 cases, mainly stuporous, were improved. Two of the patients in whom the ovaries had been extracted or destroyed by disease were unimproved either mentally and physically by large doses. Uterine extract was negative. The 2 cases treated by the mammary extract were affected with a rise in temperature and loss in weight, but no change in other respects; both however fully recovered, one after a careful thyroid treatment. In conclusion, he states that Brown-Séquard's generalization needs some modification. His own investigation led him to conclude that those animal extracts which consist mainly of simple proteids and albuminoids have merely a dietetic value, but those that are rich in nucleins and nuclein proteids produce when given in sufficient doses a temporary stimulation of cell katabolism and subsequent anabolic reaction. It is important to recognize this tonic effect. Apart from this it is extremely doubtful whether each organ possesses a specific internal secretion in the sense intended by Brown-Séquard. Some organs, however, as the thyroid with its iodothylin and the suprarenal bodies with their active principle have a decided special effect. Thyroid extract stands far and above all others in stimulating tissue oxidation, and anabolic reaction never sets in until after the cessation of the drug, which is not the case with other extracts.

Revue de Médecine (Paris), July and August.

Affections of the Spinal Cord in Heredo-Syphilitic Infants. DE PETERS.—In certain cases symptoms indicating an affection of the spinal cord are the only means of diagnosing inherited syphilis. De Peters has observed eleven such instances. Nothing suggested syphilis in either parents or children except the nervous symptoms and the fact that they yielded promptly to specific treatment. In some cases there was isolated paralysis of the muscles of the scapular region, isolated paresis of the leg, isolated contraction of a group of muscles, as, for example, the psoas and iliac muscles, or those of the back of the neck, coexisting with paralysis of other muscles, or the oculo-pupillary Déjerine-Klumpke symptom alone. In differentiating this from obstetrical paralysis, an important point is that the latter is more apt to occur in well-developed children born at term and that it is usually unilateral.

Acute Dysenteric Hepatitis. P. REMLINGER.—The acute non-suppurative hepatitis accompanying dysentery commences during or consecutive to the latter—eighteen months after in one of the four cases described, and nine years in another, after the first manifestations of the recurring dysentery. The onset is sudden and violent. Morphine is powerless to relieve the intense pain. The liver appears hypertrophied all over, the spleen normal. Ordinary treatment is ineffectual, but local blood-letting is followed by almost immediate relief.

August.

Gastrointestinal Troubles from Nervousness. DMOIS.—No organ is so sensitive to the emotions as the gastrointestinal canal. It is the mirror of the condition of our soul, Dubois asserts. Pavloff showed that a dog secreted as much gastric juice at the sight of his dinner on a dish as another dog given 100 gm. of meat. This demonstration of a "psychic appetite" has been supplemented by Kronecker's recent experiments proving the effect of fear on peristalsis. The influence of massage and exercise was evidenced in the passage of a silver ball through the isolated intestine of a dog by increased peristalsis. A threatened beating, however, sent the ball along more rapidly than all the physical measures combined. A number of typical cases of nervous gastrointestinal affections are de-

scribed in this communication and the benefits to be derived from measures to educate the will, control the reason and train the intestines, combat the nervous preoccupation and divert the patient's attention, are emphasized. Medication is useless in these cases.

Berliner Klinische Wochenschrift, August 27, September 3 and 10.

Peculiar Dangers of Otitis in Elderly People. HEINE.—With advancing years osteosclerosis of the mastoid process frequently occurs, but is usually confined to the external portion, while the internal portion of the temporal bone retains its spongy character. For this reason suppurative processes do not readily work outward, while serious lesions may be progressing in the depths. Four instructive cases are described, forcing the conclusion that patients over 40 with inflammation of the middle ear should be operated on as promptly as possible, otherwise rapidly fatal cerebral complications are liable to supervene.

Adjustable Spectacle Frame. L. SARASON.—To prevent myopic school-children from using distance glasses for near work, the lenses are suspended in the frame from the top. They consequently swing outward out of the line of vision whenever the head is bent forward.

September 3.

Injuries from Lime in the Eye. SCHMIDT-RIMPLER.—A 100-gm. syringe and a bottle of oil should be kept where lime is being used. In case of an injury to the eye from the lime the oil should be injected from the external angle and the eye well irrigated with it.

September 10.

Harmful Suggestion in Accident Cases. W. SEIFFER.—The writer of this communication is assistant at the Nerven-Klinik of the Berlin Charité, and describes from his personal experience the vast harm done by physicians in expressing an unfavorable prognosis on the first examination of a patient after an accident. He attaches the utmost importance to the physician's verdict at such times and requires a tonic, psychic treatment, suggestion of rapid recovery, while a grave prognosis announced is liable to increase the gravity of the traumatism. His cases of more or less conscious simulation, traumatic hypochondria and hysterical paralysis, lead him to endorse Bruns' statement that traumatic nervous affections are due far more to subsequent events and emotions than to the trauma itself. He therefore begs physicians to weigh their words well at such times and to err, if they err at all, on the side of a too favorable prognosis.

How to Secure Asepsis in Catheterization of Ureters. M. KATZENSTEIN.—Tests at Israel's surgical clinic have conclusively demonstrated that it is impossible to sterilize catheters thoroughly with sublimate, while other processes are liable to injure the catheters, and disinfection with formaldehyde has been tedious and insufficient hitherto. Katzenstein has constructed an improved apparatus which consists of a tall metal box 17 cm. long, 11 cm. high and only 2.5 cm. deep, on the floor of which tri-oxy-methylen—which is nothing but polymerized formaldehyde—is scattered. The back of the box is pierced with a dozen small openings containing each a small tube, terminating on the outside with a screw-thread on which a cap or a catheter is screwed. An oblong metal box of the same width and height, but 44 cm. long, fits on the gas chamber above-described and supports the catheters on a wire tray. The gas generated in the small chamber has no means of escape except through the catheters screwed on the tubes opening into it, which are thus rendered sterile in ten minutes. Ureteral catheters only require twenty minutes at most. The large box is made in two halves that telescope, so that it can be drawn out to a length of 80 cm. The heat is supplied by three small gas jets, raising the temperature to 60 or 80 C. in the generating chamber. Catheters are not injured by this process. A small pocket apparatus is made on the same principle, the heat supplied by a thermophore attachment.

Success of Chirol "Varnish Gloves." R. KOSSMANN.—The hands are first thoroughly sterilized and then dipped for fifteen seconds—no longer—in the fluid chirol. They dry in

three minutes and neither sweat nor germs can pass through these varnished gloves from within nor germs nor fluids from without. Kossmann describes a number of tests in which the fingers were rubbed on cultures of bacillus pyocyaneus and prodigious and then pressed and rubbed three times on a plate of agar. They were then dipped in the chirol without sterilization and pressed again on the agar a number of times. Not a single culture developed after the chirol had been applied while numerous colonies grew at each one of the three points first touched. Even without preliminary sterilization, the value of chirol in preventing infection promises to be inestimable, because it plugs up all the crevices and nail-spaces.

Deutsche Medicinische Wochenschrift (Leipsc), September 22.

The Neuron in Anatomy and Physiology. M. VERWORN. This summary of the facts on which the neuron theory is founded was presented at the Congress of Physicians and Naturalists which met at Aix-la-Chapelle, September 19. Nissl believes that the theory of the neuron as a unit is untenable, but Verworu claims that all the latest researches have merely confirmed this theory. He admits that the neuron is not the same thing everywhere that we see in Golgi's pictures of the cells of the anterior cornua. The neuron is of many varieties and shapes, according to its location and its function, as Nature never works by an exact pattern. Modern research has led to the further and freer evolution of the conception of the neuron as a cellular unit. He reports experiments which show that the metabolism in the central nerve-centers is incomparably more intense than in the peripheral nerves, also that the centers pass through stages of fatigue and exhaustion the same as the muscles; fatigue from antiointoxication and exhaustion from using up the reserve supplies, especially of oxygen. His pupil, Baglioni, is soon to publish an account of researches which show that strychnin injected into the spinal cord affects exclusively the sensory elements of the posterior horns, increasing their excitability to an enormous degree, while carbolic acid in certain solutions affects merely the motor elements of the anterior horns, increasing their excitability.

Reposition of Luxated Shoulder by Riedel's Method. GRAEF.—It is amazing, Graef observes, after years of experience with the old and frequently unreliable method of traction by four men on the upstretched arm, to see the ease and rapidity with which a severe anterior luxation of the shoulder can be reduced by Riedel's method. Narcosis is indispensable. The muscles prevent the entrance of the head into its socket, but once relaxed by complete narcosis, the head is held only by the tendon connecting the acromion and the middle portion of the humerus. If the arm in extreme adduction is then pulled from below diagonally across the body toward the sound side of the pelvis, the head slips easily and immediately into place.

Another Toe-Finger. EISELSBERG.—The right forefinger of a young man had been cut off four months before the operation described. Eiselsberg applied in its place the second toe, leaving it still attached to the foot by a portion of the soft parts, and applying a plaster cast. The connecting bridge was gradually severed and completely divided by the twelfth day. None of the toe was lost and sensibility has developed; mobility has not yet appeared, but is confidently expected in time, as occurred in Nicoladoni's toe-finger operation two years ago.

Acute Progressive Peritonitis Cured by Operation. URBAN.—Two children 3 and 3½ years old, respectively, with severe progressive peritonitis, one apparently moribund, were treated by incising the abdomen on the median line for 6 to 8 cm., nine and four days after commencement of the disease. The wound was not irrigated nor drained but was left open and dry dressings were applied. Improvement commenced at once, and went on to recovery.

Mittheilungen a. d. Grenzgebieten der Med. u. Chir. (Jena), vi. 4 and 5.

Experimental Production of Gall-Stones. H. MIYAKE.—Introducing foreign bodies or cauterizing the mucosa, etc., never led to the production of a true calculus in the experimental research reported. Infection proved to be an indispensable factor, with the consecutive chronic catarrh of the

biliary passages, combined with means to prevent expulsion of the stones.

Omentum Tumors. R. BOERMANN.—In studying the published descriptions of "omentum tumors" the statement is always found that a portion of the tumor was adherent at some point to the stomach or colon. Borrmann claims that the tumor originally developed from the organ to which it is adherent and grew between the layers of the omentum.

Technique of Esophagoscopy. G. GÖPSTEIN.—According to the technique employed at Mikulicz' clinic the patient reclines on his right side on a table, the head slightly drawn back, the physician seated on a low chair at his head. The tongue and entrance to the esophagus are swabbed with a 10 per cent. solution of cocain. Once past the entrance, the esophagus offers no further obstacle to the passage of the tube, but it may require considerable gentle manipulations to enter it. A Casper panelectroscope is then applied. Esophagoscopy is no more dangerous than any other procedure of the kind.

Fluenecher Medicinische Wochenschrift, September 18

Gout in Germany. A. STRUEMPEL.—The Germans have always claimed that gout was rare in their country, but Struempell states that it is frequently encountered now and that the failure to note it before was due to the lack of search for it. The majority of patients he has observed were connected with the manufacture or sale of beer, or had been exposed to lead-poisoning.

Inflammation of the Gall-Bladder and Consecutive Gastrointestinal Disturbances. W. FLEINER.—The writer recommends flushing the stomach with tepid water and rectal injections of oil as effective means of combating the gastrointestinal disturbances left after an acute cholecystitis. The oil actively promotes peristalsis and proves a powerful cholagogue. Irrigating the fasting stomach rinses out the whole organism, especially the liver, as a portion of the water is absorbed by the portal vein and carried directly to the liver. He extols these systematic flushings of the stomach as fully equal to a course at Carlsbad, and even more effective in certain cases, while they can be carried out at any time and are not restricted to the watering-place season. They exert a gymnastic influence on the gall-bladder as well, preventing the formation of adhesions between it and the stomach, and thus curing many a case of motor insufficiency of the stomach from this cause. A tendency to hemorrhage on the part of the gastric mucosa is a counterindication for lavage.

Acute Leukemia. A. DENNING.—A case is described in which an otherwise typical lymphatic leukemia or lymphemia was not accompanied by any perceptible alteration or swelling of the glands, and the spleen and liver did not become hypertrophied until the last stages of the disease. The condition of the gums and mouth suggested scorbutus. This emphasizes the necessity of examination of the blood in every case of stomatitis of unknown origin.

Gas Gangrene. G. MUSCATELLO.—Five cases are described of local gangrene with gas formation and symptoms of general intoxication, only differing by the complication with inflammatory processes which was observed in a few, and by a tendency to the invasion of the surrounding sound tissue in connection with the inflammatory processes. The bacillus aerogenes capsulatus was found in three cases. It evidently has no action on sound, but primarily invades altered tissues. The bacillus coli communis was found associated with the proteus in one, and with the streptococcus in another case. All the patients recovered, three after amputation of the arm, leg or thigh in which the infection had developed after a traumatism—stab wound or compound fracture. In another case the gangrene developed consecutive to abdominal extraperitoneal nephrectomy. The wound apparently healed but required reopening on account of swelling and fluctuation. The walls of the cavity were found brown and soft, with gas bubbles in them and in the adjacent lumbar muscles. Energetic disinfection with potassium permanganate and iodine arrested the gangrene and the patient recovered. It appeared in another patient after

removal of an arterio-venous aneurysm in the popliteal space requiring ligature of the artery above and below. The gangrene also invaded the stump two days after amputation, but was cured by reopening the wound and vigorous disinfection and medicinal measures every four hours. The popliteal vein in the amputated limb was found obstructed with a thrombus at the point of the lower ligature. The gangrene extended to the point of the upper ligature, where it ended abruptly in the midst of sound tissue. The bacillus aerogenes was found pure in the two last cases.

Therapie der Gegenwart (Berlin), July and August.

Lumbar Puncture in Children. O. KOHLS.—Temporary improvement was observed in several cases of tubercular meningitis, but Kohls' personal experience confirms the danger of the procedure in case of cerebral tumor or pronounced spina bifida. His experience with it in cerebro-spinal meningitis was decidedly favorable. Four have survived out of the seven cases in which lumbar puncture was applied, including two who recovered completely and one who was left somewhat deaf. Xeter has also reported five recoveries out of six.

Cinnamic Acid and Leucocytosis in Tuberculosis. C. KRAEMER.—Ten clinicians have published their experiences with cinnamic acid in the treatment of tuberculosis. The general verdict on the total of 186 patients is favorable to the remedy, and experimental research has established that its action is due to the leucocytosis which it induces. The leucocytes wall off the tubercle and in time lead to its transformation or encapsulation. Other substances induce leucocytosis but none combines such purity, solubility and non-toxicity with such efficiency in even the smallest amounts.

Origin of Catarrhal Conditions of the Respiratory Passages. ADLER.—The theory proposed to explain hay-fever and the non-infectious catarrhs of spring and fall, and of elderly people during the winter, assumes that the membranous lining of the upper air-passages has a different coat for summer and winter. Abrupt transition of the seasons causes this coat to be thrown off rapidly and a catarrhal condition results. Some persons are incapable of forming a suitable epithelial coat for winter weather. In others the summer coat is defective and the light, odors and floating particles of dust and pollen irritate the membrane, culminating in hay-fever. All these conditions are based on insufficiency of the epithelium and preventive treatment should be formulated accordingly.

August.

Treatment of Sciatica with External Application of Hydrochloric Acid. ELJASZ-RADZIKOWSKI. Twelve cases of very severe and rebellious neuralgia, some of neuritic and some of sciotic origin, were all cured by painting the painful region with 20 gm. of pure hydrochloric acid at a time, in four to eleven applications. In one of the cases the patient was so much improved by one application that he did not return for further treatment. As the acid penetrates into the tissues it is transformed into a harmless chlorid.

Treatment of Pulmonary Tuberculosis with Igazol. V. CERVELLO.—Fifty-five patients have been treated with igazol since its invention fifteen months ago and 15 are now completely cured—appetite, strength, color and weight restored to normal. These include 5 in the first stages, 1 quite severely affected, 7 severely affected, and 2 very severely affected. The temperature had varied from 37.5 to 38.5 C. in 6 and in 3 between 38.9 and 39.5. Fourteen are nearly cured, including 6 severely and 2 very severely affected. The temperature in 5 was 35.5 to 38.5, and in 3 was 39 to 40. Ten of the whole number were slightly improved; 5 grew worse; 1 remained stationary and 10 have died. Even in incurable cases there is always a pause or temporary improvement in the disease. The fever vanishes in ten to sixty-four days; the effect on the sputa is evident almost from the first. The appetite and general health also rapidly improve. (See THE JOURNAL xxxii, p. 1438.)

Wiener Medicinische Wochenschrift, August 25.

Treatment of Ulcers with Superheated Air. K. ULLMANN.—The heated air is brought from a lamp on the floor

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REPORT OF THE COMMITTEE ON TUBERCULOSIS.

At the Columbus meeting of the American Medical Association, June 6-9, 1899, the following resolutions were adopted:

Resolved, That the president appoint a committee of five with power to add to that number, who shall prepare a report on the nature of tuberculosis; its communicability and prevention; the more effectual means of controlling the spread of infection and of educating the people in personal hygiene, so as to lessen the chances of their becoming tuberculous and to increase the prospects of their recovery; the advisability of establishing national and state sanatoria, and such other matters as may be pertinent to the subject.

Resolved, That this committee shall present this report to the Congress of the United States and to the legislatures of the various states of the Union and urge upon them that appropriate measures be speedily taken.

To the President and Members of the American Medical Association:

GENTLEMEN:—Your Committee on Tuberculosis appointed in pursuance of a resolution of the meeting of 1899, was instructed to report on the general subject of tuberculosis, as to: 1, its nature; 2, its communicability; 3, its prevention; 4, the control of the spread of the disease and the education of the people so as to lessen their chances of infection and their prospect of recovery when infected; and 5, on the advisability of national and state sanatoria.

In presenting this preliminary report your committee finds it unnecessary to deal at any great length with the first two sections of the subject assigned.

1. Tuberculosis is a disease of many tissues of the body, due to the growth therein of the tubercle bacillus, which finds for some reason a favoring culture field in the organs. Granular minute bodies, known as tubercles, are produced, whose tendency is to necrosis and the setting up of the process of supuration. Poisoning of the system in varying degrees results from both of these processes, and important organs and functions are interfered with and so death follows in a large proportion of cases.

The exact mortality of tuberculosis can not be stated, for all the cases can not be counted, since many are undiagnosed and many are suppressed; but in this country it probably amounts, in towns, to not far from 14 per cent. of all deaths, and it is easily demonstrated that the pulmonary form reaches 9 to 11 per cent. of all deaths. In the country, as a whole, the mortality from all forms of tuberculosis is probably considerably below 14 per cent.; possibly not over 12 per cent. In upward of forty towns and cities of the United States, which for the year 1897 reported their deaths from consumption, the mortality from this disease was 10.9 per cent. of the total mortality. Tuberculosis kills thirty times as many as die from smallpox and scarlet fever together, and four and a half times as many as from these two diseases with typhoid fever and diphtheria

combined. The figures thus show that this is the most destructive disease extant. It is, moreover, the one least subject to fluctuation; the most constant from year to year. Domestic animals furnishing the food of man are afflicted with it, and bacilli are found in the milk and butter derived from them. It is intertransmissible with them.

It is difficult to state the morbidity of human tuberculosis. Pathologists give varying figures as based on post-mortem examinations, of 40 to 75 per cent. of all people as being afflicted with it in some portion of their bodies some time in their lives. Probably a fairer figure would be 50 per cent.

2. Tuberculosis is a communicable disease: is carried from person to person as a specific bacterium which enters the body and thrives variously or dies, depending on the personal susceptibility of the individual. This varies in different bodies and in the same body from time to time, and is increased by ill-health, unhygienic conditions of life, starvation and overwork, and by hereditary predisposition. It is decreased by bodily vigor, outdoor life, good hygiene and perfect physiological functions.

Tubercle bacilli are very prevalent in the atmosphere of cities and towns, and not all people who imbibe them take tuberculosis, but only those with a power of resistance that is too low either to destroy them or to render them innocuous.

The bacilli are acquired mainly through the air, which carries them directly into the mouth, nasal passages, throat, trachea and lungs. Bacilli taken into the mouth and throat are mostly swallowed, and, if not destroyed by the acids of the stomach, pass into the intestines, sometimes to set up tuberculosis there. The microbes are doubtless often swallowed in milk, and are carried to the mouth by polluted utensils, by things chewed, and possibly by the kiss of infected persons. Some bacilli find their way into the lymphatics and blood-vessels, and so are disseminated through the system, possibly to start foci of disease in distant parts of the body.

3. As to prevention a larger word is to be said. Complete suppression of the disease is too much to hope for, but it is possible to limit to some degree the spread of it, and the necessary measures should engage the most earnest and sustained attention, and have the insistent support of every member of the medical profession. The first step to the accomplishment of this end is to reduce the number of tubercle bacilli in the air we breathe. The disease is largely air-borne, and our duty is obvious. The following are practical measures: *a*. Destruction as far as possible of all tuberculous sputum, either by fire or by chemical agents in spit receptacles. *b*. Careful disinfection of contaminated clothing, utensils and rooms—clothing and utensils by heat, either dry or moist, and rooms by formalin. *c*. Careful management of the patient in his person, and especially as to his expectoration. *d*. The segregation of infected persons, in whom the disease is active, under the care of nurses competent to prevent them from contaminating the atmosphere.

The next step is to protect food stuffs, especially milk and meat, from contamination. This necessitates the careful and constant inspection of dairy herds, the creation and enforcement of wholesome rules of management, and the destruction of all seriously sick cattle.

Then the people, especially those known to be predisposed to the disease, need to be kept constantly in a condition of robust, not to say athletic, vigor. Any drop from this stand-

ard is dangerous. Comparative freedom from contact with the bacilli is the greatest desideratum; it is only less important, as people can never be wholly free from them, that they should have the greatest power to resist their multiplication in the body. The largest influences to this end are a life much in the open air and perpetual freedom from every excess in any possible direction.

4. How can the people be educated to prevent the spread of tuberculosis, and when infected how can they have larger hope of recovery?

The lessons on this point should be as few as possible, so as to avoid confusion and the scattering of public attention. They should be consistent, and contain nothing unnecessary. A few cardinal doctrines ground into public thought will be more effective than a hundred casual details. They should carefully avoid unproved theories and impracticable measures; nothing blights a good reform movement so surely as these. They should be such, and only such, as will command the unanimous approval of the profession, so that there shall be no confusion of tongues or advice. They should be limited, in the burdens they impose on the public, to such measures as will appeal to its common sense, and not provoke antagonisms or unnecessary hardships. These are cardinal truths: *a.* We must enlighten the people as to the nature of tuberculosis and the method of its distribution. *b.* The urgent sick should, if convenient, be segregated somewhat from the well, and be sent to sanatoria if possible. If they live with their families they should know and obey the rules of proper personal care and conduct. The practice of keeping consumptives ignorant of the nature of their disease, when they are expectorating billions of bacilli every day, is a crime against the community. They are usually less shocked by the truth than their friends are, and knowing it, they are more ready to join in measures for their own good and for the protection of others. *c.* All spitting on floors, sidewalks and public conveyances must be discouraged and forbidden by law. Expectoration should be received into articles that can be burned or disinfected, and its destruction should be insisted upon. Long exposure to sunshine kills the bacilli, but when infected sputum is cast out upon the ground the possibility is great—except in regions of the most intense sunshine—that before it is rendered harmless it will become to some degree part of the dust of the air, to the danger of the community. *d.* The tuberculous must not wear long beards, nor allow their mouths to carry infection to others: and contaminated clothes should be frequently sterilized by heat. At least in the houses of expectorating tuberculous patients, carpets are an abomination, and the sweeping of rugs even should be forbidden. *e.* The truth should be inculcated that only the most scrupulously careful patients of those who expectorate much can avoid contaminating their clothes and articles about them, and that, therefore, the watchfulness should be perpetual. *f.* It requires most exceptional nursing of a consumptive who expectorates much, to prevent contamination of his room. Therefore it ought to become public policy that health officers should, in their discretion, as a general rule, when they receive reports of death from pulmonary tuberculosis, require that the rooms in which the patients died shall be immediately disinfected. The only exceptions should be where the proof is positive that perfect cleanliness has been maintained throughout the sickness. *g.* The people ought to be instructed that when one is seized with tuberculosis—especially that form which leads to consumption—there should be immediately adopted a radical plan of management of the case, to include, as far as possible: a rejection in labor and care; a change in surroundings and conditions of life; a life either quite out-of-doors, or, if in-doors, with as much fresh, pure air as possible; the greatest amount of rest and sleep; the best nourishment suited to delicate digestion, and taken oftener than is usual in health; and a sharp reduction in exercise if fever is present. Conservative medical treatment, to be prescribed by the physician, is useful but secondary. The foremost purpose must be to increase the resisting power of the body to the disease. Thus only does recovery come, and the greatest single measure to this end is probably

the out-door life. Consumptives should become out-door instead of in-door animals. The chief advantage of good climates for the disease is in the possibility of the patient's living out of doors, although dryness of air is valuable and altitude has benefit for many cases. *h.* Nothing will be gained in this day and generation by attempting to secure by law the reporting to health officers of all cases of tuberculosis. Many physicians will never report their cases frankly; they will hide them, treat them under inaccurate and unscientific diagnoses, conveniently forget and even prevaricate, and their patients will sustain them. Such laws already enacted are dead. It has been and will be found impossible to execute such a rule, as to any disease that is never epidemic, but invades the bodies of half the people, many of whom go about in apparent health for years, and forget that they are seriously sick. And even if the health departments had the reports they could not serve any useful purpose except for statistical generalization; a purpose that is frustrated by the comparative worthlessness of all such records. *i.* All tuberculous farm stock, especially all animals whose bodies or products become food, if manifestly sick must be destroyed, and at public expense if not otherwise. But many mildly tuberculous cattle, like men, recover when given a better physiological chance; and recent events have shown that legalized attempts to destroy, to the burden of the community, large numbers of domestic animals that have all the appearances of health, sometimes meets with such opposition as to frustrate the whole beneficent scheme. We ought to have known and expected this, and it is pertinent to ask if it is important that meat shall be always free from a final few tubercle bacilli, that are killed by cooking, when fed to people a large percentage of whom have live bacilli in their own bodies. It would be better to try to educate the people to pasteurize their milk and always cook their meat, and to adopt a temperate destructive policy as to cattle, and a strenuous policy of care and segregation of slightly tuberculous stock, rather than, with measures that are open to the fair charge of being too radical and sweeping, to arouse a reaction that shall every few years sweep from the statutes of a state all the really necessary laws of this kind.

5. The sanatorium idea is increasing in this country. It is becoming popular as it has grown in popularity abroad, and it offers the greatest hope for tuberculous patients. The people are beginning to discover the value of regular sanatorium management for the cure of this disease. The cure depends vastly on an increase of the specific resisting power of the patient, and this can be accomplished best by hygienic measures carried out faithfully without a break for many months at a time. Fresh air, out-door life and a regimen of rest, diet, exercise and sleep which tend to increase the physiological forces that destroy or repress the bacilli, are the most important measures. Patients may carry out these measures by themselves, under advice and with a special nurse for each case, but usually they do not, but blunder at least one day in the month, by some excess or omission, and so neutralize all their previous gain. The sanatorium properly managed offers the best means up to this hour, for the cure of the average case.

The world was slow to learn that the sick with acute diseases deserve to be nursed by expert hands; that the trained nurse, moved by professional ambition and pride of success, makes for comfort and recovery to a patient, better than the casual care of unskilled strangers, or the agitated excess of inefficient friends. We are only just learning that people in the slow clutch of the most mortal of all maladies deserve a similar expert skill in their care, and to have it continued without interruption through the months and years if need be. The victim of a familiar, creeping death that is avoidable, is as much entitled to consideration as if he had the swift plague. Our virtue is apt to be spasmodic; we rouse ourselves for the relief of imminent disaster. It is a soberer and wiser virtue that creates and sustains measures to repress an insidious calamity.

Sanatoria for consumptives should be established all over the country. They are springing up with encouraging rapidity, but nearly all of them, so far, are for the people able to

pay. The majority of patients are unable to pay for institution care or for change of climate, and they are as deserving as any. To these the state owes a debt that is as genuine and urgent as any it owes to its other unfortunate citizens, and the state should erect and maintain sanatoria for them. Moreover, by saving the lives of a portion of these patients, and circumscribing the spread of tuberculosis, the state will always in the end be the gainer in wealth. We hold that it is the duty of THE AMERICAN MEDICAL ASSOCIATION, not merely by the mouth of a committee on tuberculosis, but by its general membership as well, to urge on the legislative bodies of the states and the nation the surpassing necessity of these measures.

6. There has been much discussion during the past year over a proposition to exclude by quarantine regulations, consumptives from two states of the union that have been resorts for such patients. We are not aware that the suggestion has even been seriously considered by any medical body, or by the profession at large. But it is true that there has grown up among some of the citizens of those states an impression that all of the recent increase of tuberculosis originating within their borders is directly chargeable to the numerous cases that have migrated to them. This is probably in part true. But these regions have more and more vivid sunshine than other parts of the country, so that bacilli that are out of doors are more likely to be killed. The contamination of the localities, if it has occurred, is most probably from infection of habitations through ignorance and carelessness; and this is an argument for the institutional care of as many cases of tuberculosis as possible, and for disinfection of certain houses, as we have recommended.

Whatever else the states referred to, or other resorts for consumption may or ought to do for their own protection, we are convinced that it will be impossible to do it by general exclusion. Not 10 per cent. of the cases journeying thither could be excluded by the most rigid quarantine, and any effort to do this effectively would arouse intense popular opposition, as the mere discussion of the subject has done already. At the same time it would tend inevitably to divert attention from the proper care of the cases from day to day, as the only feasible means of protection for the public.

NORMAN BRIDGE,
W. A. EVANS,
PAUL PAQUIN,
Committee.

RESOLUTIONS ON TUBERCULOSIS ADOPTED BY THE SECTION ON HYGIENE AND SANITARY SCIENCE.

WHEREAS, There is large demand for official statement relative to some of the questions pertaining to tuberculosis; therefore we

Resolve, That, 1. It is best that the policy of medical societies, medical officers and medical men be one of education;

2. Steps for the suppression of tuberculosis in this country must be so gradual that organized opposition shall not be engendered;

3. It is the duty of every national, state and municipal government to distribute tracts, arrange for lectures, and in every feasible way educate the people along the following lines: *a*, tuberculosis is contagious; *b*, it is preventable; *c*, it is curable; *d*, it is eradicable;

4. Every citizen of the United States having tuberculosis should have the privilege of living in a tuberculosis hospital; every such citizen should be strongly advised to accept such privilege;

5. Hospitals for cures are almost as essential as hospitals for homes;

6. A temporary residence in a tuberculosis hospital (if the patient can not remain) is desirable, as in such a residence hygienic laws, regulation of expectorating and danger from contagion can be inculcated;

7. Crowding, bad ventilation and bad drainage are potent

factors in the propagation of the disease; this applies as strongly to animals as to man;

8. The present method of arrangement and management of eleemosynary institutions, and especially those in which restraint is a factor, are productive of tuberculosis;

9. The condition of the animals furnishing food in the vicinity of large cities is a subject for consideration by the authorities;

10. While American statistics are so incomplete as to be misleading, nevertheless, it is our opinion that the death-rate from tuberculosis in this country (rural and town population together) does not exceed one-ninth of the death-rate from all causes;

11. While the number of people dying from tuberculosis appears to be decreasing, nevertheless, excluding pneumonia, tuberculosis destroys more lives than all the remainder of the contagious diseases combined;

12. This Section should continue a committee on tuberculosis;

13. The proceedings, papers, statistics, etc., of this committee should be published;

14. That the secretary of this Section be instructed to communicate with the business committee of the general Association relative to these resolutions.

STATE PROVISION FOR THE TREATMENT OF THE CONSUMPTIVE POOR.*

BENJAMIN LEE, A.M., M.D.
Secretary of the State Board of Health of Pennsylvania,
PHILADELPHIA.

The only ground on which state charities can be justified is that of self-protection. In the case of the dependent classes, such as the insane, the deaf-mutes and the blind, protection against injury to life and property, or against the loss to society arising from enforced idleness and lack of education on the part of the sufferers, furnishes the excuse. In the case of infectious diseases, the danger to health and life from the extension of such disease justifies the erection of contagious-disease hospitals of all kinds and the expenditure of large amounts of money in the establishment and maintenance of quarantine stations. The foundation and support of hospitals simply for the relief of suffering and healing of diseases is, from the standpoint of strict political economy and true statesmanship, a flagrant misuse of public funds, and leads to serious abuses.

In the year 1898, the legislature of Pennsylvania appropriated more than three-quarters of a million dollars for the support of general hospitals, every one of which should have been sustained entirely by the community to whose poor it ministered. To lavish the public wealth in this way is simply to create a fund for the manufacture of paupers.

It is only the comparatively recent but now universally accepted discovery of the communicability of tuberculosis which has made it possible for a sanitarian to urge the state to contribute to the care of the consumptive poor, as such. So long as consumption was simply due to heredity and general environment, such a plea had no basis in any proper conception of the duty of the government to the individual. Granted that one person in fifty was affected with tuberculosis, and that there were over a million and a quarter cases of consumption in the United States, what business was that of the state? People must die of something. Why not as well of consumption as of heart disease or Bright's disease? And if there was suffering among the poor consumptives,

*Presented in a Symposium on Tuberculosis to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

that was a matter for consideration and relief by private philanthropy. But once admit that consumption is an infectious and therefore a preventable disease, and presto, the whole situation is changed. The state is losing tens of thousands of valuable productive lives prematurely and unnecessarily every year. Thousands more are wasting their time in taking care of those who are thus slowly dying. Here is a terrible leak in the public resources, a leak which we now know how to stop and which, therefore, we must stop. That which would before have been an unwarrantable and vicious use of the public treasure now becomes an imperative duty on the part of the state as the custodian of the material prosperity of its people. To put the matter in a nutshell, preventive medicine is the legitimate work of the state, remedial medicine is not, except so far as it may incidentally be preventive.

On the evening of the tenth day of January of the present year, a meeting of great interest in this regard was held in the city of Philadelphia. This was a joint meeting of the Philadelphia County Medical Society and the Pennsylvania Society for the Prevention of Tuberculosis. The subject for discussion was "The Duty of the State Toward Those Afflicted with Pulmonary Tuberculosis." It may not be generally known that many members of the Pennsylvania Society for the Prevention of Tuberculosis are not physicians. The object of drawing together associations thus differently constituted, was, as stated by the president of the Philadelphia County Medical Society, "through joint discussions to bring about more intelligent co-operation between physicians and the members of the general community in the preservation of the public health." All of the liberal professions and the mercantile community were represented among those who read papers or participated in the discussions. The subject was therefore treated from many standpoints, and in each instance by one well qualified by experience to speak. Boston and New York as well as Philadelphia contributed to the interest and value of the occasion. What I shall say at the present time will be mainly gathered from the report of this meeting, and I shall make no further apology for borrowing either the arguments or the facts then presented. I have already had occasion to call the attention of this Section to the admirable work of the Pennsylvania Society for the Prevention of Tuberculosis, and to urge upon members the importance of establishing similar societies in their own cities and states. The founder and first president of this society, Dr. Lawrence F. Flick, of Philadelphia, read the first paper of the evening, in which he unfolded the plans of that association. Their program was first of all education, not of the legislators only, but of the entire people. For this purpose great numbers of tracts, clearly expressed, in popular style, had been distributed, on such subjects as, "How Individuals Can Avoid Consumption," "How Consumptives May Avoid Giving It to Others," "What Storekeepers, Hotel-keepers and Others Might Do to Aid in Its Prevention." The registration of tuberculosis, both in human beings and domestic animals, is also urged. But beyond all other measures in practical efficiency was placed the establishment of hospitals and sanatoria for consumptives. It was claimed that in England during the last half century a reduction of 50 per cent. in the death-rate from consumption had been brought about by the establishment of consumptive hospitals. There would be not the slightest necessity for compulsory isolation even were it considered important, as hundreds of poor consumptives are knocking at hos-

pital doors for admission and are turned away hopeless, to suffer, linger and die, and in the meantime communicate the disease to their families and infect the houses in which they live. From having been considered a hereditary, incurable and ineradicable disease, consumption is now, on the contrary, looked upon by the profession as: 1, not hereditary but acquired; 2, as to a considerable extent amenable to treatment, and, 3, as possible of eradication as a scourge of the race by known methods. It is safe to claim that at least 20 per cent. can be cured, and 10 per cent. more can have the disease arrested, which amounts practically to the same thing. In Dr. Turban's sanatorium, at Davos, in Switzerland, of those in the third or advanced stage, 23.6 per cent. were absolutely or relatively cured, and 17 per cent. were found to have remained so, when communicated with, years later.

The results obtained by the establishment of sanatoria for consumptives as private enterprises in Europe, and notably in Germany, were so gratifying as to lead the charitably inclined to feel that a burden of responsibility had thus been laid upon them for the extension of opportunities of this kind to those who were unable to pay for them. To such an extent has this idea been realized that in England there are now accommodations for about 5000 of these sufferers, either in hospitals for advanced cases, or in sanatoria for those in the earlier, more curable stages. In the city of London there are six special hospitals of this kind. In the city of Philadelphia we have four. These are, 1, the Home for Consumptives, connected with which is the House of Mercy, for male consumptives, conducted by the Protestant Episcopal City Mission; 2, the Rush Hospital; 3, the Free Hospital for Poor Consumptives, which at the present time simply avails itself of certain wards in existing hospitals, and 4, the Jewish Hospital, which has set apart ten free beds for consumptive patients. The first named accommodates and treats an average of 119 patients annually; the second about 70, and the third 40.

In addition to these, the Philadelphia Hospital, connected with the Almshouse, has certain wards set apart for consumptives. But, "what are these among so many?" In the year 1898 the deaths from consumption in that city were 2590. The provision for the treatment of poor consumptives was actually for 297. The financial loss to the city from these premature deaths may safely be put down at \$2,590,000, to say nothing of the loss of production during long illness. The state of Pennsylvania cares for 6000 insane, 3000 feeble-minded, deaf and dumb and blind, and 12,000 paupers. At least 15 per cent. of the insane die of tuberculosis, and yet no adequate special provision is made for their care by the state. General hospitals are justified by their responsibility for the health of their other inmates, which would be endangered by the presence of consumptives, in refusing the latter admittance to their wards. With our present knowledge such an intermingling, so far from being an act of mercy, would be little less than a crime. But it is not less a crime to allow this immense class of sufferers to go without hospital opportunities for care and treatment. The legislature of Pennsylvania passed an act some years since, appropriating the sum of \$50,000 for two years, to be used by the State Board of Health, under certain restrictions, for the suppression of epidemics, prevention of diseases, and protection of human life in times of disease and disaster, when, in the opinion of the board, the conditions are so grave that "the local health author-

ities and individual and organized charity are unable to meet the emergency." It would be impossible to lay down in more definite terms the nature of the responsibility of the state for the furnishing of medical aid, or the limitations which should control such action on the one hand, or on the other to describe more accurately the character of the dangers which constantly threaten human life in the prevalence of consumption. They are of such enormous proportions that the local authorities and individual and even organized charity are utterly unable to cope with them. But we have, unfortunately, become so habituated to them that to declare that they constitute an "emergency" would only provoke a smile on the part of the officials who are entrusted with the disbursement of the fund. It has come to be considered the proper thing that one-seventh of our population should be cut off in the middle of its days, at the time of its greatest value to the state, by this single scourge. Hence, it becomes the duty of those who do appreciate the true proportions of this problem to become missionaries to spread abroad the knowledge both of the curability and the preventability of consumption, and at the same time of the necessity for hospital provision on a generous scale to secure these ends. Once the public has thoroughly grasped these ideas, legislators will not be slow in yielding to the pressure which will be brought to bear upon them for making such provision. In Europe this movement is already making encouraging headway. In Germany, France, Great Britain, Sweden, Belgium, Holland, Spain and Roumania much has been accomplished. As is well known, so great an interest has been excited that an International Congress of Tuberculosis has been held, attended not only by physicians and philanthropists, but by government officials and members of royal houses. The Swedish parliament recently voted 850,000 crowns for a sanatorium for consumptives in South Sweden and a gift of 2,200,000 crowns from the people to King Oscar has been, with a liberality as intelligent as it was generous, devoted by him to the establishment of similar foundations in northern and central Sweden. In this country we are not without encouraging signs. The New York State Board of Health has adopted resolutions urging the early construction of a State Sanatorium for Consumptives in the Adirondacks, at a cost of not less than \$200,000. The legislature of that state has already passed a bill authorizing large cities to establish hospitals for sufferers from tuberculosis. Massachusetts has already in operation an institution of this kind at Rutland, which cost \$150,000. In Illinois an effort is being made, with fair prospect of success, to obtain the assistance of the state in erecting a sanatorium to accommodate 300 patients. Similar enterprises are under consideration in Indiana and other states. In Pennsylvania an admirable site, comprising about five hundred acres on a mountain slope of about 1250 feet elevation, has been offered to the Pennsylvania Society for the Prevention of Tuberculosis, so soon as the funds can be obtained either from individuals or from the legislature for erecting the necessary buildings. The United States Government has established a sanatorium at Fort Bayard, N. M., for the care of such of its soldiers as may become affected with the disease. A movement which has already achieved so great a measure of success can not be stayed. The day is certain to come when state governments will recognize their responsibility in this regard, and there are those present who will live to see, in consequence, an immense diminution in the prevalence and mortality of a disease which at this

moment is disabling to a greater or less extent a million and a quarter of the people of this country and which kills four and a half times as many as smallpox, scarlet fever, typhoid fever and diphtheria combined.

SOME THOUGHTS ON OVERCROWDING AND TUBERCULOSIS.*

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I have been requested by the Secretary of the Committee on Tuberculosis, appointed by the President of THE AMERICAN MEDICAL ASSOCIATION, to write a few words on the etiology of tuberculosis, more particularly on the relation which overcrowding bears to the frequency of consumption. To offer something new in this line is really difficult, for the subject has been treated so many times by abler minds than my own.

In some of my previous publications¹ I have spoken of numerous visits made to the tenements of New York, of the heartrending conditions I have found there among consumptives, and of the sweatshops as agents in the propagation of disease, but, after all, I presume it can not be repeated too often that the tuberculosis problem, especially in our large cities, will never be solved unless we begin by improving the sanitary condition of the tenements. There should be laws to make the building of any but model tenement houses impossible, and overcrowding should be made punishable. Let this inhumanity to man no longer be permitted. Let the greedy owner of the dark, filthy tenement house, who is not content unless he makes 18 per cent. on his investment, feel the strong hand of the law whenever by the violation of the health ordinances the lives of his tenants become endangered. How can we ever hope, even with numerous sanatoria and special hospitals, to reduce in any marked degree the morbidity and mortality from tuberculosis as long as we allow the main conditions which favor the propagation of the disease to exist or to be daily created anew? First among these we must mention the conditions which have a tendency to undermine the constitution, bringing about a state which we might call physiological poverty, that is to say, a condition in which the natural organs of defense are no longer capable of throwing off pathogenic micro-organisms, to the inhalation of which all of us are perhaps more or less exposed. A family of from six to ten, living in three rooms, of which perhaps one only receives direct light and air, can not possibly remain in a state of health for any length of time. The vitiated air is breathed over and over again, and even the desire for breathing naturally and deeply, if it ever existed, will become less and less. But besides this lack of air and light, intemperance and underfeeding—two evils which to my mind are not infrequently the result of the overcrowding of the cheerless homes of the toilers—aid to create in the human organism the very best soil for the invasion, growth and development of the tubercle bacilli.

The second condition which favors the propagation of tuberculosis is the almost absolute lack of precaution taken by consumptive patients dwelling in these tenements to dispose of the infectious sputum. These patients, still able to be about, will disseminate their dis-

* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. "Pulmonary Tuberculosis: Its Modern Prophylaxis and the Treatment in Special Institutions and at Home." P. Blakiston's Son & Co., Philadelphia, 1899. "The Tenements and Tuberculosis," THE JOURNAL, May 12, 1900.

case by expectorating indiscriminately in the dark hallways, in their workshop, or wherever they may happen to be. The patients in the more advanced stages of the disease, who, owing to lack of hospital facilities, must remain in the dark bedrooms where any effective prophylaxis is impossible even with the best intention, constitute, of course, permanent local centers of infection.

Some phthisio-therapeutists and sanitarians think that the compulsory reporting of all cases of consumption would materially reduce these foci of infection. The impracticability of such measures seems evident when we consider that nearly every sixth individual is suffering from tuberculosis in some form or other. Even where such laws exist my experience has convinced me that the cases not reported and not treated are more numerous than the reported and treated ones, and that those once reported, if not taken to a special institution, will often be obliged to move, or will move voluntarily, and so again sight and control of them are lost.

We must do away with the overcrowded, dark, dreary, dirty tenements of our cities, which foster intemperance, immorality and crime, and which by depriving the individual of pure fresh air and sunlight predispose strongly to tuberculosis and other diseases.

Houses built on damp soil, whether in cities or country, should be torn down, for no matter how perfect the sanitary arrangement of the building may be, damp soil will foster tuberculosis.

Reporting and even sending a sanitary inspector can have no lasting beneficial effect when the consumptive invalid of the family is obliged to continue to live under conditions which are in themselves phthisio-genetic. I am an ardent believer in individual and general public education in regard to prophylaxis of tuberculosis, and I am the last to underestimate the value of such instruction, but the best fruits can come from it only when we can offer to the consumptive dweller of the tenement ways and means to do better, or to get out of his unhealthy environments. Our present knowledge in phthisio-therapy has taught us that a tuberculous patient may be successfully treated wherever there is plenty of air and light. Not only tuberculosis, but many other diseases will disappear in proportion to the number of model tenement houses created by the efforts of our statesmen, municipal governments, or the individual efforts of philanthropists.

We must have sanatoria and special institutions to treat the curable and isolate the hopeless consumptive poor; but we must have a far greater number of model tenement houses, built on good soil, with good drainage, houses where sunlight can enter in abundance, where overcrowding is impossible, and which are constructed in a manner that pure air can have access to every room; where privacy is guaranteed and where the honest toiler will find pleasure in remaining at home. Give to the workingman a pleasant, clean, healthy and comfortable home and the runshop will have fewer attractions for him. The money formerly spent for liquor will go to the butcher and baker for the better nutrition of himself and his family, and underfeeding—the other important phthisio-genetic factor—will be materially lessened.

The overcrowding of schools, bad ventilation of the classrooms, too much indoor work during school-life and not enough outdoor play will, of course, further any tendency to tuberculosis in childhood. Our city fathers, boards of education and teachers must unite in rational reforms. Consumptive school-teachers should not be allowed to teach in public schools, neither should consumptive pupils be admitted to these institutions. For

the latter school-sanatoria in healthy localities should be created, and the unfortunate tuberculous teacher in the incipient stage of the disease might here also find useful employment and regain health.

Overcrowded prisons, asylums and almshouses, of course, not infrequently contain numerous foci of tuberculous infection, and the close contact in which the prisoners and patients live, facilitates the propagation of the disease. More cubic space per individual, more systematic ventilation, and the isolation of tuberculous invalids are the remedies which should be urgently applied. The experiment in Alabama with a convict camp for tuberculous offenders seems an interesting and useful innovation in the line of modern prophylaxis of tuberculosis.

Ship-builders and ship-owners also should bear in mind that the intensely crowded quarters to which the average sailor is confined during his hours of rest and sleep are absolutely detrimental to his health, and even the outdoor life during the hours of work can not counteract the deleterious influence which the vitiated air of the forecastle exerts on the health of the brave seaman. A tuberculous sailor, still at work, is almost certain to infect his comrades, for there is hardly any class of people which live in more crowded quarters than the seamen. The ship-builders and masters of vessels must seek to remedy this evil.

Factories and workshops should be submitted to sanitary inspection to prevent the workrooms from being overcrowded, and to see that they are properly ventilated.

Lastly, the physicians, statesmen and philanthropists, interested in the solution of the tuberculosis problem, have, besides working for the better housing of the poor and the creation of special institutions for the treatment of consumptives, an additional mission to perform. The tide of emigration from village to city should be reversed. If tuberculosis has made its appearance in a family living in a large city the physician should exert all his influence to induce, especially the younger members, to migrate to the country and seek outdoor occupations. Statesmen should protect the interests of the farmer, so that farming will have more attraction to the rising generation than it has had in the last few decades; and philanthropists should aid the statesmen by endowing institutions for instruction in scientific and profitable agriculture, and also by providing healthful amusements in country districts, and thus make living outside of large cities more interesting.

The creation of schools of forestry in connection with the preservation and cultivation of forests in many states where a wasteful destruction of trees is now carried on, would give useful and healthful employment to a number of people, as well as render the regions more healthful. It would offer attractive careers to young men seeking to overcome hereditary or acquired tendencies to tuberculous diseases.

I submit these few thoughts on overcrowding and tuberculosis in the hope that they may be helpful to those who have the desire and the means to aid in the combat against the "great white plague."

16 West Ninety-fifth Street.

Igazol.—A committee was appointed to decide on the merits of Cervello's "igazol" in the treatment of tuberculosis, at San Paulo, Brazil, where it was tested on a large scale in one of the hospitals. The report, published in the *Revista Medica* of June 15, states that no favorable results of any kind followed its use.

CLIMATE FOR TUBERCULOSIS.*

NORMAN BRIDGE, M.D.

CHICAGO AND LOS ANGELES.

Climate is supposed to be the major force in the cure of consumption. It is important, but only one element in the proper management of this disease. The vital object is to increase the resisting power to the bacillus; everything that tends toward that end is important. Climate may be made to help toward it in some cases; but it does not always help—sometimes it hinders, and greatly does so. It is a pitiable waste when it does not help; it ought always to benefit somewhat or not be invoked. Many times it is worse than useless, and brings disappointment and chagrin where it ought to give comfort, and so throws discredit on the whole subject. A measure capable of so much good ought not to be discredited by the unwise use of it, or by unwarrantable belief in it. Fatuous faith leads to neglect of other needful things. Because climate is valuable and has great possibilities for good, there is no occasion for rhapsodies about it that are sure to curtail its usefulness for the numerous victims of the most pathetic disease ever known.

To increase the resisting power of the body—reduced in some part at least or the disease could not have started—is the great requirement. For this all the resources of the system must be conserved, and no influence that will increase the power can be spared. Increased susceptibility from reduced power comes of too hard work of body and mind, or some of the cells thereof, and so blood-making and capacity for bodily exercise are reduced.

The monotony of one kind of work with a narrow range of exercise always lowers the vitality. Practically there are no occupations that are entirely hygienic and conserve all the powers of life; and, especially, can no indoor work ever do this.

Monotony, work and worry lead to a lowering of vitality always, unless they are counteracted by sufficient vacations and change. The digestive power is reduced in this way; then blood-making fails and tuberculosis is invited. Fermentative and other poisons accumulate in the system as a result and militate against recovery.

The needs of the tuberculous patient are not one, but several, and apart from special medication include: 1, rest from work; 2, change of work and cares, so as to shift the load from parts that have borne it to those that are fresh; 3, painstaking attention to the digestion and the feeding and nutrition of the body; 4, long hours of sleep; 5, outdoor life, much sunshine, and fresh air every hour; 6, a change of surroundings for novelty and pleasure, and to help shift the load, and finally 7, a change of climate, to a better one if possible, but a change anyway. Not one measure, therefore, but seven, are needed, and change of climate helps or ensures some of the others, but not all, and, great as climate is, it is not everything.

The chief value of any climate for tuberculosis rests in the ability of the patient, without depression or hardship, or much labor to live a large part of the time out of doors and to breathe the pure air all night. This is many fold more valuable than all special treatment-combined. The reason of all its value has probably not yet been explained; we simply know that we have in our houses and work-inclosures some influence that is detri-

mental, and that we can hardly hope to make the atmosphere of our habitations as good as that of the skies. We think we know all about the physics and chemistry of the atmosphere, but after a century we have found that there is an element within it—argon—that constitutes 1 per cent. of its bulk and which had eluded the chemists for all these decades. The value of the outer air is founded firmly on clinical evidence, whatever chemistry says.

Sunlight is a good element of a proper climate for tuberculosis. It helps the patients in body and spirits, and kills the bacilli that it can touch for a few hours. It probably also represses or destroys other harmful influences, and helps to keep the earth's surface free of too much water, a thing that is charged with spreading tuberculosis.

Altitude helps some cases, especially the incipient ones. It causes, for a time at least, an increase in the number of red corpuscles—of reduced size perhaps—and often starts an improvement in nutrition which may be the beginning of recovery.

Dryness of air is almost universally regarded, and justly so, as one of the best qualities of a proper climate. It minifies the surface earth water and counteracts its injurious influences; it increases the power of the sunshine to kill bacilli; it lessens the liquidity of the phlegm and reduces the amount of expectoration of consumptives, and calms the cough of many of them. That it has much influence on the march of the disease deep in the lung tissue, where the respired air can not touch, is not so well proved. These are the chief advantages of the best climate—advantages that are not likely to be discredited hereafter. But all climatic influences for good may be rendered nugatory, and often are, by lack of other conditions that are as vital as any that have been named.

Homesickness wholly counteracts any good effect of climate in many cases, and in others does worse. Patients are often sent away alone, severing all their previous associations and ties, and are expected to shift for themselves among strangers, to keep up their courage, and in the face of depressing symptoms to gain in health. The average of them can not do it, and friends or relatives or nurses should always accompany and care for them.

By managing their own diet and eating only when they are hungry, and such foods as fancy moves them to, they practice a moderate starvation when they ought to have forced feeding in six eatings each day. They believe that the more they exercise and develop their muscles the better, which is untrue; and they will force themselves as an act of duty and against their inclination to exercise when they have fever, and always to their great detriment.

They often select unwholesome rooms and nearly always keep housed with poor or no ventilation for full sixteen hours in the twenty-four. They have the most amazing fear of night air and of cold-catching; they can scarcely be convinced that night air is better to breathe than day air and that if the body is kept warm there is no danger of cold-taking from currents of air night or day.

Only those patients recover from pulmonary tuberculosis who have, under good hygiene and treatment, nearly enough resisting power within their bodies to counteract the disease. With other things as favorable as possible, or nearly so, a good climate—and a change from the home climate—is an influence that will often tip the balance in favor of recovery. Nothing more than this

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should be asked of any climatic resource, and it is extremely unwise to journey to a distant country at great inconvenience and expense, and to expect, by so doing, to excuse the omission and neglect of those measures of wholesome living for the sick, that can be had in almost any climate, and that are justified by the experience of all time, as well as by common sense.

TUBERCULOSIS—ITS ZOOLOGIC AND GEOGRAPHIC DISTRIBUTION.*

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Tuberculosis is the most widely spread of all diseases. This is true, whether we view the question from a zoologic or a geographic standpoint. This extent of distribution must be taken into account in determining the importance of the disease, the possibility of eradicating and the means of combating it. I will state first many somewhat isolated facts, and later I will draw conclusions.

ZOOLOGIC DISTRIBUTION.

Cattle.—Amongst domestic animals the cow is unquestionably most important from the standpoint of the danger from tuberculosis. The reason for this is that the one very abundant source of nourishment that is eaten raw is derived from the cow. The eating of uncooked meats, of half-done or smoked sausages, threatens a limited number of people. The drinking of milk threatens all the people. The artificial conditions under which milk cows are kept, the warm, snug, draught-free, and therefore dangerous, stables, the forced feeding and the continuous milking, in short, the strenuous life makes the milk cow very susceptible to tuberculosis. The proportion of tuberculosis amongst oxen is much smaller. The figures are about one-tenth as high as for milk cows. Calves and yearlings have about one five-hundredth as much tuberculosis as milkers have. The statistics of the Illinois Board of Live Stock Commissioners show that in the herds examined—mostly those of the peri-urban dairy districts—16 per cent. were tuberculous. In the herds of Wisconsin, where some suspicion of disease existed, tests have shown 10 per cent. of tuberculosis. A correspondent informs me that in Colorado around the cities 2 per cent. of the cattle are tuberculous; that in the range cattle there is none. Hirsch says that in the range cattle of Brazil there is no tuberculosis. Around the cities the generally imported dairy cows show 15 per cent. In the mountains of Switzerland and in the highlands of Hungary there is almost no bovine tuberculosis. In the dairy districts of North Germany 25 per cent. of the slaughter-house cattle, to say nothing of the dairy cattle, are tuberculous.

In Pennsylvania, the later figures of Dr. Pearson show that 11.6 per cent. of the milk cows examined are tuberculous. In Massachusetts in 1895-97 fully 30 per cent. of the milk cows examined showed tuberculosis. In Connecticut in 1896, 14 per cent. of 6304 cows examined were tuberculous. In the districts near the larger cities 29 per cent. showed the disease. In the more thinly settled districts 99 per cent. were tuberculous.

Horses.—Chauveau produced experimental tuberculosis in the horse and in the ass. Cadeac and Morot

report two cases in horses. Thompson reports one case. Nocard says the horse is very refractory to experimental tuberculosis, but is very frequently affected by tuberculosis contracted in the ordinary way. Tuberculosis in the horse is of two distinct types, the pulmonary and the abdominal. Nocard is of the opinion that the pulmonary type is due to the human bacillus, the abdominal type to the aviary bacillus. The literature of comparative pathology and of veterinary medicine teems with reports of tuberculosis in the horse. This fact proves, first, that the disease is not exceedingly widespread, and, second, that it is fairly abundant. We are to bear in mind that post-mortem sectioning of the horse is the exception.

Hogs.—There is no question as to the prevalence of tuberculosis in hogs. The figures for Berlin, in 1893 to 1894, were .5 to .9 per cent. Johné says that, in Saxony, in 1891, 1.07 per cent. of the hogs slaughtered showed tuberculosis. Thomassen says that the statistics of Amsterdam showed 1 per cent. of tuberculosis in the slaughter-house hogs. The Rouen statistics showed .04 per cent. Tuberculosis in the hog is usually of the abdominal type. These figures gain importance when we recall that it is the thriftiest of all the yearling hogs that gets to the slaughter-house. The Copenhagen statistics show the effect of feeding hogs on the skim milk or slime from the creameries.

Goats and Sheep.—Colin has given tuberculosis to sheep by inoculation. Bollinger reports a case in sheep. Cadiot, Gilbert and Roger, Monle and Siegen report cases. Lydtin reports three cases in goats; Thomassen one. Colin produced the disease in a goat.

I have made post-mortems on two tubercular Aubeaus and two tuberculous mountain sheep, members of the goat and sheep family. The literature contains records of a moderate number of cases. Morrison says sheep and goats get tuberculosis when injected intravenously, or continuously fed on tubercle bacilli.

Dogs.—The museum of the New Veterinary College, England, contains a specimen of tubercular pericarditis in the dog. Villeman reported six cases of tuberculosis in dogs. Bertheau, Weichselbaum and Verageuth, Koch, Gamaleta, Mañucci, Zagari, Mallin, Wells, Johné, Marcus, and hundreds of others report one or more cases in the dog. I have seen a case of tuberculosis in a black wolf—a member of the dog family. Jensen found 15 cases in eleven months. Bang reported 13 cases. Eiber, at Dresden, posted 400 dogs, finding tuberculosis in 2.75 per cent. Cadiot posted 9000 dogs at Dalfort: in two years 40 per cent. showed tuberculosis. The disease in the dog is found especially in the lungs. Strauss says: "It is, above all, by reason of his cohabitation with men attacked by tuberculosis that tubercular infection occurs in dogs." Johné reports a case confirming this view. Czoker reports four similar cases.

Cats.—Villemén produced experimental tuberculosis in a cat. Viseur made a cat tuberculous by feeding it the tubercular lungs of a cow. This was confirmed by Nocard. Jensen at Copenhagen posted 25 tuberculous cats in two years. Davis reports one case in a cat. I have held post-mortems on three tuberculous lions and one tiger—members of the cat family.

Rabbits and Guinea-Pigs.—While these animals are habitually used for experimental tuberculosis, and possess a very great susceptibility, they seldom contract the disease spontaneously. Strauss says: "Rabbits and guinea-pigs are very rarely the subject of spontaneous tuberculosis."

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Barn-yard Fowls.—Tuberculosis is very frequently found in nearly all the varieties of domestic fowls. Strauss says that it is found in roosters, hens, pheasants, turkeys, pigeons, canaries, finches, ostriches, swans, vultures, owls and carnivorous birds, as well as grain feeders. Zurn, in posting 600 chickens, found 10 per cent. tuberculous. The Rhode Island Experiment Station found 15 per cent. of a lot of incubator chickens tuberculous. Bouley, Devillers and Leugleu cited cases to prove that chickens could contract the disease from being among tuberculous people. Ribbert confirms this. Johne, Mollereau, Chelkowski, De Lamellerece, Cagny, Koeh and Nocard publish some confirmatory facts. Bray, of Kansas City, reports an infection of a poultry yard by a man with tuberculosis. Strauss sums up the question as follows: "It appears, then, to be established that fowls can become tubercular from eating the excretions of tuberculous animals." Nocard has demonstrated that the avian form of the tubercle bacillus is a modification of the human, just as Theobald Smith has demonstrated certain differences between the human and the bovine forms. Strauss says that ducks and geese are very refractory. He quotes Pomay's experiences, showing that in a poultry yard in which a great many chickens and turkeys died of tuberculosis, the ducks and geese, living right with them, remained healthy.

Menagerie Animals.—Strauss reports a post-mortem made by himself on a tuberculous lion in the Paris Zoological Garden. During the last two years I have posted three tuberculous lions in Lincoln Park Zoological Garden. In addition to this, I have found tuberculosis in the following animals: one tiger, one black wolf, one rock python, two mountain sheep, two elk, two antelopes, two species of goat, fifty monkeys of all species and kinds.

In the London Zoological Garden, according to Forbes, 43 per cent. of all the monkeys die of tuberculosis. In the Paris Jardin d'Acclimation 20 per cent. of the deaths are due to tuberculosis. In the Zoological Garden, Frankfurt-sur-le-Main, 22 per cent. die of this disease. In my observations, extending over two years, tuberculosis has caused 94 per cent. of the deaths. This observation is on 50 monkeys, with post-mortems.

Other Animals.—Strauss quotes Koch and others as finding tuberculosis in white and brown rats, white and field mice. McEachren, chief veterinary inspector of Canada, says: "Rats, mice and other vermin not only contract tuberculosis, but spread the disease." Sibley reports a case in a serpent, trypidionotis natrix, an Italian snake, dying after a captivity of some months in a zoological garden. At the Berlin Congress the same author reported other cases in snakes—in grass snakes and common English vipers. In this connection I report the case of a python kept for several years in a glass case in the animal house, at a temperature never falling below 70 F., and showing tuberculosis post-mortem.

Despeignes has produced tuberculosis in frogs and tritons kept at room temperature. Lortet and Despeignes have demonstrated that tubercle bacilli can be transported and spread by earthworms.

Geographic Distribution.—Hirsch says that tuberculosis may be designated an ubiquitous disease in the strictest meaning of the term. Whatever reason there may have been for doubt as to the accuracy of this statement at the time of Hirsch has since been removed. The few places in which no tuberculosis had been reported in his day have since been found to furnish no exceptions to the general rule.

So far as I have been able to gather, in the larger cities of Europe, the death-rate from tuberculosis of all forms constitutes something more than one-fifth of the total death-rate. The death-rate is about 350 per year per 100,000. This is approximately true of every continental country.

Austria and Hungary will run a little higher than Holland and Switzerland. In the smaller towns and country the death-rate is about 260 per year per 100,000 inhabitants. In Great Britain the situation is somewhat better, the death-rate being in the vicinity of 225 per year per 100,000 inhabitants. According to Hirsch, Iceland, the Faroe Islands, the Hebrides and Shetland Islands have some, but not much, tuberculosis. According to data received from the government, the amount of tuberculosis in Iceland is about 150 cases per year. This, considering the open life of the people, the lack of crowding and the primitive conditions of life, together with the inaccuracy as to death-rate that must prevail amongst isolated folk, constitutes a considerable mortality. The northernmost parts of Norway and Russia appear to have but little tuberculosis, yet from all of these districts information must be meager. That it is to be found is certain. In the account of the Wellman Expedition there is reference to a polar bear killed on the ice and showing tuberculosis. Nansen records bacteria and bacterial diseases in the coldest latitudes. He had no opportunity to observe tuberculosis.

It is found in Armenia, Syria, Persia, Mesopotamia, Greece, Arabia, India, Turkey, Ceylon, the East Indies, China and Japan, the Philippines, Sumatra, in all the islands of the Southern Pacific and in Australia. In Africa information is necessarily insufficient, but that which we have is to the effect that the conditions there are much the same as elsewhere. Wherever, in the interior, lives are wild and houses are unknown, tuberculosis is present, but rare. On the coast, along the waterways, along the channels of communication, wherever civilization has touched, tuberculosis is rife. Generally speaking, the disease runs a rapid course. The housed native, whether he be Bedouin or Kaffir, suffers to the maximum extent. The formerly supposed immunity of Algiers, Morocco and those portions of the Mediterranean shore has not been sustained by fuller information.

When we come to America, we find the disease widely spread. A recent article in the *Century Magazine*, on the giant Indians of Terra del Fuego, mentions their great robustness, so long as they stay away from civilization, but their rapid extinction by tuberculosis whenever they approach the ways of the white man. In Argentina, Uruguay, Paraguay, Brazil, Chili, Peru, Ecuador, Bolivia and the countries of the Caribbean littoral, it is found much as in Africa. In the interior, in the scattered habitations of the higher elevations there is some tuberculosis, but not much. Along the channels of travel there is an increased amount. In Rio Janeiro and Pernambuco the death-rate is 350 and 520 per 100,000, respectively. In Mexico and all the countries of South America there is the same story—the disease rarely found in the sparsely settled interior, very virulent and very abundant in the more thickly settled littoral. In all the islands of the Caribbean Sea there is much. In Cuba it kills more people than do malaria and yellow fever combined. Canada has but little less than the more densely populated United States. In the United States, according to the census of 1890, 103,000 people died with tuberculosis during the preceding year. It is the opinion of a statistician of au-

thority connected with the census office, William King, that this figure is 30 per cent. too low. This would make 143,000, or about 210 to each 100,000 inhabitants. It constitutes about one-ninth of the total death-rate. In the city of Chicago it constitutes one-eighth of the total death-rate.

I offer the following conclusions:

1. Every animal having tuberculosis is a center for the maintenance and spread of tuberculosis. We must admit great variance in danger, according to the animal affected. The danger from the cow, by reason of the fact that we drink milk unboiled, is great. The danger from the horse is much less. In spite of this variance the proposition commends itself. Each of the excretions may contain tubercle bacilli. These go either directly into man, there to run the gamut of his defense, or into the world, there to perish, as a usual proposition, but, sometimes, to persist and threaten men and other animals.

2. Animal, and even aviary, tuberculosis is not identical with, but is related to, human tuberculosis. The translation of human into animal and aviary tuberculosis is also possible. A great deal of accurate, painstaking work has been done on the question of the transformation of human into bovine and avian tuberculosis, and vice versa. I mention the work of Theobald Smith and that of Nocard. Theobald Smith's work seems to me to show that while there are structural and biologic differences between the bovine and the human bacillus, the differences are not of great pathologic importance. This is borne out by cases of infection of people by bovine bacilli and of cows by human bacilli. In a short search of the literature I have found cases cited by Strauss, Bang, Colin, Nocard, the Illinois Board of Stock Commissioners, Bray, Crosse of Geneva, Cadeac and Bourney. The observations of this nature are far too numerous for recital. Nocard's work showed that human tubercle bacilli could be transformed into the avian form.

3. Inhalation and ingestion are the most frequent means by which tuberculosis is spread from man to man, from man to animals, and from animals to man.

4. The geographic distribution of tuberculosis is proof that the organism's extracorporeal or saphrophytic life is of secondary importance. Argument in support of this proposition is found at every step by the bacteriologist. If this bacillus is found regardless of temperature, of soil moisture, of total rainfall, of elevation from the sea level, of prevailing winds, then it must follow that its essentials are resident in the animal body, where environment is more uniform. Nuttall's observation that the number of tubercle bacilli expectorated in the twenty-four hours is about three billions, would prove that only an infinitesimal number live outside the bodies of animals. The lesser number of cases of tuberculosis at high altitudes, away from cities, in dry climates, etc., is due to the improved condition of the people and of their hygienic conditions, such as lack of crowding, well-ventilated habitations, out-of-doors life, vigorous existence, etc., rather than difference in bacilli or in the effect of extracorporeal environment on bacilli. However, we can not altogether deny the power of sunshine and drying on the bacilli that lie exposed.

5. There is abundant evidence that the bacillus is modified by the bodies through which it passes. Such is the teaching of the work of Bang, of Smith, of Nocard, of Jones and many others.

6. While Proposition No. 5 is incontestable, there is no evidence that the disease will disappear by reason of

a general immunity. In the contest waged between the system and this bacillus, the wandering cells and the chemical substances of the body play a lesser part than in almost any other of the infectious diseases. Protection is had by reason of the activity of the fixed tissue-cells of the body. In those diseases which are due to organisms violently poisonous to the human body, the reaction is sharp, the death or cure speedily results. The very mildness of tuberculosis is responsible for its ultimate severity. The fact that the system takes so little cognizance of it constitutes the difficulty. In consequence, immunity is less a factor than in any other infectious disease. By this, I mean special immunity. The general immunity that comes from great good health and resisting power must be allowed by all.

7. The decrease in the death-rate from tuberculosis is more apparent than real. I want to reassert my statement made in this section last year that, while fewer people seem to be dying of tuberculosis than formerly, the proportion between the death-rate from tuberculosis and that from other diseases is not decreasing. In this connection we must bear in mind the fallacy of taking, without great caution, statistics that antedate 1880. If we limit our comparisons to the period since 1890 we will not find any material decrease.

8. Tuberculosis is above all a disease of crowding, and therefore a disease of cities. The disposition of the age is toward city life, and therefore a slight decrease, or even no decrease, in tuberculosis constitutes a gain.

9. At some future date, in determining the question of favorable location in order that a man may escape tuberculosis himself, shield his family from it or get well, once the disease has been contracted, we must ask the following questions: *a.* What is the altitude? *b.* What is the percentage of sunshine and cloud? *c.* What is the soil moisture? *d.* What is the atmospheric moisture? *e.* What is the population per acre? *f.* What is the amount of tuberculosis present in men? *g.* What is the amount of tuberculosis in animals and birds? *h.* Is the mean temperature approximately that of the district from which the man is to go?

103 State Street.

TUBERCULOSIS IN PENNSYLVANIA.*

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Pennsylvanians are beginning to take more interest in the subject of tuberculosis. In a state in which about eight thousand persons, nearly all of them in the prime of life, die of this disease each year, it ought to receive much more attention from those who have it in their power to reduce this unnecessary sacrifice of life. The first and last systematic study of consumption in Pennsylvania was made by the late Dr. William Pepper and the writer in 1886 for the American Climatological Association and was published in the Transactions of that society. It developed the fact that there is a great inequality in the distribution of this disease throughout the state. There are seventy counties in Pennsylvania. Some of them are sparsely inhabited, are deeply wooded; the country is wild; the elevations range in the neighborhood of two thousand feet or over. The children "born and raised" in these counties have purer air to

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breathe, purer water and milk to drink, a better chance to develop their sturdy chests, for they drive the cows to pasture, trudge to school in cold weather and help on the farm in summer. Neither they nor their parents may realize it, but they are, from our standpoint, the favored class in the general population. They are the survivors of representatives of the hardy pioneers who developed the natural resources of Pennsylvania.

In twelve or thirteen counties, such as Pike, Sullivan, Montour, Union, McKean, Forest, Elk and Cameron, there is only about one-fourth as much pulmonary tuberculosis in proportion to the population as in some of the more populous counties. At the other extreme we have Philadelphia, Delaware and Lancaster counties. These lie in the southeastern corner of the state. The air is warmer and more moist; the country is less than five hundred feet above sea-level. The soil contains a

It will be noticed that the deaths from this disease in ten years exceed twenty-seven thousand, about equaling the combined deaths from diphtheria, typhoid fever, apoplexy, scarlet fever, smallpox and inflammation of the stomach and bowels. Between 1870 and 1897 there was a constant fall in the number of deaths from pulmonary tuberculosis in proportion to the population, but the proportion rose slightly in 1899. In fifteen years the percentage of deaths from pulmonary tuberculosis has fallen from 14 per cent. of all deaths to only 10 per cent. This has been a great gain. Just why the rise occurred in 1899 it is not possible to say precisely. It has been suggested that the better methods of diagnosis now in vogue show more cases to be tuberculous. Every hospital and outdoor clinic has its bacteriologic laboratory and the bureaus of health in Philadelphia and Pittsburg render valuable services to physicians uncon-



Diagram Showing Comparative Mortality by Deaths from Thirteen Prominent Causes of Death in Philadelphia, for the Ten Years, 1884-1899, inclusive.

Chart Showing the Steady Reduction in Deaths per thousand of Population, Philadelphia, 1870-1899.

considerable quantity of clay. The water-supply, for the cities at least, is from rivers that are contaminated, and the environment of the inhabitants of Philadelphia, Reading and Harrisburg is not conducive to the development of that bodily vigor that we find in the highlands of Pennsylvania. A glance at South street, Bainbridge or Fitzwater street, with poverty, vice and filth on every side, is explanation enough for the prevalence of tuberculosis. Children born and brought up amid such surroundings are an easy prey to any infectious disease.

In addition to moral and physical degeneration, the general lack of proper ventilation of city dwellings is a great predisposing agency in contracting consumption.

Atmospheric conditions in southeastern Pennsylvania favor the development of tuberculosis. The air is more humid, the rainfall is greater and the alternations of warm and cold weather throughout the winter and spring produce bronchitis and give rise to more colds than in the portion of the state where snow lies on the ground all through the winter and where the seasons are more sharply defined.

The prevalence of pulmonary tuberculosis compared with other diseases during a period of ten years is seen from the accompanying chart.

nected with the hospitals. In 1899, 675 examinations of sputum were made by Dr. A. C. Abbott and Dr. Stetson in the laboratory of the board of health of Philadelphia. Cases which might have been returned as having died of bronchitis, for example, were doubtless thus found to be tubercular. This may account for the remarkable reduction of the number of deaths recorded from bronchitis; last year they numbered only 389, but in former years they were five or six times that number. In the first six months of 1900 there were 1434 deaths from pulmonary tuberculosis, while in 1899 for a corresponding period there were 1507. A reduction in the rate will no doubt continue.

As physicians take advantage of the newer methods of diagnosis, including sputum examinations and X-rays, cases will be earlier recognized and cures accomplished in the incipient stage. The medical profession is justly entitled to claim more credit in this field than is usually accorded even by its own members. Physicians work harder and more hopefully in a given case of pulmonary disease than they did twenty-five years ago. Soundings are taken much oftener on the dangerous coast and the patient is not so often allowed

to drift and go to pieces on the treacherous reefs without one word of warning.

People are not so ignorant nowadays of the means of prevention of consumption and they have been educated not a little by physicians and by newspapers and special publications as to what should be done to limit the scourge. There may never be a time when there shall be no shipwrecks; there may never be a time when there shall be no consumption, but there is every prospect that some day deaths from this cause will be comparatively few.

The Pennsylvania Society for the Prevention of Tuberculosis was the first to be organized in this country, at least, with this particular end in view. It was organized on April 10, 1892, and incorporated in 1895. It has endeavored to educate the community in a knowledge of the true nature of consumption and the means now considered necessary to control or conquer this disease. The means by which this end is sought to be obtained are: by the publication and distribution of pamphlets; by constant efforts to induce those in influential positions to use their earnest efforts to prevent the spread of the disease; and by striving to obtain the requisite conditions whereby those early afflicted may be restored to usefulness, or for those far advanced, the safeguarding that will prevent the communication of infection to others. Between seventy-five and eighty thousand copies of tracts or pamphlets have been issued, principally for distribution in Pennsylvania. They have been forwarded, on request, to various states from Maine to Oregon and California, and even to Hawaii,¹ and have been reprinted, with slight changes, and circulated widely. No. 1 is entitled "How to Prevent Contracting Tuberculosis (consumption)." No. 2, "How those Suffering from Tuberculosis Can Avoid Giving it to Others." No. 3, "How Hotel-keepers Can Assist in Preventing the Spread of Tuberculosis." No. 4, "How Storekeepers and Manufacturers Can Help to Prevent the Spread of Tuberculosis." No. 5, "Predisposition to Disease." No. 3 has been translated into Hebrew for circulation among the Jewish population. These leaflets can be easily handed to those attending dispensaries and are always well received and additional copies are frequently asked for. This society will always furnish copies of its tracts free to those applying for them, or in large quantities at the cost of paper and printing.

A committee of the society has gone twice to Harrisburg, and has urged the committees on appropriations at two legislatures to provide for a hospital or sanitarium to be erected by the State of Pennsylvania in some mountain region suitable for this purpose. These measures have on both occasions been favorably recommended by the Board of Public Charities after full investigation and have been apparently well received by the committees on appropriations, much sympathy being shown by individual members. Other influences, however, including a false sense of economy and immense losses to the state through bank failures and dishonest officials have rendered our appeal futile. In the city of Philadelphia we have been confronted by a similar state of affairs. The apathy shown at home is in strong contrast with the enlightened and advanced attitude of foreign governments, which have established many institutions of their own and generously given aid to others. America is far behind England, Germany and France in this regard. While it is humiliating to acknowledge our deficiencies we must make them known

in order to secure their correction by encouraging public-spirited men and women of our country to grapple with the herculean task.

The Pennsylvania Society for the Prevention of Tuberculosis requested the Board of Health to consider the advisability of issuing circulars or public notices, to be properly distributed, warning against the uncleanly, unnecessary and reprehensible practice of spitting in public places and conveyances. Such a circular was issued by the Board in 1895, and thousands of copies were widely distributed. Every one of the 1500 street cars in Philadelphia is provided with a conspicuous sign authorized by the Board of Health forbidding the practice of spitting on the floor. There is, however, no law in Pennsylvania under which any one can be arrested and punished for such an act on the streets or elsewhere, but the presence of the order of the Board has done a great deal to improve the appearance of the sidewalks and street cars.

In caring for the tuberculous three special corporations are devoted to this purpose. The oldest of these,



Administration House and Powers' Cottage, Hospital for Diseases of the Lungs, Chestnut Hill.

the Protestant Episcopal City Mission, has conducted for twenty-three years the Hospital for Diseases of the Lungs, at Chestnut Hill, about ten miles from the center of Philadelphia. It is devoted to the treatment of consumptive women. Sixty-five patients, in all stages of the disease, were admitted in 1899. The capacity is for 45, on the separate principle. Six were reported cured, 18 improved, 9 unimproved and 36 died. A department for men, called the "House of Mercy," at 411 Spruce street, in the heart of the city, admitted 45 during the year. Since their organization these institutions have cared for about 2900 patients. Dr. J. Solis-Cohen, Dr. Wm. M. Angney, Dr. C. A. Currie, Dr. F. W. Thomas and Dr. Robert H. Bolling are the attending physicians.

The Rush Hospital for Consumption and Allied Diseases was opened in 1892, and in 1895 occupied a site at 33d Street and Lancaster Avenue, West Philadelphia. It has a capacity for forty patients in wards, but its means at present do not admit a provision for more than 20. It has received annually \$5000 from the State of Pennsylvania since its organization. There are two free

¹ The number of deaths from pulmonary tuberculosis in Honolulu has more than doubled in the last five years.

beds, a dispensary is attached and fulfils an important work.

The Free Hospital for Poor Consumptives was organized in 1895 and incorporated in 1897. Its object is to give hospital treatment to the consumptive poor. It has not yet procured its own home, because all the money it has been able to raise has been expended for the pressing needs of cases which have presented themselves; it pays their board in existing hospitals in Philadelphia and elsewhere. These include St. Agnes', St. Mary's, the German, the Rush, the Hospital of the University of Pennsylvania and the Sanitarium Gabriels in the Adirondack mountains. During the five years of its existence, the Free Hospital for Poor Consumptives has paid out over \$20,000 in board for urgent cases. Over \$6000 was thus expended in 1899, and 124 persons received hospital treatment. The fund is supported by contributions of small amounts, and there are 320 glass globes placed in drug stores, banks and other available places, yielding a bountiful supply from those who could



Hospital for Diseases of the Lungs, Chestnut Hill, Philadelphia

not be easily reached, and anonymous donors who would be unlikely to make formal subscriptions.

Steps are being taken to secure a desirable out-of-town property for the needs of this charity. Its president, Dr. Lawrence F. Flick, has shown indefatigable energy in creating an interest in its work. The receipts for the charitable work of the Free Hospital are now over \$10,000 a year. It affords prompt relief and has a record of not one case of consumption having been turned away.

These four organizations, expending their effort in three different fields, supplement each other's work for the restriction of consumption. The Pennsylvania Society for the Prevention of Tuberculosis directs public attention to the principles underlying the nature of the disease, the reasons why a fight against tuberculosis is perfectly rational and its extinction almost within our grasp. Its work is to teach, to encourage private and to urge public action. It will gladly co-operate in all possible ways to advance the interests of hospitals for consumption.

The Hospital for Diseases of the Lungs, at Chestnut Hill, and the Rush Hospital receive cases and treat them as they present themselves and as their very limited endowments render possible. The Hospital for Poor Consumptives co-operates with every hospital in Philadelphia that will receive such patients and pays their way in existing institutions. It makes its plea to the public for support on the ground that the disease being contagious, the lot of the consumptive in these latter days has been growing harder and the only protection the well have against infection is by the hospitalization of the consumptive population. Besides the idea of personal protection is the fundamental idea of unselfish charity, which is the principal motive of the organization.

The best method of dealing with tuberculosis in cattle is a much simpler proposition. The Pennsylvania State Live Stock and Sanitary Board in the last two years has examined and tested with tuberculin at the expense of the state over 34,000 cattle, and of these over 5000 have been condemned and destroyed. The law provides that farmers shall be reimbursed, in order that hardship may not result. They receive an average of \$22.30 per head; or not over \$50 for registered stock and not over \$25 for unregistered stock; in this way nearly \$150,000 has been expended. To carry out this important work nearly 60,000 doses of tuberculin have been administered by authority of the state veterinarian, Dr. Leonard Pearson, of the University of Pennsylvania. He has encouraged the state to advance the funds to carry on the work; he has interested veterinarians all through Pennsylvania in the extermination of tuberculosis among cattle, by furnishing them the means of testing herds and inducing farmers to exercise greater care in preventing the spread of the disease throughout their herds and from animals to man. For the systematic, intelligent, far-reaching work which Dr. Pearson directs, and for his activity in ensuring conformity to the laws governing the importation of cattle into the state and the sale of meat and milk, every man, woman and child in the commonwealth is under obligation.

Pennsylvania may justly be proud of this feature of the struggle against tuberculosis, in which she takes a firm and liberal stand, yielding the palm to none.

3943 Chestnut Street.

MUNICIPAL REGULATION OF THE SPITTING HABIT.*

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Charles Dickens decided that, as a people, we lack the national instinct of cleanliness. He therefore designated Americans a nation of spitters. We no doubt deserve the designation, as the enlightened nations of Europe regard spitting on the floors and sidewalks as not only unsanitary, but an evidence of ill-breeding.

Five years ago the writer read a paper before the Allegheny County Medical Society recommending restriction and regulation of the spitting habit. Nine out of ten members who took part in the discussion agreed that restriction and regulation were needed. Six, however, of the nine thought any regulation impossible. "Women can, but men can not, change their filthy spitting habits."

* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The writer believed that most men had the natural instinct of cleanliness and could be educated in this respect up to the level with women; and further, that the ignorant, unteachable and vicious could be controlled by the absolute fiat.

The principal aim of this paper, however, is a brief review of what has been accomplished in this most important sanitary reform.

During the past year the writer has been in communication with the boards or bureaus of health of twenty-two principal cities of the United States. The following were the four principal questions asked:

1. Have you a special anti-spitting ordinance?
2. If you have not, do you attempt to restrict spitting under your general nuisance act?
3. Date of your special ordinance or order forbidding expectorating on public floors and sidewalks.
4. Result of enforcement.

An analysis of the replies gives the following information: Special laws have been enacted in one-half of these cities, and about one-fourth are regulating partly or wholly under their general nuisance acts. These ordinances empower bureaus of health to abate or prohibit anything of an unsanitary character; indiscriminate spitting is included.

In the past five years, New York and Brooklyn, Newark, Columbus, Cleveland, San Francisco, Pittsburg, Washington, D. C., Rochester, New Orleans, Louisville and Baltimore have enacted special laws.

Denver, Atlantic City, and one or two others, have special laws under consideration.

The Boards of Health of Chicago and St. Louis have contented themselves with suggestions to the public, mainly through signs placed in street cars.

The Boards of Health of Philadelphia and Boston are doing good work under their general nuisance acts.

The Bureaus of Health of Detroit, Buffalo and St. Augustine are not in the working line. Hopes may be entertained for the two former, but, alas, St. Augustine! Poor St. Augustine! This ancient landmark answered the writer's inquiries thus: "Our native people would consider such an order an insult to their dignity. Can not stop a Florida cracker from spitting." May we interpret from this answer that these people love darkness rather than light?

Many superintendents of bureaus of health do not seem to realize that they can regulate spitting under their general nuisance act. Others do not have backbone enough to promulgate and enforce an order. Special ordinances, however, attract the attention of the general public and are probably more easily enforced.

New York and Brooklyn are under one law, with a maximum fine of \$500, or one year's imprisonment. Newark has one of the best special laws yet enacted. It has been tested and sustained by the court. The offender was convicted and the fine imposed. The ordinance is as follows:

Whereas, expectorating in street railway cars or other public conveyances, or in any public building, is deemed by the board of health of the City of Newark to be prejudicial to the health of its citizens: Therefore, be it ordained by the board of health of the City of Newark as follows:

Section 1. No person shall expectorate upon the floor or any part of the interior of any street railway car or other public conveyance or any public building in the City of Newark.

Section 2. Any person who shall violate the provisions of this ordinance shall be fined for the first offense ten dollars (\$10) and for the second and any subsequent offense twenty-five dollars (\$25).

Section 3. Officials in charge and control of street railway cars or other public conveyances, or of any public buildings, shall post and keep posted in a conspicuous place one or more printed notices of the provisions of this ordinance prohibiting expectoration, and the conductor or conductors of any such cars or other public conveyances, and the janitor or persons in charge of any public building, shall call the attention of all violators of this ordinance to such notice, and shall report any violations thereof, with a description of the persons offending against this ordinance, immediately to the board of health of said city, and any such person failing to post the notices required by this section, and to make the report herein provided for, for failure so to do shall forfeit and pay a fine of five dollars (\$5.)

Section 4. This ordinance shall take effect immediately.

Boston operates under her general nuisance ordinance, with a maximum fine of \$100. The following is the text of this brief but concise order, issued by the Board of Health, in 1896, and revised in 1899.

The board of health hereby adjudges that the deposit of sputum in public places is a nuisance, source of filth, and cause of sickness, and hereby orders: That spitting upon the floor, platform or steps of any railroad or railway station, car, public building, hall, church, theater, market, or any sidewalk immediately connected with such public places, be, and hereby is, prohibited.

In reply to the writer's special inquiry, the president reports: "The result of the enforcement is a most remarkable change from filth to cleanliness."

The courts of Newark and San Francisco have sustained their anti-spitting laws. The offenders were convicted and the penalties imposed. A millionaire was convicted by the superior court and the judgment sustained by the supreme court of California. He paid his fine of \$25 and served one day in jail. Attorneys interested can secure data of the above cases by writing to the clerk of courts in either of the above-named cities.

The decision of the supreme court of California has established the fact that the passage of anti-spitting laws is a proper exercise of police power of the city. The entire Board of Health of San Francisco is composed of physicians, which probably accounts for the efficient work recently accomplished.

Men without scientific training or special fitness are frequently placed—by corrupt politicians—in charge of bureaus of health. The annual reports of these men often read like the minutes of a mutual admiration society, and their work is about as valuable. These reports and the inefficient work are sufficient evidence of the need of placing a medical executive board over all bureaus of health.

Public opinion is being rapidly educated, and if bureaus of health are inefficient, and anti-spitting laws are not well enforced in the near future, the question of first and second class electric and steam railway cars, to separate clean from indifferent people, will probably demand consideration, even in this democratic land. If rapid-transit street-car companies do not give this factor of car sanitation the attention it deserves, private motor carriages will crowd the streets, and this will delay and lessen street-car travel.

All communities have a few so-called scientific men, a few men in power, a few car conductors, a few "don't cares," who would rather wallow in public expectoration than set an example of cleanliness to the general public. There are also a few persons who consider it their sacred duty to clog the wheels of preventive medicine by opposing every useful reform and wailing over every offensive and dangerous institution as it falls.

Much has been done toward educating teachable peo-

ple. The work is well begun. The pessimists of a few years ago are the astonished optimists of to-day. Thousands of earnest workers are now in the field where not a corporal's guard stood when the writer began agitating this factor of public health five years ago.

HEREDITARY FACTORS IN TUBERCULOSIS.*

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PHILADELPHIA.

The hereditary factors are regarded as being less influential at the present day than was held prior to Koch's important discovery of the tubercle bacillus. It has been conclusively shown that direct hereditary transmission is an exceptional occurrence. Hauser, in an extensive and careful review of all previous work upon this question, reached the conclusion that there are only 13 authentic instances of direct inheritance of this disease to be found in the literature. In all of these cases only the mother had tuberculosis. He contends that conclusive proof of direct transmission from the father is wanting and this position is probably the correct one. Hauser attempted to produce experimental direct hereditary transmission in guinea-pigs and rabbits, and in a single animal only was he successful, and this had been kept alive for months after birth. He decided that the theory of direct inheritance rests on insufficient evidence.

Birch Hirschfeld found that even though the fetus itself may show no evidence of tuberculosis, the fetal viscera may yet be infective to guinea-pigs. Baumgarten also believes that the contagion may be transmitted and become pathogenic at a variable period after birth. To support this view is the fact that certain structures not apt to be accidentally infected are commonly the seat of tuberculous lesions in children, as the bones and joints. Kuss disputes the theory of latency of tubercle bacilli until childhood or later in life. He contends that these latent foci do not exist before the age of three months; and that they are rare before the end of the first year of life.

Whilst it must be conceded that intruterine infection is the exception, and although there is practically no hereditary tuberculosis there is a hereditary predisposition, which invites infection. In what does this predisposition consist? This is a pertinent question. Otis, of Boston, contends that heredity means poor vitality from birth and that subjects who manifest the same conditions without the influence of heredity are to a like extent predisposed.

It is well known that as the result of an unfavorable environment a predisposition to tuberculosis may be acquired. Hence, there is danger of confounding this condition of the system with inherited predisposition. Again, the latter form of predisposition is constantly being confounded with latent forms of tuberculosis, whether acquired or inherited. Although there is no harmonious agreement concerning its use and value, I feel convinced that we possess in tuberculin an agent by means of which existing latent tuberculosis can be reliably discriminated from mere predisposition. The question of dosage is vitally important. I have a fixed belief that greater uniformity of results of Koch's method would follow, if medium-sized initial doses—from 2 to 5 milligrams—were employed. As elsewhere stated, this would obviate the necessity of repeated injection, as is generally the case when small commencing doses—

from half a milligram to a milligram—are used. Accurate results in most reactive cases could be expected, and an increased dose, if the repetition were actually demanded, would be unattended by any risk for the patient.

But even after eliminating in this manner, latent and obscure forms of tuberculosis, I know of no way in which to estimate with precision the percentage of cases in which the predisposition is inherited. That the proportion of cases is smaller than had been held prior to the important discovery of the bacillus tuberculosis is unquestionably true. On the other hand, my personal experience and observation is entirely confirmatory of the fact that individuals belonging to a family in which tuberculosis is distinctly traceable are more prone to the disease than similar constitutions or persons who have no tuberculous family history. This is even more true of the cases of phthisis that occur in individuals possessing a robust build. Indeed, I fear that in consequence of the modification of professional opinion in recent times relative to the question of heredity, there is danger that too little attention is now and will be in future given to the question of family history. In support of this position, I may be allowed to quote Allbutt, who forcibly remarks, "every physician engaged in practice among the classes in which family history can be acquired is morally convinced of the bias of many families to tuberculosis, however their circumstances may appear; a bias often revealed at the attainment of a certain age." Dock and Chadbourne in a statistical study of this subject also conclude that multiple appearance is commoner in families with tuberculous parents.

After making due allowances for all modifying circumstances, particularly accidental infection, including especially infected homes and prolonged contact with tuberculous subjects, I entertain no doubt that a predisposition to this affection may be inherited, and this tendency is more unflinchingly transmitted through the mother than the father. It is analogous to the heightened receptivity or susceptibility that is observed throughout successive generations in certain families, to typhoid fever or acute articular rheumatism. Finally, this increased susceptibility, which we note in a limited number of families, is dependent on a lack of resistance of the animal-cell and the latter condition in turn on a faulty metabolism or nutrition.

TUBERCULOSIS AND INSURANCE.*

E. FLETCHER INGALS, M.D.

CHICAGO.

This subject, in order to be thoroughly discussed, must be considered from two standpoints, which are almost diametrically opposed to each other and which can, therefore, hardly be treated fairly by one individual. The two sides of the case relate to the business and the benevolent features. From my standpoint as a holder of several policies in mutual companies, I am necessarily more interested in the business aspect. Although I highly appreciate the benefits that might follow to many widows and orphans from a benevolent, or perhaps I might say a charitable, management of these great trusts, nevertheless, we must all admit the wisdom of the rule, "never mix business and charity." I take it therefore that what is for the best interests of the company itself, and for the best interests of the thousands

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who are insured in mutual companies, is really what will be the greatest good to the greatest number.

Statistics from the mortuary tables of several of the largest companies in this country show that fifty years ago over 20 per cent. of the deaths were the result of tuberculosis. Until Koch's discovery very few cases besides those of pulmonary consumption were recognized as tuberculous diseases; therefore, it seems probable that nearly half the deaths of persons insured fifty years ago were from tuberculosis; but whatever the number may have been, business methods certainly require exercise of the greatest care to exclude undesirable risks.

I have been told by officials of life insurance companies that medical examinations appear to reduce their death-rates only during the first six years of the life of policies; but a large percentage of policies lapse or are surrendered during the first six years. These facts emphasize the necessity for the most thorough medical examinations if an insurance company is to do a safe business. The points which appear of greatest importance in this examination and to which the examiner should give greatest attention are:

1. Weight, which in a general way determines the state of the nutritive functions better than anything else. The abnormally light body in a large percentage of cases is the one that will sooner or later become tubercular.

2. Poor digestion. This often causes the light weight and indicates feeble resisting power, which makes the individual peculiarly vulnerable to tuberculosis. In many these two symptoms indicate that the tuberculous process is already established.

3. Pulse. Although there are many healthy persons in whom the pulse is easily accelerated and although it is above 80, while standing, in the majority of men brought in for life insurance examination, yet a persistently fast pulse of 100 to 120 must be looked on as one of the most frequent symptoms of tuberculosis.

4. Frequent attacks of bronchitis. It appears to me very doubtful or even improbable that catarrhal bronchitis often leads to pulmonary tuberculosis, yet if we accept the statements of applicants we must not forget that these so-called attacks are often only exacerbations of the symptoms of pulmonary tuberculosis.

5. Frequent pneumonia. Repeated attacks of pneumonia must leave the lung in a crippled condition, which, other things being equal, would favor the development of pulmonary tuberculosis; yet recovery from pneumonia may in some instances be considered a most favorable prognostic, indicating that the individual is immune to tuberculosis.

6. Repeated attacks of pleurisy appear to be usually of tuberculous origin.

7. Heredity. It is a rule with some of the best companies to reject all risks where a parent and one brother or sister have died of consumption, unless the applicant has passed the age of 35. I believe this a prudent precaution, essential to the welfare of all policy holders in mutual companies. In recent years many physicians of large experience have come to doubt the importance of this factor, and it has not been difficult to find statistics to support their contention, because in nearly all statistics the most important factor is ignored or can not be found. The missing factor is: How many cases would have occurred without hereditary predisposition?

The fact that the Brompton Hospital reports show that one parent has had phthisis in nearly 25 per cent. of the cases of consumption does not by any means

show that neither parent has suffered from phthisis in the other 75 per cent., nor yet that there would not have been an equal number of deaths from this disease if neither parent had suffered from it. The same may be said of Fuller's statistics, which show that when parents, grandparents and uncles and aunts are considered, 59.5 per cent. of the antecedents have had pulmonary tuberculosis. Williams' figures show that out of 484 cases of phthisis in which some of the relations had died of the disease, in 224, or over 46 per cent., the relationship was that of brother or sister. If these could be added to the above figures, probably not far from 80 per cent. of all cases would show hereditary predisposition, which is the whole percentage of the human race that are now believed to have tuberculosis at one time or another in some form.

When we take into consideration the missing factor we must admit that even these overwhelming figures prove nothing; and in fairness we must allow for common environment and contagion, the first of which might explain in some cases the occurrence of two or more cases of consumption in one family. Osler states that in 427 cases in the Johns Hopkins Hospital, 25, or nearly 6 per cent., occurred in married people where the husband and wife had suffered from the same disease. This is grasped by some as proof of contagion, but there is no accompanying proof that the relatives of these persons did not have tuberculosis in some form.

Direct transmission of the bacilli from mother to offspring has now been proved in several cases, though this must be very infrequent. Every one is familiar with the marvelous influence of heredity in perpetuating mental as well as physical peculiarities, or predisposition or immunity to some other disease, such as croup, measles, scarlet fever, smallpox, etc., numerous interesting examples of which might be given; then why should we question the transmission of that peculiarity which renders some susceptible to tuberculosis and enables others to withstand all the attacks of the bacilli and their toxins?

The records of the Paris morgue and several laboratory observations have shown that in healthy bodies, of those dying from accident, suicide or acute disease, tubercle bacilli may be found in a large percentage; or scars from previous tubercular foci are present. In 125 autopsies in the Foundlings' Hospital of New York, tubercle bacilli were found in the bronchial glands in every case. These various facts render it probable that all of us harbor the tubercle bacilli at some time, but if we inherit strong constitutions and avoid vicious environment we need not die of tuberculosis.

As examples of hereditary influence that can not be explained by the theory of contagion or similar environment, I may briefly mention two families among by personal friends. In a family with 12 adult brothers and sisters, the father had light eyes and the mother, who died of consumption, had dark eyes; three of the dark-eyed children, after they had left the parental roof and had homes of their own, died of pulmonary tuberculosis, though not subject to contagion and although living under entirely different environment. Another dark-eyed sister lost two dark-eyed children after they were grown, though her light-eyed son, who was constantly with his brother and sister, escaped. In the other family, the father when a young man suffered from consumption but recovered. His four children after arriving at adult life died of consumption, though under very different environment.

8. Hemoptysis. Cases of hemoptysis without other evidence of tuberculosis, or at least cases of hemoptysis

that have not been followed by recognizable tuberculosis, are fairly numerous, yet those who have had much to do with pulmonary consumption must admit that in the great majority of cases hemorrhage from the lungs or air-passages result from this cause; therefore, the rule that no applicant for insurance who has had hemoptysis should be accepted, until ten years have elapsed after the last hemorrhage, seems strictly just from a business standpoint.

9. Temperature. Daily elevation of temperature of from 2 to 3 F. is a very frequent sign of tuberculosis, but we must not forget that a daily elevation of 1 to 1½ F., sometimes extending over several months, is common under a great variety of conditions, which are not followed by any evidence of tuberculosis, as, for example, in simple catarrhal inflammation.

10. Physical signs of loss of elasticity, or pulmonary consolidation. It seems needless to emphasize the importance of rigid examinations under favorable surroundings, and this necessity ought to impress on the companies the paramount importance of having applicants examined at the examiner's office, instead of elsewhere. Considering the great importance of careful selection, I am surprised that some companies, from false ideas of economy, pay fees that are wholly inadequate for competent and careful service. No matter how well disposed an examiner may be, he will not give any considerable part of his services in these cases gratuitously, and the company will obtain from him only the amount of skill and care that it pays for. Statistics from one of the large companies show that, by careful selection on the lines I have just enumerated, it has progressively reduced its death-rate from consumption from 20.8 per cent. in a thousand 50 years ago, to 5.5 per cent. in the last five thousand deaths among its insured.

Recurring to the question: Are there any conditions under which the tuberculous may be insured, with any kind of policy and at practicable rates? I may answer that most companies accept certain risks that are in all probability tuberculous, providing the heredity, the previous history, and the environment make it appear probable that the individual will live long enough to pay the cost of the particular kind of policy that is issued. These policies must be credited partly to benevolence, though with the safe company the business interest demands very good judgment and a high premium in such cases. There are many more cases that might be safely accepted for limited periods; but the insurance company must always estimate the possibility of error or undue sympathy on the part of the examiner; therefore, it can not take any chances. There are also certain companies that make a specialty of extra hazardous risks at proportionate premiums. These policies are sometimes most beneficent, but usually the rates are prohibitory.

UNITED STATES GENERAL HOSPITAL FOR TUBERCULOSIS AT FORT BAYARD, N. M.*

MAJ. D. M. APPEL, SURGEON, U. S. A.

An order issued by the War Department, August 28, 1899, authorized the surgeon-general to establish a general hospital at Fort Bayard, N. M., as a sanitarium for the treatment of officers and enlisted men of the army suffering from pulmonary tuberculosis, and also to provide therein for the care and treatment of discharged soldiers entitled to the benefits of the U. S. Soldiers'

Home, at Washington, D. C. Under the latter clause patients are enabled to remain under treatment indefinitely, even after their discharge from the army by reason of their physical disability or from expiration of their term of enlistment.

Fort Bayard was selected by the surgeon-general not only for its admirably suited climate but also because it was immediately available, its abandonment as a military post having been contemplated for some years, and, excepting for its isolation and difficulty of access, no better locality could have been chosen.

It is located in the arid mountainous region of Southern New Mexico, three miles from Bayard Station and ten miles from Silver City, both of which are on branches of the Santa Fé R. R. Having an altitude of 6040 feet, the climate permits of comfortable outdoor life during the entire year, and, excepting for the frequent high winds during the spring, is undoubtedly ideal.

When ordered to assume charge of the hospital I was directed to select and ship supplies as promptly as possible, to provide accommodations at once for a number of cases to be immediately transferred from the Soldiers' Home.

On my arrival, October 3, 1899, I found all the buildings, as well as the water and sewer systems, very much dilapidated, and extensive repairs and alterations, which were commenced at once, are still in progress.

The old post-hospital is now occupied as an infirmary for bedridden cases, including not only those in whom the disease is far advanced, but also the febrile cases, which are kept absolutely at rest until the subsidence of the fever.

The ambulant cases are obliged to remain outdoors at least eight hours daily during the entire year; they are not allowed to occupy their dormitories from 8 a.m. until 8 p.m., and the windows of the dormitories are always open. For those with severe cough, rooms with two beds are provided; the others are placed in rooms containing six and twelve beds and the convalescents are separated from those who still expectorate tubercle bacilli. All the patients are required to carry paper spit-cups, which must not be used longer than twenty-four hours and are then burned, and the orders against expectorating elsewhere are rigidly enforced. The alvine discharges of infirmary cases with intestinal tuberculosis are destroyed in a crematory.

Recognizing that the problem in the treatment of tuberculosis is essentially one of nutrition, no efforts are spared to provide abundant good and nutritious food. All the patients are weighed weekly, and the comparative report of such weights is regarded as an index of their general progress.

From Oct. 4, till Aug. 6, 1900, 165 patients were admitted, with results as follows:

	Discharged.	Remaining.
Not improved	14	21
Improved	20	54
Convalescent	11	26
Cured	4	1
	49	102
Died	14	

Cases are recorded as *cured*, when, after all symptoms have disappeared, they fail to react to the tuberculin test. Those in whom no tubercle bacilli are found after repeated examinations and all active symptoms have disappeared, but they still react to the tuberculin test, are classed as *convalescent*.

Though we have not yet completed our first year, our experience thus far tends to disprove the general opinion

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that altitude is contraindicated in laryngeal and hemorrhagic cases. In several cases admitted with laryngeal ulceration, the ulcers have healed, and in two cases who succumbed to their pulmonary involvement, and who on admission had extensive laryngeal disease, the

talgia so prone to occur among the uneducated—which includes a majority of our cases—and which here is a result of the isolated location of the hospital and enhanced by the aridity of the vicinity. Others when discharged from the army are unwilling longer to submit



larynx was found, post-mortem, completely cicatrized.

In quite a number of cases with a history of pulmonary hemorrhage before admission there has been no recurrence and in none has it been a serious feature.

to the necessary restrictions of the rules and regulations of an institution of this kind.

The majority of those discharged "unimproved" were advanced cases who preferred to return to their friends



Hectic fever is exceptional and usually subsides after a few weeks of complete rest. Night sweats are infrequent, and even in most advanced cases are readily controlled.

Many of those discharged "improved" and "convalescent" were no longer able to resist the pangs of nos-

when told there was no reasonable hope of recovery.

The staff of the hospital consists of Acting Asst.-Surgeon James H. Hepburn and Acting Asst.-Surgeon E. S. Bullock, pathologist; Chaplain S. N. Pilchard, and Capt. H. McL. Powell, 11th Infantry, quartermaster and commissary.

There at present on duty seven female nurses, two of whom are employed as dietists, one hospital steward, two acting stewards, and sixteen privates of the hospital corps. In addition, a number of civilians are employed as cooks, baker, dairyman, watchman, teamsters and laborers.

I trust that after the hospital has been in existence for a sufficient length of time it will furnish interesting and perhaps instructive results.

THE ADVANTAGES OF THE SANITARIUM TREATMENT OF TUBERCULOSIS WHEN CHANGE OF CLIMATE IS NOT POSSIBLE.*

E. S. OLIVER (JOHNS HOPKINS.)

SARANAC LAKE, N. Y.

The writer has for two years past been living at Saranac Lake, N. Y., as a patient and physician, studying the problem of tuberculosis in his own person, in the Saranac laboratory for the study of tuberculosis, and as a member of the staff of the Adirondack Cottage Sanitarium. The views he is about to express are the results of two years' study and observation, and are to be regarded solely as the expression of his own opinion and not in any sense to represent officially the institution with which he is connected.

As may be inferred from the title, it is accepted as a foregone conclusion that sanitarium treatment is the only solution of the many problems presented in this protean disease. The conclusion reached by the Berlin Congress and International Medical Congress in Paris leaves no room to doubt that the sanitarium treatment accomplishes what no "specific"—whether serums or drugs—can alone accomplish, and is capable of achieving, unassisted, all the beneficial results that can be claimed for either serum or drugs. Let us examine for a moment what may be regarded as the essential principle of the sanitarium treatment. First, unquestionably, comes the giving up of former habits of life, and the change from the old surroundings combined with the change to a more favorable climate. We, in Saranac Lake, are convinced that there is much of healing in the climate alone, and those of us who have suffered personally from the asthmatic breathing that so affects the tuberculous patient can testify to the vast difference in the quality of the air in the Adirondacks, as compared with that at our homes, and many of us go so far as to detect fine shades of difference between the air at Paul Smith's, that at Lake Placid—nay, even that at the Sanitarium, as compared with that at the village one mile away and 300 feet lower. We may as well admit that there is nothing essential in the altitude to which the patient resorts. The isolation of the patient from his family and community is of the utmost importance in combating the spread of disease. On the other hand, the segregation of persons more or less affected with the disease, especially of those in the same stage of progression, does away with the sensation of being an object of repulsion and danger—of being an outcast—which overwhelms the modern leper so long as he is in the company of sound and healthy individuals. This association with other patients supplies to him the social intercourse for which he longs in his enforced isolation and serves to combat homesickness, the pangs of which lead many hopeful cases to throw

away their chance of recovery—for the mere sake of seeing familiar faces and hearing familiar voices. The sanitary precautions insisted on in the Sanitarium completely removes the danger of further infection and makes association with those recognizedly consumptive fraught with less risk than the average individual encounters in the street cars and stores which are the scenes of his daily labors. Moreover, the education which the sanitarium imparts as to the dangers of carelessness in disposing of the sputum is full of object lessons in themselves sufficiently valuable to justify the maintenance of such institutions. But it is the regulated out-of-door life amidst hygienic surroundings, with diet selected according to the individual's need—so carefully as his medicines are prescribed for his symptoms, and in the application of the best tried and most rational methods of medical treatment, that we find the vital essence of the sanitarium treatment.

The question of exercise is one on which Dr. E. L. Trudeau takes perhaps the most advanced position of all those who have successfully treated tuberculosis by the hygienic method. Exercise further than that necessary to go and return three times a day from the patient's cottage to the central dining hall is forbidden in the Adirondack Sanitarium to all those patients who reach a maximum temperature daily of 99.4 F. (37.5 °C.). In cases maintaining for a considerable period a

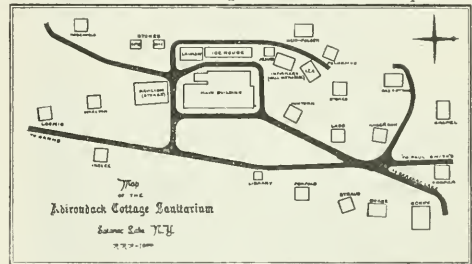


Figure 1.

temperature of 100.5 F. all exercise is forbidden, and the patient remains at his cottage, lying in his cot on the veranda, where his meals are served by an orderly, from a diet selected according to the prescription of the physician in charge.

RESULTS OF SANITARIUM TREATMENT.

To an observer who has studied tuberculosis in the wards of the public hospitals and sees for the first time the patients in the Adirondack Sanitarium, the first impression is one of absolute skepticism that these people, who present all the features of robust health, can be suffering from the dread destroyer with which he became familiar in his student days. The visitor finds that he is almost the only one on the grounds who coughs. He is conscious that he looks anemic and emaciated by the side of the consumptive, and he is apt to hurry away lest some other visitor will take him for the consumptive; nor is he unwilling after his visit to believe that of all patients, including those entering the sanitarium in all stages of the disease and remaining at least nine months under treatment, 34.5 per cent. go away apparently cured, while of those actually in the incipient stage 73.4 per cent. are apparently cured.¹ Not only the apparently cured, but many of those in

* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

¹ Vide the excellent paper entitled: The Result of Sanatorium and Social Hospital Treatment in Pulmonary Tuberculosis, by H. McL. Kinghorn, M.D., Saranac Lake, printed in the Montreal Medical Journal, July, 1899.

whom the disease is merely "arrested," have been able to return to their vocations and live a practically normal life for a period ranging from one to fifteen years. To give a concrete idea of the results from our practical everyday experience among the Sanitarium patients, let me cite the instance of two patients whom I have just encountered on the street and asked for the record of their weights.

W. H. B. entered Sanitarium June 30, weighing 134 pounds; July 7, weighed 139 pounds; July 14, weighed 146 pounds; July 21, weighed, 149 pounds; July 28, weighed 153 pounds; August 11, weighed 158 pounds; August 18, weighed 161 pounds; August 25, weighed 164½ pounds.

H. P. D. entered the Sanitarium June 23, weighing 130 pounds; July 14, weighed 138 pounds; July 28, weighed 146 pounds; August 11, weighed 151 pounds; August 25, weighed 154 pounds.

A study of the official weight-book will show a score of such phenomenal gains in weights.

The accompanying charts taken at random furnish the most convincing evidence that pyrexia can most successfully be treated simply by the rigid observance of rest and outdoor life.

Cough as a symptom has much more significance for the patient than for the physician. I have repeatedly seen patients enter the sanitarium with a cough that

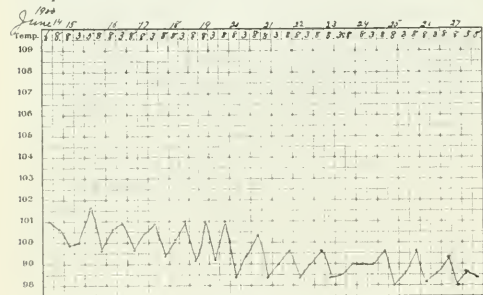


Figure 2.

kept them in paroxysms night and day, who could not walk from their cottage to the dining hall without pausing three times to expectorate in the receptacles provided on the ground. I have seen them lose their cough in a week or ten days, save for a single more or less violent paroxysm on retiring and on rising, and have heard them report the expectoration diminished in three weeks from three or four ounces on admission to half an ounce daily, when they were subjected to no treatment other than the hygienic routine of outdoor life in all sorts of weather.

The amount of food consumed at table three times daily by the patients, and between meals when so prescribed, is such as would surprise the hardest-working day-laborer of your acquaintance and give you reason to fear that some acute dilatation of the stomach must inevitably follow, until you had become accustomed to the appetite whetted by the tonic breezes of the Adirondack region.

As Dr. Trudeau has shown in the all too few articles he has written for the instruction of the profession, the early diagnosis is the cardinal factor in the cure of the disease, and not alone in the cure, but in the sanitary prevention of its extension. Early diagnosis becomes thus the keystone in the arch on which we are to build the structure of our barrier against the "white plague."

The average family practitioner recognizes the disease only when the symptoms are so prominent and the physical signs so unmistakable that the patient is already too far gone to stay his downward course.

The plan I propose is that where a general practitioner, or a specialist in pulmonary disease, has under observation and advice two or more cases really incipient, he should have sent them to a cottage, rented or built for the purpose, in some favorable situation in the suburbs of his city or town, say ten miles from its limits, where the air is uncontaminated by dust or smoke and the surroundings rural and attractive; a trained nurse should put the patients through, under the physician's close supervision, the regular sanitarium life as it is pursued in the Adirondack Cottage Sanitarium and the Muskoka Sanitarium on this continent, and in similar institutions in Europe, notably in Brehmer's Sanitarium at Gerbersdorf, in Detweiler's at Falkenstein, and in Walther's at Nordrach.

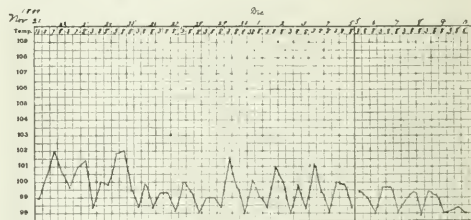


Figure 3.

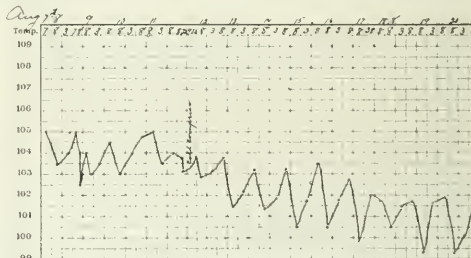


Figure 4.

In choosing a site for the miniature sanitarium, let a slight elevation be selected for the cottage, the exposure of the main verandas and bedrooms for patients to be on the south. The chosen location should be far removed from the din and bustle of the town, but near enough to some railway or tramway to give to the patient's family and business associates the opportunity of calling on him at such times as may be prescribed by the physician. If the roads in the neighborhood are suitable for driving, great pleasure and a considerable aid in the treatment is provided for. Of how little real moment the change of climate is, provided a rigid sanitarium treatment is pursued, is shown by the cures achieved in the Hôpital Boneceaut, located within gunshot of the fortifications surrounding Paris. Often a cottage may be found already built which may be adapted to the treatment proposed, but probably it will in most instances be found advisable to build a structure especially contrived to meet the needs of so unique a routine of daily life.

I append to this paper plans for such a building, drawn by a competent architect, Mr. W. H. Scopes, of

Saranac Lake, which will be found to embrace all the essential features of the sanitarium on the "cottage plan" rendered famous by Dr. Trudeau's work. It provides for a cellar, with plants for hot water, heat, coal-bins, pantries, and water closet for servants. The first floor (Fig. 7) offers a general sitting-room, dining-room, kitchen, bathroom with all the necessary appliances, two bedrooms, the nurse's bedroom and her office and consulting-room. Open fireplaces are provided, both for the sake of ventilation and for their cheerfulness.

The second-floor plan (Fig. 8) shows a scheme for four additional bedrooms for patients, and in the third floor, as shown by the side elevation, are rooms for the cook and chambermaid (Fig. 9).

The covered veranda around the southern and western sides on the first floor, and the open veranda on the second-floor, offer the best possible opportunities for that life of repose in the open air which is the essential

with the sanitary requirements mentioned, may be judged from Figs. 5, 10 and 11, which are amateur photographs of the sitting-rooms and bedrooms in several of the Adirondack Cottages. The daily routine of life must be ordered according to the precepts of experience.

I present the daily program of a patient in the Adirondack Cottage Sanitarium:

7:00 a. m., temperature taken while patient is in bed.

7:30, patient rises; sponge bath—cold or tepid.

8:00, breakfast.

8:30, patient reports at pharmacy or physician's office; while waiting can write letter and send it off in the 9:30 mail.

9:30, a stroll if permitted to exercise; or a drive, if not.

10:30, a glass of milk or an egg, or both; reads, studies or works until 12 m.

12 to 1, rest in a hammock or on a couch in the open air until dinner.

Dinner. After dinner, rest until 3:30, temperature taken and then extra nourishment given.

3:30, milk or egg, or both.

3:30 to 5:30, patient reads, studies, works, strolls or drives, according to strength and the doctor's advice.

5:30 to 6, patient lies in the hammock or on a couch in the open air.



Figure 5.



Figure 6.

point in the treatment, according to the open air plan. Lounges, reclining chairs, hammocks or camp beds are furnished to suit the tastes of the patients. The rooms should be wainscoted to a height of six feet and finished in plaster, and "moresco" for the rest of the walls and ceiling. The floors are best made of hardwood, oiled and polished, or else covered with linoleum, with a rug or two of some washable stuff. Electric light is the only form of artificial lighting permissible. The windows should be of ample size, and of the fashion that permits them to be raised and lowered, and in the same frame revolved on an axis, all of which movements are accomplished by the device known as Bolles' patent. The same revolving principle should be applied to the transoms, which occupy the upper three feet of the wall separating the two first-floor bedrooms from the central sitting-room. This scheme of ventilation permits the air to be changed constantly through the night, so that the same air is never breathed twice while the patient occupies the room, and it continues the fresh-air treatment even throughout the time the patient spends indoors—a most important consideration. No draperies or carpets are to be permitted except a small rug in the sitting-room. The sitting-room can be as handsomely furnished as may be desired. How homelike and cheerful such quarters can be made, even when complying

6:00, supper.

6:30, patient reports, if necessary, at the physician's office; sits or lies on veranda, or attends some form of amusement provided in the parlor or pavilion.

8:00, temperature taken.

9:00, extra nourishment, milk or egg, and retires.

Letter-writing is limited to the bare necessities of correspondence and is done only in the morning hours.

All forms of mental and physical exertion are forbidden so long as there is active disease, with elevation of temperature above 99.4 F., or other constitutional symptoms. The reading is selected to divert the patient's mind from his afflictions to more cheerful topics, and games are allowed, provided they do not involve any harmful exertion of mind or body. The social life in the Adirondack Cottage Sanitarium is a feature which strikes every visitor as unique. Knopf remarks especially on the gay spirit which prevailed when he visited the Sanitarium in 1896.

The food provided at the Adirondack Cottages is selected by the superintendent, Mrs. Julia A. Miller, from a long experience in such work. For breakfast: fruit, oatmeal, wheatena, "Pettijohn," beefsteak, lamb chops, bacon, eggs cooked in a great variety of ways—soft-boiled, scrambled, fried, poached, made into omelettes, etc.—brown bread, wheat bread, corn bread, muffins,

griddle cakes, etc. For dinner: a simple but appetizing soup, fish, roast or boiled beef, roast lamb, fowls prepared in various ways, cornbeef, vegetables, cabbage, tomatoes, potatoes cooked in an infinite variety of ways, beets, peas, beans, rice, lettuce, squash, asparagus; for desserts, ice cream, nuts, pies, puddings, custards, jellies, fruits. For supper: one hot meat, cold meats, white

tient; 3, to the nurse; 4, to the family of the patient and to the community in which he has been infected.

The physician is enabled to keep his patient under his own supervision instead of intrusting him to a stranger. His patient remains a source of revenue to him, instead of dropping out of his practice, a consideration which has more or less force for every family practitioner. He is guaranteed by the presence of a trained nurse that each of his patients will get the best treatment possible, and that every rule laid down will be rigidly followed. This can not be said for any scheme which leaves the patient in the hands of his family. The family physician, moreover, gets the credit for the recoveries, which his early diagnosis, watchful interest and skill as a therapist have brought about. This contributes to his influence and future usefulness in the community and puts on him the necessity of keeping himself familiar with all the practical details of sanitarium treatment by which the best results can be obtained.

The trained nurse is freed from all those trammels which hamper her when she is trying to carry out the instructions of the physician in the face of the preju-

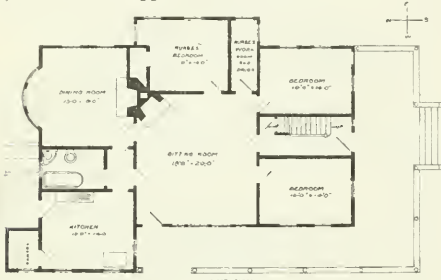


Figure 7.

and brown bread, toast, some hot cereal food, baked beans, potatoes, eggs, preserved fruits, jellies, jams. Milk is furnished at the table at every meal, and is provided for each patient to take with him to his cottage for the between-meal nourishments.

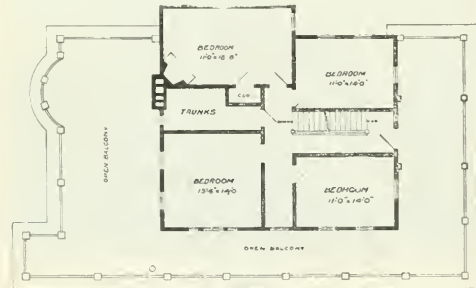


Figure 8.

With the special symptoms that present themselves for treatment, I do not purpose dealing at this time. Suffice it to say that they are all treated with as little resort to drugs and from the most common-sense point of view that can well be imagined. Dr. Trudeau



Figure 10.



Figure 9.

and his assistants practice medicine not by rule of thumb, but according to the dictates of a large experience, based upon a profound knowledge of the broad principles underlying all disease and its treatment.

Let me point out briefly what are the chief advantages of the plan proposed, 1, to the physician; 2, to the pa-

ties and sympathies of the patient's family. Those under her care are placed in the situations most convenient for her manipulation, and the plans presented enable her to move a patient from any room, through a window cut down to the floor, out to the veranda, thus saving strength and facilitating work. The plan provides for the easy enforcement of every sanitary regulation, preserving the nurse and the fellow-patients from risk of infection. She, with the physician, has the most favorable conditions for herself and her patients. She shares in the just credit due for their recovery and wins that repute as a successful practitioner of her profession which is as dear to the nurse's as to the physician's heart. The patient reaps every advantage that could be gained at the expense of a long trip to some health resort, a trip which, in his weakened condition, may prove most unfavorable to his prospect of recovery.

The sufferer is under the daily supervision of the man he trusts most in the world, not of a busy stranger, whose few interviews with him are at best brief and con-

fined to professional detail. He is attended by a careful nurse, who gives him every care that her varied experience can dictate. He has gained everything, and practically lost nothing, by undertaking the course of treatment.

The patient's family and community are saved the danger of infection, are given an object-lesson of incalculable value in the curability of tuberculosis and in the sanitary precautions which are effectual in preventing its spread. They have preserved to them the presence and influence among them of one who is a bearer of the heavy burdens and responsibilities of family, business and social life—for it is just such leaders among men and pillars of the social structure who are most often seized by the jealous dragon Tuberculosis.

What would be the cost entailed upon each patient who takes advantage of my plan? To completely build and furnish such a home as that shown would, at this period of high prices for lumber, plumbing, fixtures and furniture, cost \$6000. The running expenses of the sanitarium must cover at least the interest on this. The

The objection has been made by persons with whom I have discussed this plan that, without the shock that comes to a man from the complete breaking off of all his business and social relations, and without the enforced separation from them entailed by a change of climate, few persons really in the incipient stage of the disease can be persuaded to place themselves under a rigid routine of treatment. This does not seem to me a valid objection, for even in those cases which come hundreds of miles to such a resort as Saranac Lake, the ties of home and business life remain practically unbroken, and the sense of anxiety and the worry are just as great, or even greater, than if the patient were nearer home and had daily reports from his family and business associates. And it happens only too frequently here that patients coming from other more or less distant points soon tire of the routine, and are without sufficient will-power to persist in the rigid treatment without the example of fellow-patients and the discipline of a nurse, and after a few weeks or months of futile and desultory effort, or of days and nights spent in saloons or poolrooms, return to their homes discouraged, and before long meet the unfortunate consequences of their ill-advised action.

Every hope of success in this plan, as in every plan for the treatment of tuberculosis, depends on the iron will and the consummate tact of the physician and the nurse



Figure 11.



Cottage of Resident Physician, Adirondack Cottage Sanitarium, Saranac Lake, N. Y.

following estimate for six months, based on actual experience, will represent fairly well the other features:

ESTIMATE FOR SIX MONTHS.

Interest at 6 per cent on \$6000	\$180
Services of trained nurse at \$50 a month	300
Coal for cooking, 6 tons at \$6 a ton (12 to 15 tons must be added for heating if the months be winter months)	36
Wood for open fireplaces, 10 cords at \$3	30
Electric light, \$5 a month	30
Hire of cook and maid, each \$15	180
Table supplies, at \$100 per month	600
Total for 6 months	\$1356
Total for 1 month	226

The plan provides for the accommodation of six patients. Thus the cost to each of the six patients per month is less than \$40. That is to say, at a cost of about \$40 a month, apart from the physician's fees, an individual can have all the opportunities offered by the sanitarium treatment for the complete cure—in 75 to 90 per cent. of really incipient cases—of pulmonary tuberculosis, without severing the ties binding him to his domestic, business and social life.

who have undertaken the task. Both of them will be obliged to study closely and deeply the methods pursued in the most successful sanitarium.

This leads me to a matter which has always been a source of wonder and dismay to me, namely, to find in my two years' stay here how few general practitioners ever come to Saranac Lake—in very truth, the fountain head of the rational theories of treatment in this country—to make a profound personal study of the methods actually in use here. These methods, as I have shown above, are daily offering, even to the untrained eye, the most striking illustrations of what can be done to combat tuberculosis, not merely in its earliest, but also in its middle and even later stages. I can point out any day on the streets of Saranac Lake a dozen—nay, a score—of cases who have come here in the last five or six years, and received the prognosis from even the most optimistic of physicians that death must inevitably ensue in four to six months, but who have in the face of his advice persisted in remaining here, and have been to all practical intents and purposes cured, and are now supporting themselves or their families by their daily exertions.

It is to me of profound significance that the one who hopes most in all these cases, and who is most loth to give up a patient, is Dr. Trudeau himself. He, more than any man in this country, has studied the possibilities of treatment and of cure in every form of pulmonary tuberculosis, and does not hesitate to-day to say that the more cases he sees, the less capable he feels of predicting what cases may recover.

THE SANITARIUM FOR CONSUMPTIVE SAILORS ESTABLISHED BY THE U. S. MARINE-HOSPITAL SERVICE AT FORT STANTON, N. M.*

J. O. COBB, M.D.

Passed Assistant-Surgeon U. S. Marine-Hospital Service.

There is a prevalent belief that the sailor does not have tuberculosis. Just because he is at sea breathing the purest air, we naturally think of him as having the greatest chance of escaping that dread infection. The public mind loses sight of the fact that the average sailor spends a great part of his life ashore, participating in drunken brawls, gambling in the vile holes underground in New York, San Francisco, Baltimore and all the large maritime commercial centers. The little time he spends in sleep when ashore is in sailors' boarding houses, usually filthy dives. In lieu of beds, there are rough bunks built in like a set of shelves clear up to the ceiling. Into these a little straw is thrown, and this is the bed of one man one night, and another the next, and so on. The straw is rarely, if ever, changed, and this is the only bed these poor fellows can get in these gruesome places. They need no covering, for the room is heated by the red-hot stove, around which some sit and smoke and play and drink the long night through. Such a place is awful to think about, and it is small wonder these men get sick; it is the greater wonder that every man so exposed is not rapidly infected with tuberculosis, for it is only reasonable to believe that all such places become infected in time. Then, too, it is easy to understand that one case may infect an entire crew at sea, on a long voyage, when the men are packed together like animals. The sailor breathes pure air only when he is on watch, but when he "turns in," his sleeping quarters are exceedingly bad—so bad that it is impossible to describe them adequately without subjecting one to the accusation of exaggeration.

We of the Service know that there are hundreds of consumptive sailors and our annual reports show that we have been losing on the average more than one hundred a year. Our experience has also shown us that all the cases that remain, eventually die; they drift in and out of the different hospitals, better to-day and worse to-morrow, and sooner or later serve as a necropsy study.

So it has gone for years. No movement which is purely humanitarian can be brought about without much talk and some sober writing. Officers talked and thought, but unfortunately this is usually what a non-political government officer is compelled to do—take it out in talking or writing, if he is so inclined. It is to the credit of the officers of this Service that they have ever been alert to the prevention, spread and proper control of the disease. The present surgeon-general, Dr. Walter Wyman, was the first in the Service to undertake to bring about the establishment of a sanitarium

for consumptive sailors. This was many years ago, when he was a junior officer, and his efforts met with little encouragement, and although unsuccessful he can properly lay claim to being a pioneer. He did not forget his early ambitions after he became surgeon-general, and it fell to his lot to be the instrument to consummate the establishment of a sanitarium for consumptive sailors.

In December, 1898, I was sent on an inspection tour through Arizona and New Mexico for the purpose of recommending a site for the contemplated sanitarium. It was thought that as the Army had been first in the arid region—and of course had selected the most desirable site—abandoned posts would best serve our purpose as fulfilling the requirements of large tracts of land, good water-supplies, and that the data published by the officers of weather and other conditions would be very valuable as a guide.

After careful examination in both territories, Fort Stanton was decided on as best suited for our purposes, specifically and generally. The weather reckonings made by the Army, together with special reports by its officers serving here in early times, showed mild winters with delightfully cool summers. It was necessary to have a station combine these two features or else have two stations, one at a low level for winter and one higher for summer, for otherwise patients at low levels would lose in summer all that had been gained in winter. With its undoubted advantage of climate, a generous water-supply, a large reservation, and with substantial stone buildings, it is an ideal site.

Fort Stanton is situated in Lincoln county, N. M., about six miles from Capitan, the terminus of the El Paso and North Eastern railroad. The elevation is 6126 feet. There are 38 buildings of various sizes, most of them being of native rubble stone. There is room for 200 patients, besides quarters for officers and attendants. Repairs are going on, and new machinery is to be introduced shortly. A modern steam laundry and a one-ton ice plant are now contracted for, and the plans and specifications are being prepared for an electric-light plant and extensive repairs, which will be commenced this fall. All the buildings will be made modern, and the appointments will equal any in the country. The laboratory will be conducted especially in the study of the disease. The apparatus for the purpose is already on the ground and is temporarily set up in an old building awaiting the repairs on the executive building, where there is to be a room set apart for this purpose.

There is a large farm and garden attached to the station. On the farm is being raised all the forage and most of the grain for the horses, milk cows, cattle and chickens. In the garden we have a source of pleasure not often found at such institutions. We have all the fresh vegetables needed and such vegetables as can not be bought in this vicinity.

Our herd of Jersey milk cows supply all the milk used at the station. While speaking of the cows it may be of interest to describe the method of dealing with the milk. We try to have all the patients follow as nearly as possible the method of taking milk described by Dr. Bulkley. To make this a little more perfect, it is necessary that the milk should always have a given percentage of fat, and to obtain this our milk is cooled immediately after milking and run through a separator. The cream will turn out about 20 per cent. (volume), and then this is added to skim milk to make it 20 or 25 or 30 per cent. of cream, as is prescribed by

* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

the medical officer. In this way there can be no marked variation in the percentage of fat, as there would be on cold, stormy days, or in change of food or other well-known conditions, which cause a cow's milk and fat percentage to vary. We make some butter and buttermilk, and intend to make kumyss and kefir. The patients have increased so fast that we are not altogether prepared for them, as it was the original intention of admitting only twenty the first year.

The reservation is very large and it is the intention to fence it for pasturage and to raise our own sheep and beef cattle. This will be not only a paying operation, but will give us fine meats. Fort Stanton was set aside for a sanitarium by executive order dated April 1, 1899, and the station was officially opened April 27, 1899. To date, there have been 70 patients admitted, 6

was a good case when he came. This man had a small cavity, which apparently began to heal. He began to improve after a time, and would probably have recovered but for contracting tubercular pneumonia on his good side. Of the other cases which died, not one was considered, by the officers of this station, as good subjects for transfer and all died shortly after reaching here.

To get the patients constantly in the open air has been a most vexatious problem. Most of them came here from hospitals which were heated by steam and would have rebelled had they been put in the open air to sleep immediately after arriving. Knowing the sailor as I do, it was necessary that all this be brought about indirectly and gradually, and now they are very enthusiastic for the open air. All sleep with the windows



Fig. 1.—Looking Across Parade Ground, Showing Capitan Mountains to the Northeast. Fort Stanton, New Mexico.

of whom have died, 17 have been discharged, 13 improved and 4 apparently recovered. Seven of those discharged improved are still under observation as attendants, of whom all appear to be well except one. This one, however, was a bad case, but is now doing well. Three cases reported as improved are working in the vicinity. One of these had both lungs badly infected, but as he was strong, had no fever and felt well, he obtained employment at the mines near here and is working every day. He reports that he still expectorates, but otherwise is still improving. Another has just gone to work. His trouble originally was a tubercular empyema, for which several ribs were partially resected. The other man is well.

Of the cases remaining we shall probably lose a few, but seven seem to be entirely cured and will be sent back as soon as the hot weather in the East is over. Twenty-one seem to be arrested, though the evidence of the disease still persists. Of those who died, only one

and doors open and in the day they walk about, swing in hammocks here and there under the cottonwood or box-elder, ride the native ponies, which are for their use, or recline in easy chairs or amuse themselves by doing odd jobs. One man bought himself a tent and sleeps out every night.

To find means of diversion or amusement has been a hard problem and will continue to be so. While they are running fever or otherwise doing badly, I have no trouble, but just as soon as they begin to get well they become restless for the water again.

In the matter of treatment, dependence has been put in keeping the men constantly in the open air and giving the best of food. However, we have had several cases with severe complications, malaria being the most frequent. Many of the men have come from localities where they had previously contracted malaria and I have several under observation whose blood is full of the organisms. Dyspepsias are exceedingly troublesome and

loss of appetite in some cases hopelessly discouraging, these complications compelling us to give some medicine. Just here it is well to warn those who have not had much experience with heroin to be cautious in its use; the habit is easily contracted.

We have been making some careful observations of the effects of altitude. If mere clinical experience is worth anything at all it leads me to believe that most cases become anemic shortly after coming here. Of course, the

We have noticed, too, that the majority of patients lose weight at first, notwithstanding an improvement in appetite and general symptoms. The urea percentage is markedly increased and has continued so with cases under observation.

The method of handling the sputum and preventing infection will be of interest to the general practitioner. There are no half-way measures. The theoretical part is nearly perfect and its execution will be almost so



Fig. 2.—Group of Buildings Looking North, Showing the High Mesa on the North, Which Affords Protection from the Winds. Fort Stanton, New Mexico.



Fig. 3.—Looking up South Avenue, with Cottonwood Limbs Which Were Set Out This Spring, and Which Are Growing, Showing White Mountain to the Southwest and Mesa to the South. Fort Stanton, New Mexico.

blood-count and hemoglobin percentage are increased, but I feel certain, without being able to prove it, that it is not actually true. After a time the proper relative standing of the blood-count and hemoglobin is re-established and the increase is actual, though the readings of the instrument may not show an increase. I have about decided that the blood tests can only be of interest as a guide to each individual's relative condition and progress. Collectively the tests are misleading.

when all the sterilizers are put in place and in operation. I am happy to say that there is no such thing at this station as a spittoon, which demonstrates that a large institution can be run without one. To have a spittoon lowers the standard of effectiveness at once, for no one will deny the dangers of using one. Any method of sterilizing sputum except by incineration or steam heat is not perfect. Any method of collecting sputum by the process of ejecting it from the mouth

at a distance into the receptacle is unsafe. The receptacle must be brought close to the mouth. The patient must have his own receptacle, for it is disgusting to see the sputum of others. To secure this desirable end we are using sputum-cups and pocket sputum-flasks. Each patient has a flask and cup, but I find that they dislike the cup and nearly all of them want to use the flask only. They carry the flask wherever they go, and use the cup in their rooms. Once a day at a given time every cup and bottle used is carried to the sputum room and there checked off, by an attendant, from a complete list of the patients. It is necessary to keep close watch on each individual, and take note whether he brings his cup and bottle for sterilization, for if we did not he might empty the sputum in the sinks and closets.

exasperatingly narrow in matters pertaining to public health, unless his pocket or the pockets of his constituents are affected. Let a wide and destructive epidemic break out among animals and then how prompt legislation is introduced to suppress it! There is money! It is a crying shame that this country, one of the foremost in all grand evolutionary movements, should have waited till the closing year of this century before joining in the sanitarium movement against the worst foe of mankind. What excuse can there be? None. The results were well known to be good and it was not an experiment. The way had been marked for us by Germany as a leader in this crusade with her first sanitarium in 1859 at Goerbersdorf, or 1854 according to Von Leyden. The impetus given to the sanitarium move-



Fig. 4.—Showing Officers' Quarters. Fort Stanton, New Mexico.

The cups and flasks are placed in the sterilizers and the temperature maintained at 245 F. for one hour. This heat thoroughly liquefies sputum and makes it easier to cleanse the receptacles. Our large sterilizer is not yet set up, but when it is, all the bed clothing and individual clothing will be sterilized by steam or formaldehyde at regular intervals.

We, as a nation, lead in all matters for the social and political welfare of man; but we have been very strangely conservative in helping him in his sickness, especially in the inner circles of his home, there to combat the ravages of disease which are undoubtedly caused by the greed of owners and keepers of unhygienic tenements, where men, women and children have less care than given domestic animals. The average legislator is

ment by the patronage of the Kaiser has done much to stimulate still greater effort. Even the life insurance companies of Germany have built sanitariums for their insured. This has been found by the insurance companies to pay, and it is to be hoped that the companies of this country will soon follow their example. The mutual aid companies should, by all means, do something for the many consumptives that they undoubtedly have in their membership. I have heard that the question had been seriously presented to the A. O. U. W., as this order has hundreds of consumptive members.

The philanthropy of our large cities has long done much harm in building large hospitals for this class of patients. Wealthy men and women have subscribed immense sums to erect places where the poor consumptive

could go—and die. Make them comfortable has been the cry. The end was inevitable. A new sense of responsibility is now thrust upon the man or woman with means, for this frightful death percentage must not be. The case must be diagnosed early, and that is the awful and fearful responsibility of the physician. And look to it, you who make snap diagnoses with the unaided ear through the patient's clothing and who never make thorough chest examinations of women at all; and you who stain one specimen of sputum and finding no bacilli declare the trouble is only bronchitis; or you, the worst offender of all, who withhold from the patient the true nature of his disease, allowing him to go on expectorating at random, spreading the infection broadcast and to the members of his own household! And I say to these, and to the vampire who holds his patients, drugging them to death, finally abandoning them when

of the sufferer. Man of wealth! Woman of wealth! Do not put your money in grand edifices in the overcrowded city where your philanthropy only serves to make a doomed consumptive's life comfortable for a few weeks, at most a few months. Go to the woods all about you and put these people where there be a chance for recovery and where they can return to their homes as useful citizens. This much may be hoped for, but even if the patient should die, we will have gained by removing the focus of further infection. This to me is the most important side of the subject.

All grand movements begin first with suggestions, and nothing is ever accomplished except by discouraging set-backs at every turn. Men like Trudeau can not help but look back with pride on their accomplishments under the very great drawbacks they must have had. What a sensation must the founder have had when, in 1884,



Fig. 5.—Patients Ready for a Ride. Fort Stanton, New Mexico.

they are in a dying condition by sending them to health resorts, that the public is awakening to the realization of the danger of delay and in wrath will have none such as you.

The phthisiologist can not make a successful issue of this undertaking without the aid of the conscientious general practitioner. I am told that in Germany every medical man is alive to this question and the most careful examinations are being made to detect the disease in the first stage. Tuberculosis is not such a grave disease if taken in hand early and sent into the pure open air.

Medical men have no money, and if they diagnose their cases early, then the public at large, through its wealthy citizens or its municipal, state or governmental authorities, becomes obligated morally as well as socially and economically, to give the patient a chance for his life. It must not be care for the doomed and dying—the reach must be greater and extend out to the home

the first little cottage at Saranac Lake came into existence! His was no selfish ambition; what must have been his hopes and fears? He would have been laughed at then if he had gone to Congress or his state with a bill to help erect this same little cottage. His patients were not animals and there was no loss to the pocket-book, therefore no need of legislative help.

The public is awakening to the danger. Towns, cities and states have become aroused, and now that our Government, first through the Marine-Hospital Service, and then very shortly after by the Army, has given its official cognizance of the importance of stamping out the white plague we may expect in the next few years a forward move of which we may be proud. Of course the work done by the government may, in a way, be comparatively small; yet of all the patients admitted were not one to recover, were all to die, still the good done to the community at large is inestimable. So many foci of infection removed from our ships in their world-

encircling courses; from the barracks, camps and hospitals of the Army; from the sailors' boarding houses; from our general hospitals, where we have had such a discouragingly large percentage of deaths; to bring all these patients away from thickly populated centers, where they undoubtedly spread the infection, is an accomplishment itself of no mean importance.

With such opportunities for study afforded by the well-equipped laboratories, the ever-increasing clinical material, it is not too optimistic to feel that we may help to clear away one by one the many obstacles yet confronting the world in effecting immunity and cure.

THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

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This may be a matter of considerable ease, or one of extreme difficulty, depending on the stage of the disease and the nature of the pathologic conditions. Let us first consider its diagnosis at an early stage. Tuberculosis is an infection, and as is the rule with infections, it occasions a rise of temperature even at its incipency. Except very rarely, when the infection is violent or the disease assumes the acute pneumonic type, the elevation of temperature is slight, and may even escape detection. If the thermometer shows a constant elevation ranging between 99.5 and 100.5 F. it is in a suspected case strongly suggestive of tuberculous infection. The temperature should be registered not merely night and morning, but four or five times daily, as, for instance, at 9, 12, 3, 6, and 9 o'clock.

The pulse is as a rule accelerated and to a rate out of proportion to the temperature. But it should be remembered that an individual who is under examination for suspected tuberculosis is apprehensive, and therefore likely to manifest acceleration of the pulse. Nevertheless, the pulse-rate will be found to range in the neighborhood of 100, not rarely 120 or thereabouts. It is usually a pulse of low tension, and this is more characteristic than is an increase in the frequency. Undue rapidity together with lowness of tension forms, in the absence of signs of cardiac disease, a very suspicious combination. Its value is enhanced if conjoined with increased body temperature between the extremes noted above. The respirations may or may not be increased. As a rule in incipient cases there is neither subjective nor objective dyspnea.

Loss of weight is a suspicious circumstance and is an invariable accompaniment, I believe, of incipient pulmonary tuberculosis. It is so often slight that it escapes the patient's notice, and therefore his statements are not always to be relied on. The value of this symptom depends largely on its association with other symptoms and signs; without them it can scarcely be held suggestive of tuberculosis. Decline in strength and a falling off of appetite are also to be considered in doubtful cases, but are of small evidential value.

Cough is usually the first symptom to attract the patient's attention and to arouse apprehensions in the mind of the physician as well as of the patient. Although it is frequently symptomatic of this disease even at its invasion, still it is not invariably so, and taken

alone has but small diagnostic value as regards pulmonary tuberculosis. In every suspected case in which physical signs do not settle the question of diagnosis, the upper respiratory tract and the heart should be carefully examined for an explanation of the cough. Aurists will say that even the ears should not be left out of the field of exploration.

Sputum is, for a time, absent in cases of beginning tuberculosis, but when present exhibits nothing characteristic, unless, of course, it shows bacilli. Even hemoptysis is not pathognomonic, although highly suspicious of pulmonary tuberculosis. When due to a deposit of tubercles in the lungs, physical signs may usually be detected, or there will be some of the suggestive symptoms already considered. If not, then the gums, nares, pharynx, larynx, trachea and heart should be carefully examined for a possible source of the hemorrhage. In conjunction with a slight rise of temperature, loss of weight and cough, hemoptysis is very significant of tuberculosis.

Having thus briefly considered the symptoms attending incipient pulmonary phthisis, let us now take up the physical signs.

Inspection.—It is not necessary to describe the contour of the thorax with its narrow apices, weak musculature, deficient expansion, etc., which so often characterizes the tuberculous diathesis, and therefore I shall pass at once to such evidence of early tuberculosis as may be gained by inspection. One of the earliest ocular signs is lessened expansion of one apex, observed oftentimes in the supraclavicular region. This area may be slightly depressed or retracted, as compared with the other side. In rather more advanced cases, or those in which the tubercular deposits are not so limited, these same changes may be noted in the infraclavicular region as well. Another sign, which by Carcassonne and others is said to be a very early and significant one, is atrophy more or less marked of the scapulothoracic muscles on the affected side. That drooping of the shoulders, which forms a part of the phthisical habitus, may be seen at an early stage, but is generally present when the disease is more advanced.

Palpation does not furnish very reliable or positive information, except as corroborative of that obtained by other means. It is so largely influenced by individual peculiarities. Nevertheless, when in a suspected case there is a marked difference in the pectoral fremitus of the two apices, that apex at which it is distinctly increased is apt to be the seat of tubercular deposits. This is particularly likely to be the case in the suprascapular region, for a reason which is about to be stated.

Percussion is the means generally relied on for the detection of incipient pulmonary tuberculosis, yet it is not always so trustworthy as is auscultation. Dulness at either apex is usually regarded as indicative of the disease in question, and justly so. Still, one should always bear in mind that it is normal for some individuals to show slightly less resonance at the right apex. Therefore, in estimating the importance of trifling dulness at the right summit of the chest one must also consider the presence or absence of the symptoms of constitutional disturbance already spoken of. It is common for physicians to look for impaired resonance below the clavicle, whereas in my experience it is far more frequently found above and in the suprascapular region. This is owing to the fact that, as pointed out by Fowler, deposits of tubercles take place earlier and more frequently at the tip of the lung, along its borders and on the posterior aspect of the apex. Consequently a small

* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

patch of deficient resonance may often be detected behind in the suprascapular fossa, when in front there is no appreciable dullness. It is also in accord with my experience to find diminished resonance early along the vertebral border of the scapula, to uncover which it may be necessary to have the patient fold his arms across the chest in such a manner as to draw the shoulder-blades apart. For the sake of emphasis let me repeat that whenever these changes, however slight, exist at the left apex, it is strongly indicative of tuberculous disease. Finally, an initial alveolitis may sometimes occasion slight hyperresonance of a tympanitic quality. At a later period dullness replaces this tympanitic resonance.

Auscultation is a valuable method for the early recognition of pulmonary tuberculosis, yet to be of full service requires great familiarity with normal breath-sounds and slight transitions therefrom. As with regard to percussion, so also with auscultation; one must remember that it is normal to some individuals for the respiratory murmur at the right apex to be less vesicular, that is, bronchovesicular, as compared with the left. Therefore slight modifications on the right side do not have the same significance as when they are found at the left. Slight dullness and bronchovesicular breathing at the right summit of the chest, whether in front or behind, do not of themselves, without some of the more significant symptoms, constitute sufficient evidence on which to base a diagnosis of tuberculosis. Their value would be greatly enhanced if in a circumscribed area the inspiration should be wavy or jerky. Occurring on the left side, where vesicular breath-sounds are the rule, a bronchovesicular quality of the respiration is highly suspicious. When there is distinct bronchial breathing at either apex, it is not normal, but indicates disease, and being associated with unmistakable dullness, usually warrants a diagnosis of tubercles. Râles are not always present in incipient cases, and often when not heard on quiet respiration will be elicited by a deep inspiration or the act of coughing. Under these conditions they are fine crepitant or subcrepitant crackles heard toward or at the end of inspiration. They convey an impression of being moist, and not infrequently are mingled with fine bubbling râles of a somewhat larger size. These adventitious sounds may be very limited in extent or may occupy the entire dull area. Heard in either of the suprascapular fossæ they furnish extremely strong evidence of the disease under consideration. In front, especially along the inner margin of the lung, friction may be mistaken for these râles, yet should any such minute crackling râles be detected, it is generally safe to assume that tuberculosis is responsible for their presence. Incipient tuberculosis is as a rule unilateral, and bronchitis of non-tuberculous nature is bilateral. Moreover, the râles it produces in front are either heard over the course of the larger bronchi and are of large size, and toward the base rather than at the summit. The conjunction of dullness, bronchovesicular or bronchial breathing with these minute râles at one or both of the apices posteriorly will generally justify the conclusion that the lung is tuberculous. When these signs are distinct, doubt of their significance can scarcely be entertained. Moreover, in such pronounced cases there are usually well-marked constitutional symptoms. There is usually sputum, and this will very probably contain bacilli. The difficulty is in incipient cases which furnish no physical signs or such as are so ill defined that even a skilled examiner is not quite certain of their existence. If the temperature, weight, pulse-rate, state of

the patient's strength, examination of the sputum, etc., can not help one out, then he would do well to postpone a definite diagnosis until by repeated examinations he can at length arrive at a positive conclusion. Not infrequently an experienced observer may become mentally convinced from the family and personal history, as for instance of previous pleurisy, from the general make-up and appearance of the individual, from the symptoms and from the *tout ensemble* of physical signs, that the patient has tuberculosis, and yet he does not feel warranted in giving expression to his conviction. If it does not seem best to wait for time to clear up the doubt, then recourse may be had to tuberculin, of which I will speak more fully a little later on.

Mensuration of the chest, which should include not only its expansion, but also its relative size as proportioned to height, the determination of the vital capacity by means of the spirometer, the individual's weight as related to his height, these and other accessory circumstances have their diagnostic value, but can not be more than referred to in the limits of this paper.

As regards the employment of the old tuberculin for diagnostic purposes, there is wide diversity of opinion, so wide indeed that statements are flatly contradicted. The opponents declare that it is not only unsafe, but also that it is unreliable, producing a reaction in syphilis and sometimes failing in cases of tuberculosis. The advocates of its use state the opposite just as positively. By those who have employed it extensively it is, however, stated that injurious effects follow too large doses or too frequent repetition of the injections. Therefore, the precautions to be observed are as follows: 1. Use Koch's old tuberculin, not tuberculin R. 2. Let the initial dose be .5 to 1 milligram of the tuberculin; larger doses than this to begin with are sometimes employed, but it is better to err on the side of caution. 3. If the first injection is not followed by the characteristic reaction, double the dose may be injected after an interval of three days. Some advise a shorter interval than this, but as there can be no other objection to waiting so long than the loss of time, it is again better to be over-cautious. 4. Should this dose again not be followed by reaction, double the second dose may be given after another three days. It will seldom happen that a tuberculous individual will not react after receiving as much as 5 milligrams, which may be regarded as a safe third dose. Occasionally, a large-sized and insensitive person will require even as much as 10 milligrams, but this amount should be reached gradually. The characteristic reaction consists of a rise of temperature of 2 degrees F. above the patient's average daily temperature as determined by repeated observations during several days prior to the first injection. There is often also a feeling of malaise and some increase of cough. This reaction generally takes place within twenty-four hours following the injection, but may be delayed to quite twenty-four hours. Carried out with the ordinary precautions stated, I consider this means of diagnosis safe, and have no hesitation in recommending it in cases in which careful physical examination does not enable one to arrive at a conclusion. I should not, however, advise recourse to this diagnostic procedure without having first exhausted other means at hand.

Of late we have been hearing much of the service rendered by the X-ray in the field of diagnosis. Tuberculous infiltration of an apex is revealed by a slight shadow in the affected area. It also affords a means of detecting enlargement of the bronchial glands. This was recently very well shown in the case of a man who

was sent to me for diagnosis. The skiagraph also showed slight opacity of the right apex, and thus confirmed what I had discovered by physical examination, yet which was so faint as to leave room for doubt.

It has also been recommended that small doses of potassium iodid, 3 grains three times a day, be employed to clear up doubtful cases. If there is slight alveolar catarrh of one apex producing uncertain physical signs, this potash salt will occasion the development of fine râles in the affected area or so modify the quality of the breath-sounds as to aid in the diagnosis.

Agglutination of the blood, after the Widal method, is too recent and not sufficiently proved to require more than a passing mention. There now remain only a few remarks concerning the diagnosis of advanced pulmonary tuberculosis. When the disease has progressed to this stage, there is generally mixed infection and it assumes the picture of ordinary consumption. As a rule there is no difficulty in arriving at a correct diagnosis in these cases. The symptom-complex alone is sufficient, and yet I would be the last to advise a reliance on symptomatology without examination of the chest. Occasionally, in aged people or persons with extensive chronic bronchial catarrh, it is not always easy to decide whether tuberculosis may not exist in such cases. A correct interpretation is facilitated by bearing in mind the fact that tuberculosis is a unilateral disease as a rule, and that the apex is always more involved than is the base of the lung. Of course, when the disease has progressed to an advanced stage, both lungs are likely to yield signs of the disease; but one can generally determine that the disease is more extensive or more advanced in one than in the other lung, one having been affected primarily, the other secondarily. Although râles of associated bronchitis may exist throughout, they are likely to be more numerous at the bases and of a different character from those of tuberculous apex diseases. These latter are of a crackling kind, small or medium sized, and are found together with dulness on percussion. If the breath-sounds are not so obscured by râles as to be of undeterminable quality, they are bronchovesicular, bronchial or cavernous. Dulness at the base and resonance at the top do not occur in pulmonary tuberculosis, unless very exceptionally a basic affection becomes secondarily tuberculous. When anfractuons cavities have riddled an upper lobe, or tuberculous foci are scattered with comparative healthy intervening tissue, and not a normal opposite lung with which to make comparison, it may not always be easy to determine the exact nature of the percussion note. One must then rely on auscultation to help him out, or he must await the result of treatment, in the hope that by clearing up the bronchitis at the base he may then definitely ascertain the condition of the apex. The detection of bacilli in the sputum will settle the nature of the case; but these are not always present in chronic ulcerated phthisis, and the failure to detect bacilli is no proof that the affection is not tuberculosis.

It may be set down as a general proposition that dulness and bronchovesicular or bronchial breathing and râles at the apex indicate pulmonary tuberculosis. Signs of excavation corroborate the diagnosis.

Limited space forbids further consideration of this subject. I have endeavored as far as possible to present the subject in a general way applicable to the vast majority of cases and not to detail the multifiform deviations that may be encountered. Neither have I attempted to discuss the diagnosis of acute cases of the pneumonic type, but merely the form of the affection

most often met. Acute tuberculous bronchopneumonia, being an apex disease, is governed, so far as concerns its physical signs, by the same principles that underlie the diagnosis of the chronic varieties. The main difference consists in the greater severity of symptoms and more rapid development of the changes on which the physical phenomena depend.

103 State Street.

NOTIFICATION OF TUBERCULOSIS.*

ARTHUR R. REYNOLDS, M. D.

Commissioner of Health,
CHICAGO.

Notification of the existence of tuberculosis is not demanded by the Department of Health of Chicago.

Notification of a contagious disease to a health authority implies some action on the part of that authority; and no action commensurate with the existence of a disease which, it is estimated, affects one in every sixty of the world's population, is physically possible with the limited resources of our department.

This, however, is not the most important objection to the notification scheme. If a consumptive person is properly instructed how to destroy the contagion in his sputum there is no reason why restriction should be placed on his movements, and in many cases he may be a useful and productive member of society for years. Any public action that would tend to brand him as an outcast or one to be shunned would be a great wrong, if the sufferer took proper care of his expectorations.

Then, again, if we would prosecute those who fail to report tuberculosis, experience proves that it would lead to concealment of cases, and as the disease is generally chronic, the patient may change his residence many times before he dies.

I have never been able to convince myself that tuberculosis should be a notifiable disease. The diagnosis of pulmonary consumption is frequently surrounded with great difficulty, and if we endeavor to enforce notification we would have to be able, promptly and indisputably, to prove the existence of the disease. How great and how absolutely insurmountable this difficulty is, is demonstrated by post-mortem statistics, which show that out of every hundred persons "posted" for other causes of death twenty-two present evidence of healed tuberculosis.

The only object to be gained by notification would be to enable health officials to warn the sufferer of the danger in his sputum and to placard the house to warn off approaching visitors. It is my belief, based on practical experience with other contagious diseases, that these results may be better obtained through the voluntary cooperation of the profession than by attempts to compel the attending physician to report consumptive cases. In the June, 1899, Bulletin of the Department is an article which shows conclusively the advantages of the former over the latter system in such diseases as diphtheria and scarlet fever. The following is the article referred to:

VOLUNTARY VS. COMPULSORY NOTIFICATION OF CONTAGIOUS DISEASES IN CHICAGO.

On resuming charge of the department in the spring of 1897 the commissioner found the plan—instituted by him in 1895—of allowing physicians to "assume the responsibility" of enforcing precautionary measures against the spread of contagion

* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

in cases of diphtheria and scarlet fever attended by them, had resulted in a material increase in the number of notifications received and of disinfections performed. Its operation had also very largely removed the friction between the department and the medical profession engendered by previous efforts to compel reports of contagious diseases by prosecutions, fines, etc.

To what extent the reports under the old system were defective may be inferred from the following figures of cases reported, premises placarded, etc., during the year preceding the innovation: The total notifications of diphtheria cases in 1894 were 1921; and it may be noted that the total diphtheria deaths

total area disinfected; and the number of contagious-disease funerals supervised—during the respective periods:

The accompanying table shows an actual increase in the two years of 147 per cent. in the number of cases of the contagious diseases reported; of 73 per cent. in the number of cases of the contagious-disease premises placarded; of 400 per cent. in the number and of 600 per cent. in the area, of such premises disinfected; and of 70 per cent. in the number of contagious-disease funerals supervised by the department.

These results of the "assume-the-responsibility" plan—by which it was sought, primarily, to secure the voluntary, in lieu of the law-compelled, co-operation of the medical profession

Diseases.	1897.						Totals six months 1897	1899.						Totals six months 1899.
	Jan.	Feb.	Mar.	Apr.	May.	June.		Jan.	Feb.	Mar.	Apr.	May.	June.	
Number of cases reported	Diphtheria	273	219	215	180	198	219	381	307	284	240	266	248	} 4380
	Scarlet-fever	87	59	93	63	92	49	306	377	522	507	512	370	
	All other*			6	4	1	2	9	5	11	10	12	13	
Number of premises placarded	Diphtheria	189	166	133	142	174	141	225	174	157	129	180	119	} 3304
	Scarlet fever	60	45	58	44	70	39	102	210	240	264	255	199	
	All other*	94	60	44	46	45	48	185	172	148	121	103	125	
Number of premises disinfected	Scarlet-fever	6	15	12	13	9	11	82	140	155	273	248	234	} 2096
	All other*			6	4	1	2	9	5	11	10	12	15	
	Diphtheria	42	27	34	32	26	31	30	38	38	33	42	45	
Contagious-disease funerals supervised	All other*	6	2		8		2	10	14	36	29	39	26	} 380
	Diphtheria													

Total area disinfected in the 1897 period, 1,075,581 cubic feet. In the 1899 period, 7,969,644 cubic feet, or more than six times the area disinfected in the six months of 1897.

* "All other" includes cases of tuberculosis, measles, typhoid-fever, smallpox and glanders.

recorded were 1293. These figures would give the incredible mortality rate of 67.3 per cent. for diphtheria. In 1897 the total diphtheria notifications were 3103 and the recorded diphtheria deaths were 726.

In the latter year, 1897, therefore, while there was a reduction of 44 per cent. in the number of recorded deaths there was an increase of 62 per cent. in the number of notified cases—an improvement of 106 per cent. in the notification of diphtheria cases in proportion to reported deaths as compared with the year 1894, before the adoption of the new plan.

with the department—are the justification of the experiment and the sufficient warrant for its continuance and development.

The ordinance requirement of uncompensated professional service by physicians, in the report of their contagious-disease cases, had not only been a demonstrated failure, but the tactless efforts to enforce the provision had alienated a most valuable ally of any health department. Now, more than ever before in its history, this department is in touch with the physicians of the city; more fully than ever it receives the information from them necessary to success in its efforts to restrict the

DISEASES TO BE REPORTED: Diphtheria, Measles, Membranous Croup, Eruptive Fever, Scarlet Fever, Smallpox, Typhoid Fever, Whooping Cough, Opilonal—Tuberculosis.

NOTE.—Where the Attending Physician will undertake to enforce necessary measures against the spread of contagion in a case of any of the above-named diseases, the intention should be indicated by writing in the word **assume** in entry No. 8. If this be done the DEPARTMENT will not placard and quarantine as may be necessary for the protection of the neighborhood. Absence of any indication will be construed as declining the responsibility and the DEPARTMENT will take action accordingly.

If the Physician does not see fit to assume this responsibility, the word **decline** should be written in the blank space, when the DEPARTMENT will placard and quarantine as may be necessary for the protection of the neighborhood. Absence of any indication will be construed as declining the responsibility and the DEPARTMENT will take action accordingly.

Where the responsibility is assumed, the Physician must cause neighboring families to be fully warned against the disease and must protect members of the infected family from exposing others to the risk of infection.

1 Chicago 1 Case of

2 No. Ward

3 Case connected with Milk Shop or Depot, Laundry, Shop, other business place. If not so connected write in blank space the word **not**.

4 Name of Patient

5 Age years months. Color Sex
 (If the Patient had lived outside Chicago within last 30 days, state below where and date of return.)

6 Returned from on the Date of return
 Name of place and State

7 In Eruptive Fever where a Wife or child had been in attendance, give her name and address on above line

8 See NOTE above.—I the responsibility of preventing spread of contagion from this case. M. D.

Address

Comparing the first six months of the present year—1899—with the corresponding period of 1897 the increase in notifications is much more marked. In 1897, between January 1 and June 30 inclusive, there were 1747 cases of the notifiable contagious diseases reported. Between January 1 and June 30 inclusive of the present year there were 4320 cases of such diseases reported—an increase of 147 per cent. in notifications.

The following table, compiled from the monthly bulletins, shows the number of contagious-disease cases reported; the number of premises placarded on such reports; the number of contagious-disease premises disinfected by the department; the

spread of the communicable diseases and to protect and promote the public health.

It is not meant by this to imply that perfection has been attained. There are still too many physicians who "assume the responsibility" on the notification report and neglect to discharge the responsibility in practice. Too many visitors are allowed by them in infected rooms and premises; too many children, still in the communicable stage of disease—especially of scarlet fever—are permitted to mingle with others and even to attend school; not enough warning to the neighborhood is given in all cases; disinfection by the family, under their

direction, is not always thorough and efficient: and there are many other laches and sanitary sins, both of omission and of commission, on the part of the weaker brethren of the profession.

But these are in a minority steadily becoming smaller. Constant pressure by the department through repeated warning and counsel—the holding up of burial permits—the reference of certificates to the coroner for investigation in aggravated cases—and other corrective, mainly educational, measures are remedying these defects, and the fact remains that an immense improvement has already been effected by this plan in the control of the communicable diseases in Chicago.

On the contagious-disease notification card of the Department provision is made for the report of tuberculosis, but it is "optional," and premises are never placarded or quarantined on such report. Cases of destitute consumptives, whose conditions are a menace to the neighborhood, are taken charge of, admission to such provision as exists—usually to Dunning—is secured, and the premises are disinfected by the Department. The foregoing is a reproduction of the notification card:

After being vacated, either by death or removal, premises that have been occupied by a consumptive are also disinfected by the Department on request of the attending physician; but such requests are not numerous, although increasing from year to year.

In this connection I would urge, as to Chicago, at least, that the attending physician should direct disinfection himself after tuberculosis—as well as after other contagious diseases—in families able to defray the expense, and should exact his fee for this service. This would largely relieve our overworked disinfecting corps and enable it to devote greater efforts to the destitute—those unable to pay—who, as a rule, require more thorough work than the well-to-do.

I do not understand why so many physicians delegate this part of their professional opportunities to public officials. In the nature of things, the attending physician is more valuable than any public official can be. From his frequent visits he is better informed as to the requirements and conditions of his case; he is relied on by the family as to advice and precautions necessary to prevent spread of the contagion to others; and he is either openly or covertly considered responsible for any spread, should it occur. These services are not taken into account in any fee bill; but if their value should come to be generally understood by the public their adequate compensation would naturally follow.

He is the most potent instructor of the public on the danger of infection generally, and of tuberculosis in particular, and I believe strongly that the public needs only to know what is necessary and wise to do to prevent tuberculosis, and all will be done that is useful. The best agency to this end is a wise, vigilant and energetic medical profession, properly taught in the medical colleges, and supported and reinforced by the medical press and the lay press as well.

Notification means policing, quarantines and force through public officials. Education means a reduction of the disease by intelligence and natural methods, and it teaches that the responsibility ultimately rests on the individual, who will be as zealous for the enforcement of preventive measures, when he knows and understands, as will be any public employee.

THE CORRESPONDENT of the *Gazzetta degli Ospedali* states that the average number of persons present at the section meetings of the International Medical Congress was not over seventeen.

NECESSITY OF EXAMINATION OF THE SPUTUM IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

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DUNNING, ILL.

It has been wisely said that failure to make use of the well-recognized means of clinical investigation leads to more errors in diagnosis than does ignorance. The laity sometimes neglect to take advantage of the wonderful discovery of Jenner, and we wonder at their apathy. What shall we say of the physician who, in so serious a matter as the diagnosis of phthisis, neglects to make use of the simple and beautiful staining methods of Koch? The typical consumptive is a deplorably familiar spectacle. The layman thinks that he can recognize the disease at sight, but let no physician make this mistake.

Of the 1400 patients supposed to be in the advanced stages of pulmonary tuberculosis and sent to the Cook County Hospital for Consumptives from the various hospitals and physicians of Cook county, 120, or 8.5 per cent., have proved, after thorough investigation and prolonged observation, to be non-tuberculous. Some of the mistakes were practically unavoidable and were corrected only on the autopsy table; but in the vast majority of them a negative sputum examination, had it been made, would have led to a more careful physical examination and so revealed the true condition present. Except from a scientific standpoint many of the errors were of small consequence, the patients suffering from conditions even less curable than phthisis. In other cases the faulty diagnosis had deprived the patients of treatment which would have given much relief, if not positive cure.

The difficulty of recognizing incipient phthisis is admitted by all, but are we not too apt to pass lightly over a case presenting marked emaciation, cachexia, cough, hemoptysis, night sweats, with diffuse lung findings, and risk the error of a snap-shot diagnosis? To make a diagnosis of phthisis on the sputum examination alone indicates indolence; to depend on the physical examination without investigating the sputum microscopically shows overconfidence in one's diagnostic ability.

Note the following case:

J. A., Swede, dock laborer, aged 25 years, was admitted May, 1900, having been refused at one of the hospitals in this city because consumptive. Mother died of phthisis. Has been coughing three years, lost 28 pounds in weight; has had pain in chest, occasional night sweats and frequent small hemorrhages; profuse mucopurulent expectoration, loss of appetite, and some diarrhea. Temperature, 98 to 100 F.

Examination showed chest to be symmetrical; no retraction and no bulging; dullness with faint bronchial breathing and coarse râles over entire right lung. Left lung negative except a few scattered râles.

Without examination of the sputum this case might readily have passed for a well-marked tuberculosis of the right lung. However, repeated examinations of the abundant sputum showed the absence of tubercle bacilli, and lead to a more minute examination of the chest. Then it was noted that the dullness of the right lung, while marked throughout, was nearly absolute toward the base, and at times the expiratory sound over the sixth and seventh ribs in the posterior axillary line had an amphoric quality. An exploring needle inserted at

* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

this point yielded pus, and rib resection and pneumonotomy, the next day, showed a lung abscess about the size of a small orange situated in the right lower lobe 3 c.m. beneath the pleural surface. The surrounding lung was carnified, and the abscess was draining very imperfectly through a bronchial opening in the upper wall. The incision was enlarged and a drainage tube inserted. The fever, cough and expectoration disappeared very rapidly, but the patient died at the end of a month from general amyloid disease—the result of having been neglected for three years on a mistaken diagnosis of phthisis.

As is well known, there is a certain small number of cases of fibroid phthisis so chronic in their nature as to yield no bacilli even after the most thorough and repeated examination of the sputum. These are readily recognized to be tuberculous by their prompt reaction to tuberculin. The presence of tubercle bacilli in the uncontaminated sputum is recognized as absolute proof of the tuberculous nature of the disease present; the absence of the bacilli does not prove the contrary. In my opinion, the converse is true of the tuberculin test. Reaction following the injection does not *absolutely* prove the presence of tuberculous; but should reaction fail to follow the injection of so large a dose as 10 m. of a 2 per cent. solution, in my experience tuberculosis is excluded. The frequent occurrence of the so-called "false reaction," especially in syphilitics, has been to me confusing.

A list of the 120 cases mistaken for pulmonary tuberculosis is both interesting and profitable. The diagnosis of aneurysm and endocardial lesions was either made or confirmed by Prof. R. H. Babcock; of progressive pernicious anemia, by Prof. W. A. Evans, and the diagnosis of malignant disease was confirmed post-mortem.

The cases consisted of the following: Chronic bronchitis, usually with some complication increasing the anemia and prostration, e. g., exposure, senility, syphilis, gastritis, etc., 45; emphysema, with varying degrees of bronchitis, 12; bronchiectasis, 6; endocarditis—mitral 10, aortic 5, tricuspid 1, total 16; lung abscess, 2; empyema, 6; acute pneumonia (resolving), 6; aortic aneurysm, 3; goiter, 2; syphilis (?)—bronchitis 4, pleura 2, larynx 1, gumma of lung 1, total 8; passive congestion and edema of lungs—from cerebral hemorrhage 1, nephritis 2, cirrhosis of liver 2, total 5; malaria, 2; vicarious menstruation following oophorectomy, 2; secondary sarcoma of lung, 1; sarcoma of mediastinal glands, 1; progressive pernicious anemia, 1 subphrenic abscess following gunshot wound, 1; typhoid convalescence, 1.

THE RIGHT OF THE STATE TO PROVIDE HOSPITALS.*

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The paramount object of governments is the protection of their citizens in life, limb, property, and the pursuit of happiness; for this alone the individual pays tribute and renders fealty, and since a diseased person can not have the perfect enjoyment of either, it is manifest that not only does the state possess the inherent right to secure and preserve the health of its

inhabitants, but that such is, perhaps, the highest duty it owes them.

The power of the commonwealth to promulgate and enforce sanitary regulations for the prevention and spread of disease, and to establish and maintain hospitals and eleemosynary institutions for the treatment and care of its afflicted citizens, both directly and through the medium of its subsidiary governmental agencies, has been uniformly recognized by law-makers and unequivocally sustained by the judiciary. To show that this is considered one of the most important and vital functions of government, it is only necessary to point to the arbitrary power which the people, in their assembled wisdom, have seen fit to vest in public boards of health, who may prevent the going out or the coming in of the individual, confine him in a hospital and subject him by force to medical treatment; regulate, and even forbid, both the importation and exportation of merchandise; and in the most summary manner may condemn and destroy private property. In the exigent discharge of duty they deprive the citizen of his property and restrain his liberty, without invoking the aid of a court of law or granting a trial by jury—a right which no other power has in times of peace. Their authority seems to cease only at the taking of life.

The duty of the state extends to the adoption of all the means known to science for the prevention, cure, and eradication of dangerous diseases, while its power to do so is limited only by the legislative discretion and the ultimate resources of the community. It is not circumscribed by the treatment of diseases designated as contagious or infectious; in this respect the people have vested in the law-making power a discretion whose only limitations are that the provisions must be made for the public good and for public purposes, and so long as the legislature stays within these bounds their discretion is not subject to review by the judicial department. Some of the American states has gone so far as to undertake the care of inebriates, and have established, wholly or partly at public expense, asylums for their treatment.

It is, therefore, safe to assert that the law-making department of the government may say what disease it is for the public good to check by treatment at the expense of the state. It is undoubtedly not limited to the stage of disease; incipient sufferers may be cared for as well as those physically helpless. There is one limitation dependent on the character of the disease; it is this: that while the state may *forcibly* restrain and commit to a hospital a person afflicted by a contagious or infectious disease, the rights guaranteed the individual by our constitution would be infringed by an *involuntary* commitment when the malady is non-infectious.

It must be borne in mind that hospitals established by the state must be under its supervision, and *should* be open to all its citizens on the same terms; although they *may* be maintained for the indigent only. Taxes can not be legally levied for the purpose of donation to benevolent and charitable societies under the supervision of private individuals, and over which public authorities have no control; but it has been held that a municipality—and of course a state—may pay a part of the expense of a charitable institution, to which it has the right to send its citizens.

I have been asked whether it would be legal for a state to appropriate money for a sanatorium located beyond its territorial limits. A judicial determination of this exact question could not be found in the short time

* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

which I have had to devote to this subject. However, it is not easy to conceive a legal obstacle to such an action, provided control of the institution is vested in the officers of the commonwealth, or the right to commit its citizens is preserved. Instances are common of appropriations being made for the display of a state's resources at exhibitions held beyond its limits. If it be legal to spend the people's money to erect a temporary building in a distant community for the purpose of exploiting material wealth, it must certainly be so to build a sanatorium in some more salubrious climate in order that a state may afford its citizens the benefit of necessary hygienic surroundings which it can not give them within its own territory.

A commonwealth may permit the erection within its boundaries of hospitals or sanatoria for patients coming from other states and suffering from such a disease as tuberculosis. It might afterward conclude that such a hospital was dangerous to the community, had become a nuisance, and should be removed, in which event its action in allowing the location would not estop nor militate against it; for the law is, that whatever is in its inception, or afterward becomes, a public nuisance, endangering the public health, may be abated, and the fact that originally it was permitted or licensed by law does not abridge this remedy.

It is apparent that our organic law affords encouragement to the medical fraternity in the performance of the duty they owe to the public of laying before our law-making power the needs of a community measured by a constantly advancing science, and that whether we are to have public institutions devoted to the stamping out of *all* dangerous diseases, depends in great measure on the insistence with which these needs are presented. You should in nowise lose heart because of partial failures in the past, for some of our legislatures may be credited with having done well in this respect on the same principle that Honora Gallagher did well in choosing a husband: for she might have done worse, and, it was said, that if she might have done worse, she did well for a Gallagher.

Marquette Building.

THE TREATMENT OF PULMONARY TUBERCULOSIS.

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The most common point of infection in tuberculosis is the mucous membrane of the bronchi and of air passages. It is there that it must be attacked. It does not affect the blood, hence its medication could not interfere with the operations of the germ unless such medication were carried far beyond the ability of the patient to sustain. Stomachic medication is open to the same objection.

The chief reliance of the profession has been cod-liver oil and creosote. The former is a comparatively easily assimilated tissue builder, but is not a remedial agent in any sense of the word. It may temporarily upbuild a patient, but it does not cure because it does not eliminate the bacillus. Having for several years condemned the use of creosote in tuberculous cases, I am glad to note its abandonment by the more observing of the profession, but sorry to see them substituting oil of cloves, an agent equally as irritating and as injurious to digestion.

The effect of creosote on the pancreatic gland, following its use in large doses, is usually the most baleful of

its consequences. Unquestionably the pancreatic and the gastric secretions are markedly stimulated in the beginning, and just as the stomach does better work in its peculiar function of digestion, so do the intestines more perfectly perform their duty in the assimilation of the food products reaching them, but the improvement in nutrition by the use of creosote is illusory. Not much time elapses before the pancreatic gland conspicuously ceases to perform its function, and intestinal indigestion, with its train of distressing evils, supervenes. Improvement in this latter respect, however, is the main factor on which the administration of creosote depends for benefit in the treatment of tuberculosis, it being claimed that improvement in nutrition is gained by its exhibition and waste so repaired. Churchill, in his remarks on nutrition and favoring the use of hypophosphites, has recorded his objection to the use of those stimulants, in the exciting sense, to the gastric and pancreatic glands—among which is creosote—and observes that while the immediate results were apparently beneficial, the exaltation in their capacity to secrete and excrete their juices was very temporary and surely followed by an exhaustion from which all means failed to rally.

After years of experience in the treatment of this disease and observing carefully hundreds of persons subjected to the creosote treatment, not a case is recalled which was permanently benefited by its use.

Serum therapy deserves better success than it has attained, and earnest investigators have been striving for years to secure a specific for tuberculosis along this line, but up to the present their efforts have been futile. The hope of the medical profession that ultimate success would crown such well-directed labor has caused them to neglect the more practical channel of the application of specific germicides to the seat of the disease.

Residence in certain climates and travel at home and abroad have long been advised by physicians as beneficial. Elaborate and persistent advertising have made many sections popular as health resorts. They depend entirely upon altitude, proximity of pine forests, the absence of fog, dryness of atmosphere or mineral springs as curative agents. Incipient cases are sometimes benefited in this manner, but it rarely happens that this class of persons consider their condition sufficiently serious to justify attention, while those in the more advanced stages are often permanently injured and their death hastened thereby. At the best, relief is only temporary, unless residence in a suitable climate is permanent, and this generally amounts to banishment from home, friends, associations and business, decidedly otherwise than pleasant to contemplate. The most salubrious atmosphere is not germicidal nor antiseptic, and while the proliferation of the germs may be retarded, they are not eradicated, hence a cure does not result.

The most serious objection, however, to regions supposed to possess advantages of a climatic nature is that they have been visited by so many phthisical persons that they must be hotbeds of infection, if there is any truth in the contagiousness of tuberculosis. The author, in the course of his investigations of this subject, has visited every section of the United States reputed to be desirable as a residence for this class of patients. As a result he has had his opinions as to the meager value of climate confirmed and has been shocked by the prevalence of the disease among natives.

The writer believes in the germ theory and in its etiologic relation to tuberculosis. It is known that there

are germicidal agents capable of destroying the germ or rendering it inert. Physicians believe in aseptic conditions, to obtain which they employ antiseptic agents. Knowledge of the value of antiseptics has become so general that should a physician or surgeon treat either disease or injury without due regard to sepsis or neglect to render the surroundings of his patient aseptic he would be held to be guilty of criminal ignorance or indolence.

That this principle should be applied to the treatment of tuberculosis is not only rational, but, founded on a substantial rather than a hypothetical basis, is in strict harmony with therapeutic law.

By the aid of a suitable culture-medium tubercle bacilli germs can be propagated in sufficient quantity for chemical as well as microscopical study. The germ having been isolated, and its specific pathogenic character demonstrated, the function of the microscopist ceases. It remains for the chemist to determine whether among chemical agents there can be found any capable of destroying it.

Prof. Vaughan, by a series of experiments on guinea-pigs and rabbits, found that animals whose secretions were rendered alkaline previous to inoculation were more susceptible to infection than those in the normal or acid condition. Scientists engaged in the propagation of this particular germ agree that the culture media must be rendered mildly alkaline to secure propagation of the bacillus. From these data I conclude that acid media are inimical to the growth of the bacillus tuberculosis and indicate from what class of agents a bacillicide may be secured.

If bacilli be immersed in a solution of unstable carbon compounds of the aromatic series (type C_6H_6) they will be destroyed in 30 seconds. Bacilli-laden sputum immersed in a 1 to 500 solution is rendered inert in 38 hours. Thus we see that different degrees of strength of the bacillicide solution act with different degrees of intensity.

Given the pathogenic germ, the bacillus tuberculosis, and the chemical composition that will destroy it external to the human body, can we make use of these accepted facts and from them devise ways and means by which the bacillicide can be applied to the area of infection in such potency as to prevent the further proliferation of the germ and render inert those already active? This is a practical question, and can only be answered by a practical test. No theory, however plausible, need be accepted.

The organs of respiration will admit but one element safely. That element is air. The epiglottis instinctively closes upon any attempt to introduce a medicament in the form of a powder or liquid. While it is possible to introduce agents by means of a tube, such agents would only reach the larger bronchi. Access to the smaller bronchi and air vesicles by this method is a physical impossibility. It is possible, on the other hand, to impregnate atmospheric air with germicidal and antiseptic agents, and thereby secure their introduction into the remote recesses of the organs of respiration without effort or inconvenience on the part of the patient.

To efficiently accomplish this, different mechanical appliances will be found necessary. The first in importance is a power air pump of large capacity, by which atmospheric air is forced through a series of cylinders containing the germicidal and antiseptic agents. This process thoroughly impregnates the atmospheric air with the properties of the agents through which it passes. From the impregnating cylinders it must be conveyed

through an additional series of cylinders for the purpose of precipitating moisture and thence to the apartment of the patient in quantity sufficient to meet the requirements of the case. Secondly, the apartment occupied by the patient must be supplied with a vaporizer sufficient in capacity to thoroughly saturate the air of the apartment day and night with an aromatic germicidal and antiseptic vapor. The latter appliance is supplemental to the first. Third, a small treatment-room must be provided, in which a very dense vapor can be produced from the agents employed, thus subjecting the patient to a more concentrated action than is practicable in the living and sleeping rooms. This is requisite in acute cases, or where some special complication indicates a greater therapeutic latitude than is available in apartments supplied under the two previous methods.

Bacillicide solutions or vapors sufficiently concentrated to destroy the bacillus immediately upon contact would, at the same time, be incompatible with animal life. I have shown, however, that a greatly attenuated solution is equally destructive of germ life, simply requiring a longer time in which to accomplish its purpose.

To destroy pathogenic germs in an infected house, sulphur is burned or, more recently, it has been ascertained that a pound of formalin vaporized in a room containing 1000 cubic feet will exterminate every disease germ in from one to two hours. This vapor does more than destroy the germs in exposed places—it will thoroughly disinfect a library, effecting the destruction of the germs even though sheltered between the leaves of tightly-closed volumes. Thus we learn that antiseptic vapors and solutions are equally inimical to germ life.

Physiologists tell us that the area of respiratory surface in both lungs amounts to about 1400 square feet, that is to say, a few pounds of tissue is delicately subdivided into a fine membrane richly endowed with blood-vessels, all of which is divinely arranged in the small space of the chest cavity. Remembering this anatomic plan, we have, for purposes of treatment, the lung tissue divided into a microscopic membrane.

By keeping the patient constantly breathing a germicidal and antiseptic air, this microscopic membrane is practically suspended in it and the residual air becomes, and is kept, a germicidal and antiseptic air. This being the case, the entire respiratory surface is rendered aseptic and, therefore, proof against further infection by the bacillus from without as well as from within by caseous or other degeneration of the tubercle.

But rendering the respiratory tract aseptic is only prophylactic. While it prevents further infection and proliferation along this most dangerous channel something more is needed to reach the bacillus entrenched in the tissues. This can only be accomplished by systemic saturation.

When we consider that 1400 square feet of membrane is in continuous contact with the germicidal and antiseptic vapor and that this membrane is not stationary, but with every contraction of the chest walls in the respiratory process the vapor is brought into forced contact with the membrane, we can appreciate, from the law of osmosis and of the diffusion of gases, that a certain, definite quantity is absorbed and the blood more certainly and safely impregnated than would be possible by any other means of administration. Once in the circulation, every cell, not only of the lungs but of every other tissue, except the tubercle tissue, is brought under its influence.

By continuous process of treatment, healthy tissue is kept immunized and further proliferation of the bacilli

is impossible. Exception is noted of lack of access to the tubercle tissue where, by reason of its being devoid of vascular supply, the bacilli there encysted are safe from any attack by bacillicides in the form of chemical compounds, antiphthisin, tuberculin or others. Their *castle* is their own, impregnable to enemies from without, but susceptible to attacks by foes from within. In consequence of having no nutritive supply it is short lived, and this retrograde metamorphosis is hastened by caseous degeneration, a process due to the production of ptomain from the bacilli. The early degeneration of the tubercle exposes the heretofore protected bacilli to the action of the germicidal-antiseptic vapor and those not ejected by expectoration are in an atmosphere antagonistic to the causation by them of further infection. If, however, instead of caseous or other degeneration of the tubercle, fibrosis occurs about the tubercular mass there need be no fear of further proliferation or infection, as bacilli have never been known to penetrate fibroid tissue.

If we can saturate all tissue reached by the circulation of the blood as well as the respiratory surface, we have placed the phthisical patient in the best possible condition for recovery, and all will recover except those in whom the degenerative changes are too extensive to be compatible with the remaining vitality.

That this process does saturate all tissues is evidenced by the condition of the urine and perspiration after ten days' to two weeks' exposure of the patient to treatment. The urine after voiding will remain free from decomposition an indefinite time and it and the perspiration will be found to be laden with the agents employed.

If every case of pulmonary tuberculosis could be brought under thorough germicidal and antiseptic treatment at the time of primary infection no further treatment would be necessary, because the bacilli would be destroyed and the disease arrested before the destructive pathologic changes due to the germ and its secondary toxic property had undermined the nutrition and paralyzed the reactive power of the nerve centers.

The primary action of the bacillus, like any other foreign body, is that of an irritant with the usual histologic changes—exudation of fibrin and leucocytes, epithelial proliferation and interalveolar growth—but with the additional pathologic element, sepsis. This is the result of the presence of a specific toxin, denominated by Vaughan, Bregier, Selmi and others, a ptomain, a putrefactive animal alkaloid, a knowledge of which elucidates many of the distressing symptoms of the disease and constitutes an infallible index to its progression or retrogression.

Few cases being recognized at the time of primary infection, a more extended therapy is required than that comprised in a germicide. The important secondary product of this special pathogenic organism, the ptomain, is subordinate in importance only to the germ itself, but is equally amenable to specific medication by the agents before referred to.

I have stated that a solution composed of unstable carbon compounds has been proved to be destructive to the bacillus and that it might be introduced into the circulation by keeping the volatilized fluid in constant contact with the respiratory surface.

It is a sustained fact that toxic substances readily assume non-toxic form when in contact with substances from which they can appropriate new elements or groups of elements for which they have chemical affinities. Carbon compounds too, readily breaking up when sub-

jected to even weak chemical action, possess marked antiseptic properties.

Further, carbon compounds in breaking up do not resolve into their component elements, but divide into groups of elements to form substances differing in make-up and chemical characteristics from the original types. Bearing in mind the unstable nature of the carbon compounds selected, the facility with which they divide to form new compounds with the products of destructive cell metabolism and the non-toxic character of the new compounds formed, an accurate idea of the theory underlying the method by which we may destroy not only the bacillus, but at the same time neutralize or antidote its toxin, the ptomain, may be readily gained.

I desire to direct particular attention to the salutary influence of the stimulating germicidal-antiseptic vapor on the ulceration consequent on the tubercular process. Every physician has noticed the rapid decline of phthisical patients when large quantities of purulent matter are expectorated—an evidence of extensive ulceration—and felt his inability to control the degenerative physical change. A physician who has had experience with the method of treatment outlined by me must have noticed how speedily the sputum changed from a heavy, purulent to a mucopurulent and, finally, to a mucous character. This change is attained through the combined influence of the local and general antiseptic treatment. By continuous application of the vapor to the surface of the ulcer the same results will be secured as by the application of a stimulating antiseptic to an external ulcer—stimulation, granulation and cicatrization. The ulcerative process peculiar to this disease is of the chronic, indolent variety, hence the benefits derived from a stimulating antiseptic.

Certain clinical manifestations follow the administration of the germicidal-antiseptic vapor as suggested. Within from forty-eight to seventy-two hours there will be improvement in the capillary circulation which is attributable to the stimulating effect upon the vasomotor nerves and the strengthening of the inhibitory nerves of the heart, due to the neutralization of the ptomain. Night sweats, which have been cold and enervating, will become warm and exhilarating and, instead of the extremities, the head, neck and chest will sweat most freely. Appetite is restored, a relish for food appears and care must be exercised, in many cases, to prevent the eating of more food than can be properly digested. This caution is particularly necessary during the initiatory period of treatment when the patient is closely confined and outdoor exercise limited.

In dealing with a disease of such gravity as pulmonary tuberculosis too much reliance must not be placed on aid from one direction alone. It is better that we seek in the general domain of materia medica, therapeutics and hygiene for whatever may be of value. All the adjuncts necessary to conduct the case to a successful issue should be faithfully, persistently and zealously employed. The best hygienic conditions possible should surround the patient. Food of a nutritious quality, well cooked and temptingly presented; baths, salt water preferred, moderate exercise, never to weariness, all contribute their portion to success and any one neglected may prove an obstacle to a favorable termination.

Tuberculosis being a specific, constitutional disease, with an indefinite number of complications, the possibility of any physician being wise enough to formulate a treatment sufficiently broad to cover all conditions is exceedingly remote. Each case is a distinct problem which can only be solved by the physician in attendance.

The broader his professional knowledge, the keener his therapeutical skill, the better will be his results in the use of the method of treatment I have advised.

It has been my practice to restrict patients to their apartments during the first week or two, only permitting absence at meal time and a half hour before and after for exercise.

The object of this restriction is to secure the most complete degree of saturation possible at the earliest period. When there is much elevation of temperature little or no vapor should be employed in the living apartments during that portion of the day when it is at its height, but during the intermission the vapor should be vigorously pushed. In acute general tuberculosis especially, the vapor should be developed to its limit or the patient will perish from toxemia which, by the way, always occurs under any other method of treatment, the patient being overwhelmed by the rapid proliferation of the bacillus and the consequent increased production of its toxin.

It is a matter of common observation that most consumptives suffer, sooner or later, from a persistent, debilitating diarrhea, occasionally caused by indigestion, but more frequently by tubercular infection of the intestines. The patient swallows bacilli-laden sputum which passing along the alimentary canal, finds a denuded mucous membrane, a nidus adapted to its propagation, infection takes place and further proliferation follows. No phthisical patient is wholly exempt from this exhausting and impoverishing complication. I regard it as prudent anticipatory therapeutics to administer an antiseptic solution with a view to the immunization of the alimentary canal against this insidious danger. To accomplish this I administer an antiseptic solution in large quantities of water, not less than a quart in twenty-four hours, and preferably more. In addition, it is desirable that the lower bowel be thoroughly flushed twice weekly, sometimes as often as each alternate day, these enemata being also impregnated with the antiseptic solution. The purpose in using large quantities of water is not so much to provide a vehicle for the antiseptic as to obtain the constitutional effect of the aqueous diluent. When the rapid disintegration of tissue, the consequent amount of effete products and the engorged emunctories are considered, an appreciation is formed of the necessity for a full and free solvent to aid in the elimination of accumulated waste by flushing the sewers of the system. As proof of the value of this precaution not a case of diarrhea has developed among the patients treated after this plan.

As an alterative and for the purpose of supplying to the system those constituent elements of the tissues so rapidly wasted by the process of retrograde metamorphosis I use a tablet composed of the bromid of gold and arsenic and the carbonate and phosphate of lime. They have given the best satisfaction of any combination which I have been able to evolve for the purpose.

Cough is usually one of the most annoying features of this disease, but I have had little occasion for a cough sedative. The specific medication allays excessive irritation, liquefies the exudate and facilitates expectoration without effort. There are isolated cases, however, in which a sedative can be used advantageously. This necessity will arise in the inflammatory stage of the disease when there is a dry, irritating cough accompanied by fever. In these cases I have found nothing equal to the coal-tar products combined with $\frac{1}{4}$ to $\frac{1}{8}$ grain of codeia, preferably administered at the height of the pyrexia. The new product, heroin, prolonging respira-

tion and acting as a quietant to bronchial irritability without depressing effects upon the heart or the central nervous system, may also be used, a convenient form being a $\frac{1}{12}$ grain tablet. I am favorably inclined to the liberal use of mild counter-irritants over the seat of tubercular infiltration or consolidation in any stage, but particularly in the inflammatory conditions. When the inflammation is persistent I employ small fly blisters, finding them efficient when milder means disappoint.

Some patients will be more or less disturbed for the first few days by headache and dizziness. In such cases a catarrhal condition of the nasal passages will be found. The local stimulating effect of the germicidal-antiseptic vapor on the inflamed nasal or post-nasal membrane produces this disagreeable sequence. For relief, these cavities should be thoroughly sprayed with an oily mixture two or three times daily until the symptoms subside.

The time required for the realization of the specific value of the vapor treatment varies, in different cases, according to condition, diathesis and susceptibility, the minimum period of subjection being six weeks. Scarcely two persons respond to treatment alike. Some advanced stage cases yield more readily and promptly than those in the earlier stages, but those of the incipient and first stage may reasonably be expected to recover more quickly and with a greater degree of certainty. Marked improvement may be experienced within from four to six weeks, and the progress made during that time will form a safe basis of estimate for the probable necessary period of treatment.

TUBERCULOSIS.

ABSTRACTS FROM THE PROCEEDINGS OF THE CONGRESS FOR THE SUPPRESSION OF TUBERCULOSIS, HELD IN BERLIN, MAY, 1899.*

DISTRIBUTION AND IMPORTANCE OF TUBERCULOSIS AS A DISEASE OF THE PEOPLE.

DR. KOEHLER, director of the Imperial Health Office, Berlin—The nature of tuberculosis is such that not all of the cases come under observation in the earlier stages. Therefore, there is necessarily some inaccuracy in the statistics thereof; those for the mortality from the diseases in question are somewhat more accurate. Still, there are misleading factors here. Bronchitis, pneumonia and other intercurrent maladies are frequently charged with deaths that are in reality to be attributed to the "white plague." It causes more deaths than the statistics show, which is especially true in infants. In 20 to 33 1/3 per cent. of all people dying of other diseases, evidence of healed or latent tuberculosis is found post-mortem. In Germany the number of adults over 15 years of age who seek hospitals by reason of tuberculosis each year amounts to 226,000. It is a disease of all races; Mongolians are subject to it; all the Malay and Negro races have it. Statistics from the United States show that the colored population have double as much consumption as the whites. The death-rate of the City of Mexico and Rio de Janeiro is high, while Buenos Ayres has a small mortality. The British army reports show the following facts. In the East Indies the mortality-rate from tuberculosis is somewhat lower among the natives than among the British troops; among the Europeans it was somewhat lower than among the British soldiers in England. In the West Indies, European soldiers showed a lesser mortality than the non-Europeans. The native troops in West Africa suffered extremely from this disease.

In North America the cities with large ocean-harbors show most tuberculosis, and the western cities least. Melbourne, Australia, does not have much, but Cairo, Egypt, shows a large tuberculosis death-rate; that of Algiers is low. Taking the

* Made by W. A. Evans, M.D., Wm. Becker, M.D., and A. Kreskenbaum.

statistics for phthisis only, the countries of Europe rank in ascending order of prevalence as follows: Great Britain, Norway, Belgium, Italy, Holland, Denmark, Ireland, Switzerland, Germany, Sweden, France, Hungary, Austria, and Russia most of all. Among cities the death-rate from tuberculosis increases as we go along the following list: Buenos Ayres, Naples, London, Amsterdam, Hamburg, Berlin, Warsaw, New York, Rio de Janeiro, Paris, Budapest, Vienna, St. Petersburg and Moscow.

Altitude is probably not of prime importance. The death-rate in mountainous Norway is only a trifle less than that of the lowlands of North-east Prussia and the Netherlands. Alpine Switzerland shows a greater death-rate than ocean-washed England. Comparisons of various portions of Austria and Prussia are confirmatory of this view. Moisture of the air is of great importance. In the north temperate zone, March and April show the largest tuberculosis death-rate; August and September the least.

The statistics of England and of Berlin show that prior to 20 years of age females are more subject than males; at 20 years the rate in men passes that in women. In Berlin the death-rate of tuberculosis is between the ages of 60 and 70. Berlin shows a maximum between 40 and 60; England and Wales, between 35 and 55. In Belgium the maximum years are between 15 and 60; in Italy, 20 and 40.

When we inquire what part of the total death-rate is due to tuberculosis in any given year of age we find another series of figures to consider from this standpoint: In Germany the ages 20 to 30 rank first; in England males 20 to 35, females 15 to 25. In Germany of those who die annually between 15 and 60, 87,600 die of tuberculosis, or 300 for each 100,000 inhabitants—one-third of the total death-rate of these ages. These are the years when the citizen is of value to the commonwealth; the loss is incalculable. The hygienic conditions of the cities tend to the spread of tuberculosis, and certain industries are favorable to its dissemination. In the agricultural regions such as East and West Prussia and Pomerania its death-rate is 150; Rhenish Prussia, which is chiefly industrial, shows 290; agricultural Saxony, 190; Westphalia, 310. Boevor's statistics show that the disease can be limited wherever intelligent effort is made.

The following are suggested as proper methods for treatment and prophylaxis:

1. Asylums for the hopelessly sick.
2. Sanatoria for the remediable cases.
3. Disinfection of streets, buildings, public places and public conveyances.
4. Education of the people.
5. Improvement of the general physical tone and stamina.

HEREDITY, PREDISPOSITION AND IMMUNITY.

PROF. F. LOEFFLER, Greifswald—The belief in the inheritance of tuberculosis was general until Koch's discovery. It is now recognized as a strictly infectious disease. In order that the theory of heredity should exist, it is necessary to prove the possibility of transmission of the bacillus from parent to child. Pasteur demonstrated that the silkworm disease could be transmitted from the "fly" through the ovum to the worm. The heredity of syphilis has been proved, and anthrax has been shown to pass from parent to off-spring. If it is possible with these bacteria, why not with tubercle bacilli? An argument in favor of this as a potent possibility is tuberculosis in infants; in inaccessible localities such as bones and joints; in the prominence of tuberculosis about puberty, the explanation being that circumscribed foci of latent tuberculosis had at that season opened up as centers of more general infection. Against this is the fact of the rarity of congenital tuberculosis, the increase of tuberculosis as the age of the individuals increased. If certain families were decimated by tuberculosis, it was because of the greater danger of contagion in such family circles. Johnc was the first to demonstrate congenital tuberculosis positively; this was in a calf. Congenital tuberculosis in man and in animals has been proved beyond a doubt. However, congenital tuberculosis only occurs when the maternal parent was affected with advanced tuberculosis to which she suc-

cumbed in a short time after the birth of the offspring. Transmission of tuberculosis from the father has never been demonstrated, even when the disease is general or when bacilli are in the spermatic fluid. Tuberculosis is never transmitted through an infected ovum or an infected spermatozoon, but by means of the placental blood. The number of cases of certain congenital tuberculosis is very small. Hauser concludes that, at the highest, 10 per cent. of the babes of mothers suffering from grave general tuberculosis can be reckoned as tuberculous. This percentage is beyond question too high. Consequently, hereditary or congenital tuberculosis has no practical importance.

Many clinicians are of the opinion that a certain susceptibility is inherited from generation to generation, that a bacillus entering such a body would produce the disease, that in this sense tuberculosis was a hereditary disease, and that such a disposition could be recognized by a flat chest, pale transparent skin, narrowing of the arterial system and a degenerative quality of the tissues. There is no doubt that certain abnormal developments of the body and especially of the thorax do increase the liability to tuberculosis. But the fact of descent from tuberculous parents does not per se involve a special susceptibility to tuberculosis. The offspring of artificially tuberculous animals develop just as vigorously as those of healthy animals if they are protected after birth. Bernstein reports a careful study of six cases showing that the cause of tuberculosis in the children of tuberculous mothers is contact and not inheritance. Statistics from sanatoria show that tuberculosis does not run an especially fatal course in patients some of whose ancestors had died of tuberculosis. Turban's statistics show that of those patients whose ancestors had had tuberculosis 49.6 per cent. were cured; of those whose ancestors had had no tuberculosis 44 per cent. were cured. The Davos statistics point out that of those with tuberculosis on the father's side 42 per cent. were cured, with tuberculosis on the mother's side 42 per cent. were cured, with tuberculosis on both sides 60 per cent. were cured; in patients where both parents were themselves tuberculous 50 per cent. were cured. All these observations tend to show that no specific disposition to tuberculosis exists. Clinicians have tried to classify their patients into highly susceptible, moderately susceptible, and insusceptible; but this is entirely arbitrary. The number of bacilli entering the organism is very important; there is another very important factor, viz., the virulence of the bacilli. Vegales procured tubercle bacilli in pure culture from various sources. These were injected into guinea-pigs and rabbits. The disease induced in the guinea-pigs was very uniform in virulence, while in the rabbits there was a great variation. These experiments show conclusively that there is a difference in virulence of bacilli, and it explains the manifold clinical experiences, showing difference in severity and malignancy of tuberculosis.

We will next consider co-called acquired susceptibility or disposition. In my opinion we can not doubt the possibility that after the devitalization of the tissues consequent on many diseases the tubercle bacillus will find it easier to become established; often we can not decide whether the disease is a recent infection or merely an old infection made manifest. It has been stated that certain conditions render a man immune, e. g., kyphosis, emphysema, heart disease, coal-heaving, etc. Consumption is unknown in the dweller in the desert, but whenever he leaves the desert he becomes very susceptible. The racial immunity formerly claimed has not been proved. We therefore do not know of a natural immunity. The question of artificial immunization must soon be solved, by reason of the number of experimenters engaged and the vast amount of experimental work.

The conclusion, since congenital tuberculosis is of no practical importance; since the inheritance of certain devitalizing abnormalities of constitution can not be avoided; since infectious diseases that tend to lower the resisting powers can not be avoided, there remains only one way to combat the disease, namely, the careful destruction of the bacilli wherever found, and especially in the excretions. Initial cases are treated in sanatoria, incurable cases should find refuge in special hos-

pitals in order to separate them from the healthy population. Only when the same attention is given to advanced cases as to the beginning ones, can we limit the mighty devastations by tuberculosis.

PROPHYLAXIS OF TUBERCULOSIS IN HOSPITALS.

DR. VON LEUBE, Wuerzburg—Proper prophylactic measures will prevent spreading of tuberculosis in hospitals. These measures are prophylactic and not difficult of execution. In the first place is, the strict enforcement of the rule that patients must always expectorate into cuspidors where bottoms are covered by water. Another important measure is that patients must hold a bunch of cotton before the mouth when coughing. The body and bed linen must be frequently changed and disinfected, and the floor "wiped up." The clothes of the dead must be sterilized or destroyed. Attendants must wear gauze over the mouth whilst in the wards. The patients are to bathe daily. Physicians and attendants must wash their hands in disinfecting solution after each service. Under such proper precautions tuberculous patients can be kept in general wards with reasonable safety. However, it is advisable to put tuberculous patients in a separate consumption ward. This should be the airiest and best in the hospital. It should be provided with verandahs and there should always be resting pavilions on the grounds.

FOOD STUFFS.

DR. RUDOLPH VIRCHOW, Privy Councillor, Medical Councillor, and Professor in Berlin—Every infection must arrive from without, and we necessarily study the routes by which an infection comes to us. We have arrived at the conclusion that tuberculosis is an infection and foods are one of its routes.

The hog is very frequently tuberculous, and has always been under suspicion. Cattle are much more dangerous; under certain conditions, however, the meat from tuberculous cattle can be safely eaten. Even in human pathology the tendency of tuberculosis is to localize itself and leave the balance of the body unaffected. Accordingly, the present German laws allowing the eating of healthy portions of tuberculous cattle satisfy the demands of science.

Milk is of far greater importance, and, likewise, does not always contain tubercle bacilli when the tuberculosis is in regions away from the udder. Hence, there are cattle which have the disease and yet furnish healthy milk. Many years ago I demonstrated that cows with tuberculous udders gave milk that contained tubercle bacilli; this is of the greatest importance, from a dietetic standpoint. The sterilizing of tuberculous milk has value, but it can not always be relied on. The surest procedure is to kill the cows; all other measures are palliative and will be disappointing. I would not urge this point so strongly were it not for my experience with trichina. You know that I led this fight, whilst the meat vendors and consumers opposed it. However, it has been successful and inspection for trichina is now international. I do not hesitate to say that the more I study this question the more I am convinced that we shall find no help other than by slaughtering the diseased animals. In tuberculin we have a diagnostic agent of great value, but even the restrictions that it makes possible are not enough. Every year I see a larger number of representatives elected who are ready to advocate the slaughter of all diseased animals. If you would assist, much more could be accomplished. Hogs should be better inspected; all the diseased ones are, as should be, carefully removed.

No especial restrictions need be placed on the poultry trade. We must do something to prevent so general an infection of the people. Until lately a certain dogma was considered indisputable, namely the dogma of inherited tuberculosis. I now definitely dispute this inheritance. For a number of years I have held that if one examines the bodies of the still-born no tuberculosis can be found; tuberculosis must come from the outside. What shall we do to protect the children? Such prophylaxis must commend itself to mothers, to hospitals and to orphan asylums.

TUBERCULOSIS AND TRAUMATISM: VIRULENCE OF THE BLOOD IN TUBERCULOSIS.

PROF. LANNELONGUE and PROF. ACHARD, Paris—Max Schuller

pointed out that contusions of joints would result in joint tuberculosis when a patient had general tuberculosis or if tubercular infection was occurring at some point remote from the joint, and that this was true of infections other than those of tuberculosis. Schuller's work was done in 1880 and is therefore questionable.

For this and other reasons, the authors have undertaken some experimental work along this line. They inoculated animals by various routes: subcutaneously, intraperitoneally, by the trachea, and through the blood. The traumatism was sometimes produced before the inoculation, sometimes at the time of the infection, and at other times after varying intervals. The injuries were in the joints, dislocations, epiphyseal separations and fractures. The results were negative in 30 guinea-pigs. In 35 rabbits, 30 showed no tubercular arthritis, 5 did. These 5 were inoculated with large doses of impure products, sputum and tissue intravenously, and the traumatism was made simultaneously. The rabbit is naturally resistant to human tuberculosis, but nevertheless so many bacilli can be introduced into the blood that some can reach the injured tissue in spite of the rapidity with which the blood-cells take them up. This latter observation was made by Borel. Another factor is, the animal will live long enough to allow the lesions to develop. When traumatism occurs in the course of a slowly evolving tuberculosis, tubercular arthritis does not occur.

Villimen, in 1868, determined that the blood of a cadaver dead of tuberculosis was infectious. In this case the bacilli probably passed into the blood in the agony of death. The blood of six guinea-pigs dead of tuberculosis caused tuberculosis five times when injected into guinea-pigs. Three guinea-pigs having generalized tuberculosis were quickly killed and their blood injected into healthy pigs; no tuberculosis resulted. In the human subject with tuberculosis the blood is seldom virulent; the bacilli seldom get in the blood and never in large number and an area of traumatism has every chance to escape infection. Fractures in consumptives not only do not become tubercular, but healing is not delayed. This is in sharp contrast to syphilis, in which the blood is virulent.

In consumptives subcutaneous injections of sterile liquids do not produce specific nodules. The contrary is true in such infections as staphylococcus, streptococcus, pneumococcus, and typhoid. Subcutaneous injections of sterile solutions—methylene blue, sugar—to the number of 118, did not give one tubercular lesion; abscess followed twice in injections in typhoid, once in pneumonia and once in erysipelas. With a tuberculous man, something more than trauma, however violent, is necessary for tubercular osteitis. The offending influence must be prolonged.

TUBERCULOSIS OF DOMESTIC ANIMALS AND ITS RELATION TO THE SPREAD OF THE DISEASE IN THE HUMAN SUBJECT.

DR. BOLLINGER, Munich—Tuberculosis of cattle and swine is of the utmost importance: 1, Because it is prevalent, 2, because of the danger to the human subject. Tuberculosis of other domestic animals is, practically speaking, of little importance.

Tuberculosis of cattle is characterized by slow progress, slight inclination to acute generalization, by the frequency of nodules on the serous surfaces, the infrequency of cavity formation in the lungs, the relatively slight importance of mixed infection, and by the slight influence on the general nutrition of the animals. As in human tuberculosis, it is difficult to say positively whence and how the infection came; in the majority of instances it can only be guessed at. The milk is a prime factor as a spreader, and the excretions of diseased lungs are also potent.

Statistics show great variance in the prevalence of tuberculosis according to the age and the sex of the animals. Milk cows of mature years furnish much the largest percentages of tuberculous animals. This point is of cardinal importance to man. Statistics for Bavaria in 1895, 1896, 1897 show as follows: tuberculosis in calves, .03 per cent.; in yearlings, 15 per cent.; in bulls and steers, 3.1 per cent.; in oxen, 4 per cent.; in milk cows, 11 per cent. Statistics also demonstrate that tubercu-

losis among slaughtered grown animals is on the increase. In Baden from 1888 to 1897 the percentage increased from 1.6 to 3.56; in Leipzig from 1888 to 1897 the percentage increased from 11 to 36.8; in Schwerin, from 1886 to 1893, it increased from 10 to 26; in Chemnitz, from 1896 to 1898, percentage increased from 20.8 to 25.2. In middle Europe there was very little bovine tuberculosis up to the middle of this century; rapid increase has taken place in the last twenty years. If we think of it for a minute there is but little difference between the hygienic conditions of stock kept in stalls and men in prisons. According to some observations made at Munich slaughtering house, cattle from the Alps and from the Hungarian steppes show but little of the disease; the Siedenburger cattle show almost none. The Swiss observations are confirmatory.

To the writer's mind the human tuberculosis plays a subordinate rôle in the etiology of bovine tuberculosis. It is more abundant in hogs than it is in cows of the same age. Swine tuberculosis tends to a general spreading throughout the body. It may affect the lungs, the liver or spleen, with or without involvement of the lungs. It seldom tends to cavity or ulcer formation or to invade the pleura or the peritoneum. Glandular involvement is prominent. In the distribution of the lesions it is very closely akin to the same malady in infants. As there are no ulceration processes in the lungs, hogs are less dangerous to their pen-mates than are cattle with the same disease. Nearly all observers agree that in swine it is mostly due to feeding with the milk of tuberculous cows. The etiological relation between tuberculosis of cows and swine is undebatable. Its prevalence in swine is a safe criterion of the danger to the human race from bovine tuberculosis, especially to those who drink milk. In north Germany in 1895 to 1897 from 3 to 6 per cent. of all hogs slaughtered were tuberculous. In Bavaria for the same years the percentage was 2.2. In the last few years, in north Germany, it has been found that of the hogs that were raised on creamery skim-milk, from 60 to 100 per cent. were tuberculous when slaughtered.

It has been proved that the tubercle bacilli can penetrate the mucosa without antecedent or succeeding changes therein. Often there is involvement of the lymph-glands, of the liver, spleen, kidney or lungs without any demonstrable port of entry. The danger from caring for tuberculous animals is small. Of far greater importance is the possibility of direct intestinal infection through milk and meat. This method of infection surely plays a part in the etiology of human tuberculosis. However, it is much less an etiological factor than is inhalation.

Raw or improperly cooked meat that is either infected, or located near or has touched infected organs, is dangerous. This means of infection certainly occurs more frequently than is generally supposed. Meat from a tuberculous animal, in which infection is local or in the initial stage, is not dangerous if the animal appears in good health and the meat has been properly selected and handled. In well-advanced, generalized tuberculosis the meat is beyond doubt pathogenic unless it has been thoroughly cooked. It can be regarded as certain that milk from cows with tuberculous udders is highly dangerous. According to Bang tuberculosis of the udder is present in 1 per cent. of all tuberculous cows. The milk from infected cows with sound udders has been proved to be infective in 50 per cent. of the cases. Not only in general but also in localized tuberculosis in cows with sound udders the milk may be dangerous. All the products of tuberculous milk are infectious. Such milk is especially dangerous if used in large quantities for a long time without being boiled. The danger is increased if this milk is the exclusive diet. Dairy milk, and especially creamery milk, is as a general proposition safer than the milk of a single cow.

Bang, by feeding calves with tuberculous milk, produced a glandular tuberculosis, especially marked in the pharyngeal and mesenteric glands. Bollinger produced experimental tuberculosis in swine 20 years ago, it being most manifest in the mesenteric glands. In 248 tuberculous children Miller found the mesenteric glands affected in 45.5 per cent. He concluded

from this fact that infectious milk plays an important rôle in infants. Lutz showed that 68 per cent. of the tuberculous children treated at the Munich clinic were from non-tubercular parents. He concludes that ingestion and inhalation were the prime etiological factors. The increase in the prevalence of bovine tuberculosis and that of children certainly have some relation. The method of infection in infants, by reason of surveillance to which they are subjected, is much more possible of accurate observation and conclusion that it is in the adult. Tuberculosis in cattle by reason of its great distribution and latent course is very difficult of solution. Without the co-operation of the stock-owner it will be impossible to eradicate it. He must see that it is to his interest as well as to that of the consumer.

Milk should always be boiled. In creameries, only such cows should be used as do not react to tuberculin. Against the danger from milk products, such as butter and cream, we have no adequate means of protection. When we compare the government's effort to suppress tuberculosis with its efforts in other directions, e. g., against cholera, trichinosis, smallpox, adulteration of milk and other foods, we must conclude that all that has been done is in painful disproportion. The most dangerous milk from an infected udder may be sold without molestation, while the comparatively harmless mixing of milk with water is severely punished. Even if tuberculosis of domestic animals is not the most important cause of consumption in man, it is, by reason of its enormous distribution, great increase and etiological relation, the most important of all animal diseases and the most dangerous to man, and it demands the most serious attention.

RELATION BETWEEN ENVIRONMENT AND THE SPREAD OF TUBERCULOSIS.

DR. KRIEGER, Privy Councillor, Medical Councillor and Medical Reporter in the Ministry for Alsace-Lorraine—The great difficulty in determining etiological factors in this disease is time that elapses between exposure to infection and detection of the disease. All physicians are agreed that wounds or other diminution of vitality of certain tissues, for example, the lung, aid in infection.

There is an uncertainty as to whether there is such a thing as a general increase in the susceptibility. The consideration of statistics is open to two sets of errors; 1, errors in the statistics; 2, errors in the deductions to be drawn therefrom. Statistics show a predominance of the disease in large cities and manufacturing districts. It is found most prevalent among the poor, though occasional statistics have shown a preponderance among certain wealthy people. Poor nutrition is a minor factor in the etiology of tuberculosis. It is more important in therapeutics and in prognosis. A more important factor in causing a lesser amount of tuberculosis among the rich is their better dwellings, less crowding and the comparative isolation of those diseases.

All observations show that the great factor in the spread of tuberculosis is improper handling of the sputum. This reaches a causative maximum in the homes of the poor, the factory, and the workshop. Comparisons show that the curve of tuberculosis ascends with that of density of habitation. In the Imperial Penitentiary at Ensisheim, in Alsace, no new infection with tuberculosis occurs since cleanliness was observed and strict isolation of tuberculous people has been practiced. Now, there is less tuberculosis in this prison than in the neighboring village of Ensisheim.

Collected from a large territory statistics and individual observation teach us that sunlight and air are prime factors in making habitations healthy. There is less tuberculosis in high altitudes. It is only hypothesis as to whether this is due to the effect of the rarified air on the body, or to the thinness of the population and the absence of factories, or to the ease with which these relatively heavy germs settle in thin air, or to the few bacteria of any kind present. Owing to the tardiness with which demonstrable lesions follow infection, statistics on the effect of seasons have slight value.

Some occupations furnish instructive etiologic factors. The death-rate among sisters of charity and Protestant sisters of

mercy is very great. The statistics of a certain English asylum on this point are of little value, because the changes in the personnel were too frequent. Statistics as to physicians are likewise of little value, because of the transient exposure in their work. German statistics show frequent tuberculosis in nurses and servants in consumption hospitals. Among the Prussian nurses the death-rate from tuberculosis has fallen from 10 per cent. in 1887-88 to 6.7 in 1893-94. This is due to the better use of preventive measures. The great proof of the danger of nursing is in the legions who have contracted tuberculosis from nursing members of their own families.

Dusty occupations make people prone to the disease under consideration. The statistics of Berlin as to street-cleaners, cabmen, coal-workers and miners show this. Farmers have little of this disease in spite of the fact that in winter grain-cleaning is dusty. Metallic dust is most harmful; mineral and vegetable dust less so. Efforts at the suppression of dust in factories, such as the use of fans, exhausts, and wet grinding have decreased the death-rate from tuberculosis. Locksmiths, stonecutters, shoemakers and carpenters are prone to tuberculosis, because their customary bent attitude prevents proper pulmonary inspiration and expiration. This is also true of tailors.

Beneke determined that the lungs of consumptives are large and their hearts small. The average relation in consumptives was 12 to 1. In patients with cancer 6 to 1.

SERUM DIAGNOSIS OF TUBERCULOSIS.

PROF. S. ARLOING and DR. P. COURMONT, Lyons—We have written on this subject, setting forth most of the following facts, for the Academy of Sciences in 1898, and for the Paris Tuberculosis Congress in 1899.

1. *How to Obtain Homogeneous Cultures of Tubercle Bacillus in Liquid Media*—It is possible to make Koch's bacillus grow in various liquid media, especially glycerinated media in a homogeneous fashion. Such cultures show an even turbidity, with the bacilli isolated. The bacilli have slight mobility. The principle necessity is daily agitation of the culture. A culture which has acquired this new appearance in bouillon will speedily return to its old type if allowed to age or if it is not shaken daily. On the other hand, after a few generations, the new characteristics become fairly well fixed. When such bouillon cultures, with the new type fixed, are plated on glycerinagar, at the end of a few days we get a creamy smooth layer rather than the wind-row arrangement that is usual. Such cultures lose their staining peculiarities, and are easily decolorized by acids. It is very necessary to grow the cultures exactly right in order to get reliable results.

2. *Obtaining Proper Cultures*—The best medium is beef or veal bouillon containing 1 to 2 per cent. peptone and 6 per cent. glycerin. The cultures must be agitated at least once a day. Cylindrical flasks with flat bottoms are preferable. Such bouillon is inoculated with a definite quantity of a vigorous culture one month old. The tests are made with bouillon cultures eight to twelve days old.

3. *Technique*.—Certain precautions, not required for typhoid tests, are necessary here. The "loop" must be taken from the upper part of the culture. Serum is preferable to the entire blood; uncolored serum is better than that containing hemoglobin, and fresh serum should be used rather than that which is old. The serum is obtained by allowing the clot to retract, or by centrifuging. We mix three lots of serum in the following proportions: One drop of serum to five of culture; one to ten; and one to twenty. The mixture is drawn into tubes of small lumen, inclined at an angle of 45 degrees, and allowed to stand from two to twenty-four hours. Examination is made with the naked eye and with the microscope. To the naked eye the mixture is clear; the bacilli are along the glass, mostly at the bottom. Examine at the end of two hours and again at the end of twenty-four. Have an unmixed culture similarly arranged for purposes of comparison. Now, carefully take a drop of the serum mixture from near the zone of precipitated culture and make a microscopic preparation. Compare with a slide of an untreated culture. It is advisable to keep some

serum from a tubercular pleurisy or peritonitis always on hand to act as a check on your tests.

4. *Artificial Production of Agglutinating Power*—The authors produced this agglutinating power in serum of dogs, goats and guinea-pigs by inoculating them with mild cultures of tubercle bacilli. Virulent cultures producing exudative forms of tuberculosis did not give this modification of the blood-serum.

5. *Clinical Application*—All of the precautions enumerated above are absolutely necessary. Our studies have been going on since May, 1898, and they extend over two hundred patients who were tuberculous, otherwise diseased, and healthy.

The agglutinating power of blood-serum was tried on 186 patients. Of these, 128 gave a positive reaction, 69 per cent.; 58 gave no reaction, 31 per cent.; of these 128, 96 were proved to have tuberculosis by physical examination, sputum examination, or autopsy; 75 per cent.; and 32 gave no evidence of tuberculosis other than this agglutination, 25 per cent. Of the 58 cases giving no reaction, 10 were otherwise proved tuberculous, 17 per cent., and 48 gave no sign of tuberculosis, 83 per cent. Of the 106 certainly tuberculous 91 per cent. reacted; 9 per cent. gave no reaction. The 96 reacting cases showed all degrees of the disease. Of the 10 not reacting 7 were most advanced cases. The milder cases react best. Of the 60 clinically non-tuberculous patients, but having various other diseases, 26, or 43 per cent., reacted; 34, or 57 per cent., did not react. Of these 26 reacting cases, autopsies were held on 20. Of these, 20, 9 had latent or cured tuberculosis, 45 per cent. The reaction in clinically non-tuberculous cases probably indicates latent tuberculosis.

Comparison is made with the statistics of Beck as to the reliability of tuberculin as a diagnostic agent. Beck found that 60.8 per cent. of all sick people, tuberculous and otherwise, responded to tuberculin. Our similar serum trial showed that 69 per cent. responded. Beck examined 371 clinically tuberculous patients: 100 per cent. responded to tuberculin. Of our clinically tuberculous cases 91 per cent. responded to the serum-test. Beck examined 2137 clinically non-tuberculous sick people; 1194, or 54 per cent., responded to tuberculin. Among our similar cases 43 per cent. responded to serum.

Differences in the patients examined are responsible for the differences in the figures; the results are, in the main, strongly corroborative. The advantages of the serum method are: 1, its harmlessness; 2, facility and rapidity; 3, delicacy. Its disadvantage is the number of necessary precautions.

6. *Agglutinating Power of Serums from Tubercular Cavities, &c., Serum from Tuberculous Pleurisy*.—The results given here are even more accurate than in the use of blood-serum.

General Conclusions.—The use of homogeneous bouillon cultures permits us to use serum diagnosis in tuberculosis. The use of proper technique is imperative. In men the agglutinating doses are from 1 to 5 to 1 to 20. The results of 186 examinations show the test to be valuable. Its results run very nearly parallel with those given by tuberculin. It is especially valuable in cases of latent tuberculosis. It is most valuable in diagnosis of early tuberculosis and least valuable in late, extensive or exudative tuberculosis.

MIXED INFECTION IN TUBERCULOSIS.

R. PFEIFFER, Berlin—The clinical course and the anatomical and histological findings in tuberculosis are irreconcilable with the effects of the tubercle bacillus. Hence, Koch looked for other organisms in tuberculosis besides the tubercle bacillus. He found micrococcus tetragenus, bacillus pyocyaneus and various cocci. He wrote that these organisms were probably benign in lung cavities, or else that they took part in the destruction of tubercle bacilli. The term "mixed infection" was first used by Brieger and Ehrlich in 1884. The term should only be used when two distinct organisms infect a body entirely independently of each other. The infection, by other germs, of lungs already tubercular should be spoken of as secondary infection, as suggested by Petruschky. However, the terms are habitually used synonymously, and I do the same here.

The following have done valuable work on this subject: Babes, Pausini, Cornet, Petruschky, Spengler, Ortner, Ehret

and Schuetz. In 1890 Pausini isolated 24 varieties of organisms in tubercular sputum; his technique was faulty. Koch's method is the proper one: Wash the sputum in many changes of sterile water until nothing remains but the central "core," which, beyond question, came from the tubercular area.

In this central "core" streptococcus is often found, sometimes alone. Less often staphylococcus, diplococcus lanceolatus, bacillus pyocyaneus, Friedlaender's bacillus and micrococcus tetragenus are found. During influenza epidemics enormous numbers of influenza bacilli are found. Ehret and Schuetz have lately added pseudo-diphtheria and true diphtheria bacilli to this list. Streptococci usually predominate. The most frequent combinations are streptococci and staphylococci, streptococci and bacillus pyocyaneus, streptococci and diphtheria bacilli, and streptococci and diplococcus lanceolatus. The organisms causing the secondary infections are found in the tissue as well as in the sputum. Cornet called attention to the fact that in the same lung one cavity might show nothing but tubercle bacilli, another a mixed infection of one kind, and another a mixed infection of a different kind. Orner studied the tissues in 61 cases of pulmonary phthisis. He studied the bronchopneumonic areas surrounding the clearly tubercular areas. In 28 of 42 cases he found a modified streptococcus present, this he called micrococcus pneumoniae. Cornet, Petruschky and Spengler verified this work and showed that this coccus was nothing but streptococcus. Micrococcus tetragenus was also found in the tissue. Pfeiffer showed that the lobulocellular infiltrations surrounding the tubercular areas, and found so typically in influenza epidemics, were due to influenza bacillus. Schuetz showed the diphtheria bacillus in the tissue.

Petruschky found that streptococci present in the exudative areas of tubercular lungs had lost most of their pathogenic power for animals. But these slightly virulent cocci might be very pathogenic in lungs of lowered vitality and in cavities of varying hydrostatic pressure. Again, the usually slow course of phthisis shows that none of the organisms can be of great virulence.

A. Fraenkel described a caseous bronchopneumonia due to tubercle bacilli alone. This does not alter the importance of mixed infection very much. Baemler described certain cases of tuberculosis that progressed slowly up to a certain point; then spread rapidly, just subsequent to hemorrhage. He thought this rapid spread due to inspiration of blood laden with tubercle bacilli and other organisms.

How do secondary bacteria get into the lungs? If Druick was right when he said that various pathogenic bacteria are always present everywhere in normal lungs, then the question is easy. Besser, Klipstein, Hildebrandt and Mueller proved that normal lung tissue and the mucous lining of the smaller bronchioles are always sterile. Even then the contents of the upper air-passages and the surrounding atmosphere are dangerous.

We agree with Struempell that clinically the most important symptom of mixed infection is fever. Fever is always a bad indication, its absence is a good one. Bacillus tuberculosis alone can produce fever; as a rule it does not. The characteristic fever, chill and sweat of phthisis is due to secondary infection. Petruschky says of streptococcus infection: "Suspicion of secondary infection is proper in remittents, intermittents, and in those cases which are subnormal in the morning and reach 38 C.—100.4 F.—in the afternoon."

As a rule the blood of tubercular patients is sterile during life. Petruschky has shown that streptococci can be found in 50 per cent. of the cases of phthisis if the heart's blood be examined post-mortem, but this is due to infection during the article of death.

Examination of the sputum in unmixed infections shows a small quantity and a few tubercle bacilli. Examination of the sputum in mixed infections shows much sputum, many secondary bacteria and sometimes no tubercle bacilli. Petruschky and Spengler sometimes found streptococci in the sputum of afebrile cases. This was exceptional. Here the organisms were in the cavities, not in the tissues. The importance of secondary infections has been determined in tuberculosis of the bones, the joints, the larynx, and the skin. We can be cer-

tain that the prognosis is made worse by secondary infection. The physician must aim to avoid such complication.

TREATMENT OF TUBERCULOSIS WITH SERUMS.

Dr. E. A. DE SCHWEINITZ, Washington, D. C.—In 1894 I published a series of experiments in which guinea-pigs were immunized against tuberculosis by injecting them with cultures of tubercle bacilli that had been weakened by years of growth on acid media. This work was verified by Trudeau. With this view I have tried to get a serum from horses, mules, etc. I use an extract of the bacilli that float on the surface of cultures. This is injected in horses for several months. Now the serum is drawn. This serum was tried on guinea-pigs previously inoculated with virulent tubercle bacilli. The guinea-pigs recovered.

Dr. Stubbert, of the Loomis Sanitarium, at Liberty, New York, used my serum for 1½ years, during which time 90 patients were treated with the following results: 19 per cent. were totally cured; 7 per cent. considerably improved; 57 per cent. somewhat improved; 17 per cent. not improved. The improved numbered 75, unchanged 8, and 7 were aggravated. Of the 90 patients 42 were in the early stage, 44 little advanced, and 4 were advanced cases.

Expectoration was diminished in 774, and remained unchanged in 16; cough diminished in 72, and was unchanged in 18; appetite increased in 74, and was unchanged in 16; weight increased in 69, was unchanged in 14, and decreased in 7.

Temperature decreased in 44 and was unchanged in 46; tubercle bacilli were always absent in 11, disappeared in 11, diminished in 32, and remained unchanged in 36.

From these results and my own I am justified in claiming that tuberculosis can be markedly improved and frequently cured with my serum. The pathogenesis of tubercle bacilli may be in some way related to the large amount of fat that they contain. I take cognizance of this in preparing this serum. The production of a tuberculosis serum should be exclusively in the hands of the state for a number of years.

I suggest an international committee on treatment of tuberculosis whose business it would be to investigate remedial efforts against tuberculosis and let the world know the results of such investigations.

Homicide by Carbolic Acid.

A case of some interest was recently before a coroner's and magistrate's court in Toronto, which brought forward the question of homicide by carbolic acid. A citizen was dead on the arrival of a physician who had been summoned hastily. Although four physicians saw the patient in rapid succession, none of them detected the odor of carbolic acid in the room or about the person of deceased. The coroner was notified, and on a post-mortem examination, carbolic acid was found to be the cause of death. Suspicion rested on his supposed wife and a young man who was boarding with them, and their arrest followed, with a charge of murder. No bottle was found which had contained carbolic acid, in the room, and it could not be ascertained where the deceased had got the drug, nor if either of the accused had purchased it. The crown became possessed of the idea that the victim had been administered carbolic acid for a length of time, and the officers of the crown endeavored to prove that such could be possible and that carbolic acid could be administered in some other substance which would disguise its peculiar odor and taste. After dragging along for six weeks, the coroner's court brought in a verdict that the deceased had come to his death by carbolic acid, by other than his own hand. The case was then brought into the police magistrate's court, where it was at once summarily dismissed, and the prisoners liberated. The case, however, brings up two interesting features: Can there be such a thing as poisoning by carbolic acid administered internally, chronic in form, similar to chronic arsenical poisoning for example; and could carbolic acid be given any one in such a form, the odor and taste so disguised, that the person to whom it was given would not know what he was taking?

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TUBERCULOSIS.

The present issue of THE JOURNAL is devoted mainly to the subject of pulmonary tuberculosis, the one disease that is just now foremost among subjects of medical discussion. Probably nothing has stirred up the medical profession at any time during the past century as has Koch's discovery of the tubercle bacillus. The disease we have had always with us and the suspicion of its communicability was not new, but this scientific confirmation of the facts and the practical deductions therefrom have amply warranted enthusiasm. We know now that tuberculosis, which is responsible for so large a proportion of human mortality, is an infectious disorder, and what is still more valuable knowledge, that it can be recognized in its early stages while still curable and that it is to a certain extent preventable. It is natural that, under these circumstances, enthusiasm should be aroused and sometimes extravagance be indulged in even by medical men in their estimation of the dangers of infection. Very little, however, if any, of this tendency will be met with in the papers in this issue.

There are yet many points to be cleared up in regard to tuberculosis, and it may be that some of our present views as to its mode of infection may have to be modified in some respects, but it can safely be said that the papers in this issue fairly represent the present consensus of opinion in regard to it. The more hopeful views of the disease are gaining ground and it is possible that in the future more stress will be laid on constitutional and environmental and less on the bacteriologic factors in its etiology. If we are to accept the statements and views of some modern writers as to the prevalence of cured and latent or quiescent phthisis we must admit that the bacillus tuberculosis is not as dangerous an organism as it has come to be believed by the public, and our efforts directed to strengthen resistance must be generally considered as of more importance than those aimed at merely restricting the infection. One thing seems reasonably certain; pulmonary consumption is, at least locally, on the decrease. This is shown by Dr. Hinsdale's paper in this number, in which he reports a decrease of the percentage of deaths from pulmonary tuberculosis to all deaths in the city of Philadelphia from 14 to 10 per cent. in fifteen years. Other cities, such as Berlin, where statistics are reliable, show a

similar decrease, and in spite of possible criticisms, it must be admitted that the registrar-general's statistics for Great Britain give similar testimony. It should be remembered in this connection that with a decrease in the general death-rate there might very easily be a proportionate increase in that from consumption, with an actual decrease. But both the actual and the relative mortality are reduced.

There is much yet to do before consumption ceases to be the "great white plague," the one pre-eminent scourge, but the outlook is now more hopeful than ever before. The public has already received rudimentary education on the subject—a little one-sided perhaps in some regards, but nevertheless one on which to build a more complete and perfect body of information. The occasional, somewhat too hysterical manifestations of some of the antituberculosis agitation are only a temporary phase of the progress toward the desired end—the restriction if not the eradication of the disease among men.

HOSPITAL TREATMENT OF TUBERCULOSIS.

The number of hospitals for tuberculosis is increasing rapidly, not only abroad but in this country. In places where special hospitals have not been possible, wards or wings of general hospitals have been set aside for tuberculous patients. While a special hospital is certainly best, it is unquestionably true, that special wards are better than general mixing of patients. It seems to be true that infection with tuberculosis is much more apt to occur where contact is continuous than where it is casual.

In order to get the best, or even satisfactory results from hospitals, it is necessary to specialize. There should be hospitals for advanced cases of tuberculosis, and others for the cases that promise more from treatment. The question arises: Why should we erect hospitals for the hopelessly sick? The good that they do can not be shown by statistics. The patients usually come from crowded homes and insanitary surroundings. They often come from bedrooms occupied by several people. They pass the day-hours in yards or work places where there is little sunshine and much moisture. Such a patient at home is a constant menace to his family and source of some danger to others. This is the great good that these hospitals accomplish. There are lesser benefits. Many people remain in a hospital a short time and return to their friends. If they remain even a short time they are taught the care of the sputum, the necessity for sunlight and general hygiene, and much good for the community has been accomplished. The cures in a large hospital will never be very much of a factor. Even when cured, the patients will seldom get on such a physical plane as will make them useful to their families or to society.

The second class of hospitals for tuberculosis is the sanatorium for the incipient-stage group. Many hospitals concentrate their efforts as much as possible on

those cases of tuberculosis that can be cured and restored to usefulness. Several of the articles in this symposium and the accumulated experiences of hospitals in many countries show that from 25 to 60 per cent. of people with tuberculosis who are properly treated are cured. When cured, they are strong enough to take their places among the bread-winners or the home-makers.

While the climate of the West and of the mountain districts of the East is especially beneficial, the possibilities of sanatoria are not limited to those districts. Sanatoria in those regions that are supposed to be unfavorable for the cure of tuberculosis show an excellent percentage of recoveries. Porches, verandas, wind-shields, solariums, etc., can in a great measure replace the conditions found in more favored locations. Some of these hospitals have been built by states or municipalities, some by private charity, and others as business propositions. Each source is legitimate and proper. The duty of the state to cure where it can is no less urgent than it is to care for those that are helpless. The article by Mr. Scruggs covers the point of right, though it is clear that a state has the right to do whatever is its duty.

Inquestionably hospitals will be built on the lines advocated by Dr. Oliver, namely, small hospitals for small communities—serving as sanitary homes for those having tuberculosis to an incurable degree, and being havens of hope for others.

HOME TREATMENT OF TUBERCULOSIS.

The profession is to be congratulated on the progress made in the study of tuberculosis during the last few years. Through better knowledge of the subject, more people recover from the disease, an earlier diagnosis is made in many cases, and a more rational care of the patients has come about. The modern sanatorium management too, we may well believe, offers the best chances for recovery and is destined to still further reduce the general mortality.

But most patients are unable to pay for institution treatment and the state can never hope to provide sanatoria for half of the indigent cases, even if they were all willing to go to them, which is not the case. There will always be a large number of people who will sicken with consumption and recover or die from it at home. These must depend, in the main, on the assistance of their family physicians. Are these physicians doing as well as they can for such cases? Are such cases having as good a chance for their lives as their circumstances and surroundings make possible? We think it is only fair to answer each of these questions in the negative. Physicians are too often careless as to details of hygienic management, on which the life or death of the patient depends. Some seem never to have learned that benefit can come of such measures. Most such patients have no carefully ordered hygienic management, except that which they devise themselves.

They are given medicines, usually tonics, such as strychnin, iron, quinin, cod-liver oil and whiskey, all of which in their way are beneficial. They are admonished to eat and to cut down or stop their work, both of which they do in a most empirical and unscientific way. Every patient ought to receive from his physician a carefully prepared schedule of regimen, written out minutely if need be, and to be observed continuously. It should cover all details as to the number of hours daily to rest, and how to do it; the methods of rest out of doors; the kind of room and bed to sleep in; the ventilation for both night and day; the character and amount of exercise; the way to be clothed; the food for each meal, and the number of meals each day—more than three—and the hours they are to be eaten; the care of the stomach and bowels; and the management of amusement for mental tranquillity.

How many cases in a hundred ever have such attention? Yet the life of many a consumptive depends on avoiding some indiscretion which such rigid rules might prevent, and it is attention to just such details as these that makes the remarkable records of the sanatoria. Is it impossible to give the average case some fair approach to such efficient services at home? We prefer not to believe it. The people are ignorant and not to blame if they fail. The physician knows the value of these measures and is responsible. He ought not to evade his responsibility. The home treatment of pulmonary tuberculosis is, we believe, not half as effective as it might be made, and ought to be.

COCAINIZATION OF THE SPINAL CORD.

Although but little more than a year has elapsed since Bier presented his first article on cocaineization of the spinal cord as a means of inducing anesthesia for surgical purposes, he has also deemed it necessary to warn against the too free use of the drug in this manner.¹

He considers the dose of 4 cgs. to 5 cgs., which has been used, as dangerous, and says the dose should not exceed 15 mgs. He holds the problem is not to use cocaine in the manner which he first described, and for which he predicts no great future, but to devise means of rendering cocaine harmless and to prevent its unpleasant after-effects or to discover some non-toxic substance. He has been working along these lines with some success, but says that all these experiments are not yet concluded, but that they still need to be worked out.

Lest the apparent simplicity of the method may lead to its rash use, it may be well to point out some of its difficulties and dangers. In the first place the solution must be absolutely sterile. As cocaine is altered by high temperature, the sterilization must be carried on at a low temperature. This requires much time and care. The solution should be freshly prepared, as the use of an old solution has failed to produce the desired anesthesia. The introduction of the needle amounts practically to

¹ *Munch. Med. Woch.*, 1900, xxxvi, S. 1226.

a lumbar puncture, as the solution must not be injected until clear cerebrospinal fluid is seen to escape from the needle. While lumbar puncture is ordinarily a simple and safe procedure, it is not always so, as Gumprecht² reports 17 cases of sudden death following simple lumbar puncture for diagnostic purposes. The toxic properties of cocain, when injected elsewhere in the body, are well known, and Bergmann³ reports a case of the most acute poisoning following the injection of 3 cgs. into the calf of the leg in a man in whom the day before he had injected 5 cgs. into the gluteal region without perceptible symptoms. As a rule, intoxication symptoms follow the injection of cocain into the subarachnoid space. While these symptoms are usually mild and evanescent, they are not always so. Racoviceanu Pitesti⁴ reports 125 cases with the following results: In 4 cases anesthesia failed and he was obliged to resort to chloroform; in 2 cases anesthesia ceased before the operation was finished; of the first 100 cases, 17 showed no disturbance; 80 had light intoxication symptoms lasting from twelve hours to five days, while in 3 the intoxication was so severe that life was in great danger. He considers the presence of kidney disease a contraindication and that patients with heart disease and arteriosclerosis require close watching. He concluded that the methods can not take the place of chloroform or ether, on account of its many inconveniences and the inconstancy of the solution.

Tuffier⁵ in 125 cases had 5 deaths, 4 of which could not be referred to the anesthetic; the fifth, however, died with symptoms of asphyxia. The autopsy showed mitral insufficiency and two fresh lung emboli. He says the method should not be used in children nor in the hysterical.

It is apparent from these facts that the method is not free from danger, and should be used only with the greatest caution and attention to detail. It would also seem advisable that the indications and contraindications should be more definitely determined and the problems pointed out by Bier be solved by those in position to do so before the method be generally adopted by the profession.

THE HALL OF FAME.

The Hall of Fame, which is to be the American Westminster Abbey, has received its first score and a half of inmates by the suffrages of the 100 judges selected from among college presidents and jurists. The results thus far are interesting in several points of view. There is hardly anyone whose opinion is worth anything who will not, in view of the names selected from and those selected, find something to criticize. As physicians we have a grievance in that, while several eminent men had been suggested, not one of our profession was deemed worthy of a place in this Walhalla. The statement is made on good authority that this is due to the light vote

east for any physician by the chief justices on the jury, and the fact is a commentary on the plan of giving such matters to the decision of members of an elective judiciary. The vote is, we understand, to be published in full detail, and its study will undoubtedly afford much food for reflection.

DILATATION OF STOMACH DUE TO COMPRESSION OF DUODENO-JEJUNAL JUNCTION BY MESENTERIC ARTERY, VEIN AND NERVE.

A writer in the *American Practitioner and News* for August, 1900, calls attention to a cause of dilatation of the stomach in visceral ptosis by pressure on the duodenum by the superior mesenteric artery, vein and nerve. He claims to have studied the subject for several years and the paper is illustrated with diagrams and sketches intended to make clear the mechanism. As he found no records in the literature showing that dilatation of the stomach may be caused in this way, he considers his observations as original. There is no occasion to doubt the author's claim that his observations are original in so far as they were made without previous knowledge of similar observations being recorded in medical literature, but his investigations into the literature must have been exceedingly superficial and limited. The subject is dealt with in an editorial abstract in *THE JOURNAL* xxxiii, p. 487, based on an article by P. A. Albrecht, which appeared in *Virchow's Archiv*, clvi. In this article Albrecht describes two striking and fatal instances of this form of obstruction and refers to similar observations by Glenard, Kundrat and Schnitzler.

DISEMBODIED PRACTITIONERS.

In the State of Massachusetts a medical-practice act, rigid in other respects, exempts from its provisions clairvoyants, mental healers, magnetic healers and those that practice the curing of diseases by the use of hypnotism. In other words, the greater the humbug the greater is the privilege, while any pretense to accurate knowledge must be rigorously investigated. It would seem that the lawmakers reasoned that since a little knowledge was a dangerous thing, absolute ignorance must be safe, a fallacy the more readily adopted since it is a natural tendency of human imbecility to love to be humbugged, as that eminent student of human nature, P. T. Barnum, expressed it. Like the silversmiths of Ephesus, the Massachusetts legislators may also have had self-interest in mind, for does not the great goddess of "Christian Science" reside among them, at least part of the time? In a recent lawsuit it was held that bills for medical treatment by spirits could be legally collected by the individuals through whom these disembodied practitioners acted. No question appears to have been asked as to the qualifications of these ghosts, though the plaintiff only claimed to act as their instrument. Whether such temporary inspiration can properly be accepted under the law, as it appears to have been in this case, may be open to question; at any rate, there is a chance for an interesting legal quibble. If a man is not really himself, or claims not to be, when under such influence, has he the right to practice in the name of another whether that other be living or dead?

² Deutsche Med. Woch., 1900, xxvi, S. 336.

³ Muench. Med. Woch., 1900, xlvii, S. 392.

⁴ Berl. Klin. Woch., 1900, xxxiii, S. 711.

⁵ Ibid.

Leaving such matters aside, however, it seems a pity that the laws in the region that popularly passes as the center of culture of this continent should be restrictive only on those that have some pretense to qualifications and should offer such premiums to ignorance and superstition.

ALLEGED INSANITY IN THE ARMY ABROAD.

According to some of the sensational journals of the day, it would appear that the American army serving in the Orient was being decimated—if that is the word—by mental disorders. Thrilling statements as to the effects of climate and homesickness have been sent abroad and it would seem quite possible that they have caused serious distress to friends and some concern to well-wishers of our soldiers generally. According to a Washington dispatch, this anxiety is altogether needless. From reports received by the surgeon-general of the army, there have been only 84 cases of insanity last year among the troops in the Philippines, though from newspaper accounts there ought to have been ten times as many. There were, it is said, only 188 cases altogether in the whole army of over 100,000 men, which gives fully as favorable a percentage as we have in any class of our population. Moreover, half of these cases were only temporary results of nostalgia which were quickly recovered from, the most then returning to duty. A specially favorable fact is that the number of cases attributed to intemperance was very small; this has a bearing also on another frequently repeated scandal. These facts are given out in advance of Surgeon-General Sternberg's report, which, it is said, discusses the subject somewhat fully. We see no reason to doubt their reliability.

THE REVIEWING OF BOOKS.

A majority of the book reviews nowadays are favorable. This has led to the statement that literary magazines are "publishers' organs." To this charge the *Chicago Sunday Tribune* for September 30 makes answer. It admits the truth of the statement in the opening line. "The contrast with the slashing of the *Edinburgh Review* is indeed marked, but it by no means follows that the book reviews of the present time are any more a failure than those which flayed Shelley or drove Keats to an early grave." The conditions in the book market are such that but a fraction of the books published can be reviewed, and hence the tendency to select for review chiefly the books worthy of praise, the inferior productions simply being ignored. And then personal animosity and political prejudice no longer play any such part in the reviewing of books as they did a century ago—and this is certainly right. For these two reasons the *Tribune* considers a return to the older methods of "slashing criticism" as undesirable. The conditions in medical literature are not unlike those in the literary world at large. The great number of medical books now issued practically preclude critical reviews of all. Time and space are too valuable to be wasted in giving detailed and critical examinations of all the publications placed on the editor's table; the majority of which are of an elementary and ephemeral nature, not altogether worthless, perhaps, but surely

not of such character as to produce any impression on the development of medical science. Many medical periodicals have adopted the policy of acknowledging all books received, selecting only the more important for review. It is natural that under these circumstances the majority of reviews are of a commendable tone. Yet these journals are not, therefore, "publishers'" or "house organs." Let the very fact that a book is chosen for review mark it as one of considerable importance! The standard of the review columns in medical journals should be so high that an author would feel honored when his book is dignified by being reviewed. Reviews of this sort need not be of unreserved praise; dignified criticism is always desirable when offered by competent reviewers in true scientific spirit. "Roasts," on the other hand, are productive of unnecessary ill-feeling, even when bestowed on worthless books that had better be left entirely unnoticed. Managed in this manner, the book departments of medical journals would soon rise to something more than gratuitous advertisements of recent publications without discriminating between the worthy and the insignificant.

SOME STATISTICS OF INSANITY.

A recent study of the statistics of the Hudson River State Hospital for the Insane, by Dr. Charles W. Pilgrim,¹ though covering but a comparatively limited number of cases, presents some features of interest. In the first place, it seems to show that modern methods are productive of better results in the care and cure of the insane than those in the past. From the opening of the institution in 1871 until 1896, a period of twenty-five years, the average recovery-rate was about 21 per cent. on the admissions, and those discharged improved, 11.5 per cent., while, making all due allowances for earlier unfavorable conditions such as the larger proportion of chronic cases transferred to a new institution, the present total exceeds the above average by at least 9 per cent. This, it should be remembered, is an estimate made with the modern conservatism in estimating recoveries, for the old fashion of counting every lucid interval a recovery has of late years been replaced by an extreme caution in this respect. Many of the patients discharged as improved would have been counted without hesitation as recoveries in former years. Another point of interest in this connection is that these statistics support the hopeful view that bad as the outlook usually may be, yet while there is life there is hope in all insanities where there is not indisputable evidence of profound damage to the brain. Eight out of the year's recoveries had been insane for two to five years before reception, and nine had been inmates for like periods. Such facts, and they are frequent in asylum experience, indicate that even chronic insanity may yield to modern methods. An analysis is made by Dr. Pilgrim of the data as to the hour of death, a subject of possibly more popular than scientific interest, but one that is nevertheless worthy of study if only because of the popular beliefs. Dr. Pilgrim found that the most fatal hours of the day were between noon and 6 p.m., 31 per cent. of all deaths occurring within this period. In fact, the highest point of the death-rate in the statis-

¹ Am. Jour. of Insanity, July.

tics of the last decade was reached between the hours of 3 to 6 p.m.; the next highest point was between the hours of 3 and 6 a.m., though this was affected by a decided fall between the hours of 4 and 5 a.m., when it went down to the lowest figure in the whole twenty-four hours. These figures therefore show, as Dr. Pilgrim says, "that there is some reason for the popular belief that many deaths occur during the early morning hours, but they show still more plainly that the majority of those who suffer from long-continued mental disease give up their lives toward the close of the day." Still another point noted by Pilgrim, which bears out a popular belief, is that of the return of mental lucidity at or a little before the moment of death. He finds this true in many cases, especially in the insane dying from phthisis or acute intercurrent diseases or injuries that produce a profound shock on the general system. This fact has been often noticed, but, as he says, little has been written in regard to it. A perfectly satisfactory explanation has not been given nor has its psycho-pathologic significance been fully appreciated, possibly because of the difficulties of investigation necessarily involved. Dr. Pilgrim's article is a suggestive one, and indicative of the probable value of more general statistical studies of the kind in regard to insanity.

Medical News.

ALABAMA.

THE BIRMINGHAM MEDICAL COLLEGE began its seventh annual session, October 2.

DR. MILTON B. KIRKPATRICK, Montgomery, has been elected county physician of Montgomery county to fill the unexpired term of J. H. Naftel, deceased.

ST. VINCENT'S HOSPITAL, Birmingham, will not be ready for opening for about two weeks, but a few patients are being received to relieve the strain on the temporary hospital.

CALIFORNIA.

DR. T. EDWARD BAILEY, San Francisco, has succeeded Dr. Walter S. Thorne as chief physician and gynecologist at St. Mary's Hospital.

DR. ISADORE E. COHN, Berkeley, as a result of a competitive examination, has been appointed third assistant physician of the Napa State Hospital for the Insane.

THE ALAMEDA Board of Health is framing an ordinance for presentation and passage which will make it a misdemeanor for any undertaker to handle a dead body without first securing the physician's certificate.

COL. A. C. GIRARD, chief surgeon at the Presidio Hospital, has declined the position of chief surgeon, Department of the Lakes at Chicago, on the ground that the duties of his position in Chicago would be mostly office details, while in his present position he has great opportunities for surgical work.

ONE of two helminthologists who crawled into Los Angeles from Mexico some months ago, was fined last week \$50 for practicing medicine in Long Beach without a license. He had already paid two \$100 fines to the city for the same offense. He was let off easy this time on the promise of leaving the country.

COLORADO.

THE NEW building of the County Hospital at Colorado Springs is completed at a cost of \$25,000.

DR. FREDERICK E. WARREN and Miss Ida M. Miller, both of Denver, were married at the country home of the bride's parents, October 3.

THE ST. LUKE'S HOSPITAL AID SOCIETY, Denver, reports that during the year, 1010 patients were treated in the hospital and that eleven nurses were graduated from its training school.

DENVER'S MORTALITY for September was 58, a death-rate of 13.13 per thousand per annum. The births for the month numbered 114. Twenty-one cases of smallpox, 17 of scarlet fever and 40 of typhoid fever were reported during the month.

DISTRICT OF COLUMBIA.

THE PROVIDENCE HOSPITAL medical board, on October 2, elected Dr. Middleton F. Cuthbert, gynecologist and Dr. Joseph S. Wall a member of the medical staff.

THE HEALTH OFFICER of the District reports 108 deaths for the week ended October 4, a death-rate of 20.16 per thousand per annum. During the week 15 cases of diphtheria and 6 of scarlet fever were reported.

THE INTENDANT of the Government Hospital for the Insane has transmitted to the commissioners a report for the fiscal year ending June 30, together with estimates for maintenance and improvements for the following year. The total estimate for the above amounts to \$210,600, and \$22,753 for salaries and operating expenses. The value of farm produce raised during the year was \$6376.98.

HOWARD UNIVERSITY MEDICAL DEPARTMENT held its opening exercises at Freedmen's Hospital, October 1. Prof. Hodgkin, of the dental department, made the opening address.

THE GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE opened its fall term October 1. Dr. George L. Magruder, dean of the faculty, presided and announced the following changes in the faculty: Dr. John F. Moran, professor of obstetrics, vice Dr. Henry D. Fry, resigned; Dr. Isaac W. Blackburn, who has been ill for two years, resumes his duties as professor of pathology and morbid anatomy.

ILLINOIS.

DR. FRANK B. FISHER, Springfield, was married October 3 to Miss Carrie Furber at Carlinville.

DR. WILLIAM J. CHENOWETH, the oldest practitioner in Deatur, has gone to California, where he will reside for the future.

THE STATE BOARD OF HEALTH has decided to carry its case against Dr. W. Frank Cross, charged with unprofessional conduct in connection with medical colleges, to the Supreme Court.

Chicago.

DR. JAMES NEVINS HYDE has returned from a trip to Norway.

DR. GEORGE W. WEBSTER has been appointed a member of the Illinois State Board of Health, to succeed Dr. R. F. Bennett.

DR. SARAH HACKETT STEVENSON has returned from her trip to Europe, which included the congress in Paris and the Passion Play at Ober-Ammergau.

THE REGULAR quarterly medical examination closed October 11. Forty-one persons took the examination, twenty-seven of whom are candidates for physicians' certificates, eight for certificates of midwife, and six are classed under the head of "other practitioners."

DR. ARTHUR R. REYNOLDS, secretary to the Galveston Relief Committee, returned from his tour of investigation in Texas, October 15. He thinks that the contributions from Chicago public schools should be applied to the replacement of the public school system in Galveston.

A NUMBER of Chicago "Doctors" who have bought diplomas from the Metropolitan Medical College, or have in other ways violated the laws governing the practice of medicine, have been arraigned by the State Board of Health, which is now making a vigorous war against illicit practitioners.

MORE THAN 130 medical societies thus far have appointed representatives to attend the Fenger banquet. Dr. Charles A. L. Reed, Cincinnati, will be toastmaster; and Drs. Joseph M. Mathews, Louisville; Charles A. Wheaton, St. Paul; Charles B. Nanerode, Ann Arbor; Nicholas Senn and others will be among the speakers.

ERRORS in the form of the instructions given the jury in the Superior Court have brought a retrial of the X-ray suit, in which Frank V. Balling, the plaintiff, was awarded judgment. The suit was the result of the application of the rays to Balling's ankles by Dr. O. L. Schmidt and W. C. Fuchs, Mr. Balling declared that in consequence he was compelled to submit to three painful amputations.

HEALTH DEPARTMENT.

The recorded deaths for the week ended October 13 numbered 449—an increase of 51 over the previous week and of 30 over the corresponding week of 1899. This increase is not so serious as was apprehended in the Bulletin of October 6, as a result of the sudden change of temperature at the close of that week. In fact, the increase is in deaths from diseases with which—except as to diphtheria—the weather has little to do. Cancer, consumption, and heart and nervous diseases account for 40 of the increase. The diphtheria mortality has as usual increased steadily since the opening of the schools on September 10. Up to that date the weekly average of deaths from diphtheria had been 8. Following are the deaths by weeks since school opening: September 15, seven; September 22, 9; September 29, 14; October 6, 15; October 13, 21—a weekly average of 15 for the last four weeks, or an increase of nearly 90 per cent. over the previous weekly average. The death-rate per thousand per annum was 13.77; for the corresponding week in 1899, it was 13.59, and for the week ended October 6, 1900, 12.20. Of males 250, and of females 199 died. Under one year 93 died; between 1 and 5 years 54, and over 60 years, 80. The principal causes of death were: Acute intestinal diseases, 50; heart diseases, 49; consumption, 46; nervous diseases, 32; pneumonia, 27; cancer and diphtheria, each 21; Bright's disease, 18; typhoid fever, 11; scarlet fever, 4; suicide, 9 and violence, 19. During the week 575 births were reported. In the laboratory, 77 bacteriological examinations were made and 81 samples of milk were analyzed, 6.17 per cent. of which were found to be below grade.

LOUISIANA.

THE NEW ORLEANS Board of Health has neglected to attach the necessary 50-cent. war stamp to the marriage bonds issued since July, 1898.

DR. T. EDWARD SCHUMPERT, manager of the Shreveport Sanatorium, has associated with him in its management Drs. Thomas G. Ford and J. Ashton Blanchard.

THE ELECTION of officers of the Charity Hospital board at Shreveport, October 9, resulted in favor of Dr. Robert A. Gray, president; Dr. Randall Hunt, chief surgeon, and Dr. Isaac N. Callaway, resident physician and superintendent.

THE STATE BOARD OF HEALTH has issued blanks to the various health officers and coroners throughout the state in accordance with the law passed by the last legislature regarding the collection of vital statistics in the country parishes. The reports are to be made quarterly, and from them the vital statistics of the state will be tabulated.

MARYLAND.

AT THE monthly meeting of the board of directors of Springfield Asylum for the Insane, October 10, it was decided not to admit feeble-minded and idiotic children to the institution.

DR. HOWARD BRATTON, health officer of Cecil county, reports that there were 26 cases of typhoid fever in that county in September, with 5 cases of diphtheria at Providence and 2 at Pleasant Hill.

Baltimore.

DR. CHARLES O'DONOVAN was elected vice-president of the Catholic Club.

DR. GEORGE W. DOBBIN was married to Miss Beatrice Dunderalde, of Chicago, October 14.

DR. JOHN C. HEMMETER has returned after a tour embracing the principal cities of Europe.

THE COLLEGE OF PHYSICIANS AND SURGEONS formally opened for its twenty-ninth annual session on October 1.

IN COMPUTING the death-rate after January 1, 1901, the health department will accept the U. S. census population figure.

JOHNS HOPKINS UNIVERSITY MEDICAL DEPARTMENT opened October 1, with a total enrollment of 215. Dr. Percy M. Dawson has been made associate professor of physiology and Dr. William G. MacCallum associate professor of pathology.

THE JAIL BOARD has named a resolution requesting Dr. Thomas Opie, one of its members to consult with Dr. George L. Wilkins, jail physician, as the best way of keeping tuberculous prisoners isolated from other prisoners, and of otherwise lessening the possibility of a spread of the disease.

FOR THE WEEK ended October 13, the deaths were only 169 against 192 for the previous week, a death-rate of 16.24 per thousand per annum. There were 9 deaths from typhoid fever, 5 from diphtheria and "eroup," 16 from tuberculosis, 8 from cancer, 7 from pneumonia, 10 from cholera infantum, and 12 from Bright's disease. New cases were reported of diphtheria, 49; typhoid fever, 47; scarlet fever, 10; measles, 14. Only 114 births were reported.

MICHIGAN.

AN INSTANCE of cheese poisoning occurred at Climax, in which cheese there was found, at the State Laboratory of Hygiene, a virulent form of the colon bacillus.

THE DELTA COUNTY HOSPITAL has completed a \$4000 addition, and within two weeks, twelve additional rooms will be ready, which will give the hospital a capacity of 75 beds.

ABOUT two months ago H. Reynolds arrived in Coldwater from Detroit and began the practice of medicine. He was arrested October 10 on the charge of practicing without a license, and in the default of bail was locked up in the county jail.

A NUMBER of the diplomates of the Independent Medical College, Chicago, who thus far defied the law, appeared before the State Board of Examination and Registration, October 9 and 10 at Lansing. They are evidently beginning to appreciate that they must obey the law or leave the state.

TWO BUILDINGS, each 50x104 feet and two stories high, are almost completed for the Upper Peninsula Hospital for the Insane at Newberry. The State Board of Corrections and Charities will recommend an appropriation of \$171,000 to erect two more cottages, an infirmary and an amusement hall for the hospital.

THE STATE BOARD OF HEALTH has received the following communication from a resident of one of the interior cities: "How does the State Board view the matter of death certificates? . . . We have two men here who have not been registered, and who have made application and been informed that they were not eligible, and yet they are doing business just the same as though they were. One of them has more funerals than all the other doctors put together."

MINNESOTA.

THE ESTABLISHMENT of a down-town corps of nurses for the poor, is under consideration in Minneapolis.

DR. NELLIE S. SHULEAN, Minneapolis, a graduate of Hamline University, has gone to Porto Rico as a medical missionary.

FORTY-THREE applicants for licenses to practice medicine in Minnesota appeared before the State Board of Medical Examiners at St. Paul, Oct. 2. Four of the applicants were women.

THE STATE INSTITUTIONS for dependents have 306 more inmates than in September 1899, 142 of whom are in the state hospitals for the insane. There are now 6107 inmates in state institutions.

ADDITIONS to the teaching force in the medical department of Hamline University are the following: Dr. Horatio B. Sweetser, Minneapolis, professor of surgery; Dr. Frederick J. Plondke, St. Paul, instructor in histology; Dr. Charles F. Disen, Minneapolis, assistant in anatomy, and Drs. Lyle C. Bacon, Knox Bacon and Mason Allen, St. Paul, assistants in clinical medicine.

MISSOURI.

DR. EDWARD EVANS PARRISH and Miss Estella Martha Mudd, both of Memphis, were married Oct. 2.

DR. JOHN ALBERT JAMES JAMES, St. Louis, was married to Miss Nelle Blanche Robeson, at Rochester, N. Y., Oct. 2.

DR. W. ELMER MONTGOMERY, Kansas City, was married to Miss Grace Hubbert, of Neosho, Mo., at St. Louis, Oct. 3.

DR. WILLIAM BACON, who has been studying in Germany for a year past, has returned to his home in St. Louis.

THE HEALTH DEPARTMENT of Kansas City has wisely decided to leave the problem of fighting smallpox and taking precautionary measures against it to the judgment of the city physician, Dr. Coffin.

DR. S. C. JAMES, the Kansas City member of the State Board, is making a praiseworthy effort to stop the illegal practice of medicine in his city. He is particularly after one whose diploma "by the Missouri Eclectic Medical College of Kansas City, Mo., was entirely complimentary and was not intended to indicate his attendance or graduation from this institution."

THE CRUSADE against unlicensed physicians in St. Louis has begun. The secretary of the State Board of Health has obtained warrants charging practice of medicine without a license, against three of the thirty-three unlicensed practitioners, and says that the day of arraignment for the others is just dawning.

NEW YORK.

DR. JAMES A. CROMIN, Buffalo, was married to Miss Mame Richards, at Seneca Falls, Oct. 3.

IN UTICA during September, 102 deaths were reported, a death-rate per thousand per annum of 21.5. The birth-rate for the same period was 19.1.

AN ARMENIAN who claimed to be a licensed practitioner was sent to jail for 55 days by Recorder Morschauer, Poughkeepsie, for defrauding a boarding-house keeper.

THE FIRST of a series of small colonies or farms for consumptives has just been established at Schroon Lake, in the foothills of the Adirondacks, by the Indigent Consumptives' Association, of which Dr. J. Austin Kelly is president. A plot of ground nearly 5000 acres in extent has been purchased, which will be laid out in small farms, each having its own house, truck patch or vineyard, where the patients can work and have some diversion from the contemplation of their own and their neighbors' ills.

New York City.

DR. THOMAS M. NEAFREY, house surgeon at the Harlem Hospital, was married a year ago to Miss Winters, of Sea Cliff, Long Island. As the rules of the hospital required all internes to be unmarried, he did not disclose his marriage until the expiration of his term on Oct. 1.

THE CITY BRANCH of the Loomis Sanitarium for Consumptives has recently been enlarged, and the required number of beds added to make this hospital eligible for admission to the Hospital Saturday and Sunday Association. It has now been admitted to this association, being the thirty-ninth on the list.

LAST WEEK the health officer of the port discovered the first case of yellow fever that has developed among saloon cabin passengers this year. The patient was on the Ward line steamer *Havana*, and as he presented suspicious symptoms on the arrival of that vessel, he was placed on Hoffman Island for observation. By the next day there was no longer any doubt that he was suffering from yellow fever.

AT A MEETING of the medical board of the Metropolitan Dispensary and Hospital, the following resolution was passed:

"Inasmuch as by the death of Dr. John M. Brown [see THE JOURNAL, Sept. 29, p. 836], the Metropolitan Dispensary and Hospital has sustained a loss which is poignantly felt and with difficulty retrieved, and since, individually, we miss the rugged honesty, the incorruptible friendship which was constantly evidenced to us who knew him intimately, be it *Resolved*, that this feeble expression of our esteem for his character and our appreciation of our loss be spread on the minutes, and a copy of this resolution be sent to his family and to the medical press."

OHIO.

DR. PHILIP SEBASTIAN RIEG and Miss Frances Margaret Weick, both of Toledo, were married, October 10.

DR. W. MERRITT JOHNSTON, Findlay, has been elected county physician of Hancock county, to succeed Dr. Harry D. Belt.

DR. AND MRS. YEATMAN WARDLOW, Columbus, were robbed of nearly \$3000 in cash and jewels at a hotel in New York, where they were spending their honeymoon.

MCGUFFY, Hardin county, is having an epidemic of smallpox. Dr. Charles O. Probst, secretary of the State Board of Health, has been notified that there have been 53 cases, but that the disease is now abating.

THE MEDICAL DEPARTMENT of Western Reserve University, Cleveland, began its fifty-sixth year on October 3. Dr. Henry S. Upson delivered the opening address. Dr. George W. Crete has been made professor of clinical surgery.

A PHYSICIANS' SOCIAL CLUB is to be formed in Cincinnati, with headquarters in the old Union City Club. The founders are Drs. N. Pendleton Dandridge, William H. Taylor, Jr., Joseph Hall, Jr., John E. Griewe, Paul Gillespie, Mark A. Brown and Charles E. Caldwell. The club will be known as the Cincinnati Medical Club.

THE HEALTH OFFICER of Cincinnati says that his department has sent to the hospital more than a dozen prostitutes suffering from contagious diseases, all of whom had medical certificates pronouncing them free from venereal disease. The inspection of these women by the health department is opposed by some physicians of the city.

THE STATE BOARD of Medical Examination and Registration expects many of the osteopaths to leave the state within the next few weeks. None of them presented themselves at the last examination and the board will take steps to have those remaining in the state indicted for violation of the provisions of the law. The next examination will be held in Columbus, for three days during the week commencing Dec. 1.

THAT LOCAL boards of health may step in and take charge of cases of illness where the patient is not receiving proper attention, is the substance of a decision rendered by Dr. C. O. Probst, of the State Board of Health. Dr. H. A. Snorf, of Ansonia, asked for instructions regarding a little girl lying very ill, whose parents were Dowietes and refused to call in a physician. After consultation with the attorney-general, Dr. Probst replied that there was no doubt that the local board of health could take entire charge of the case, send a physician to take care of the child, and if necessary remove her to a hospital for proper treatment.

PENNSYLVANIA.

DR. JOHN B. LOWMAN, Johnstown, returned on Oct. 5, from his trip to Europe.

THE WEST PENN MEDICAL COLLEGE, Pittsburg, opened for its annual session on Oct. 2.

DR. DAVID T. MCKINNEY, New Brighton, was married to Miss Catherine Minnis, at New Haven, Oct. 3.

THE LOCK HAVEN HOSPITAL has received a donation of a building site more than four acres in extent, on Susquehanna avenue, from Mr. Wilson Kistler, president of the hospital association.

THE STATE CONVENTION of County Commissioners, which met at Allentown October 9, considered whether or not the office of coroner should be abolished. Opinion seemed to be

divided. One resolution provided for the repeal of the law which requires registration of the births and deaths of persons in the state.

THE STATE DIRECTORS of the Poor made an investigation of the insane asylum of Luzerne county, October 11, and found the management to be so good that they have decided to recommend the plan of this institution to others in the state. The new building cost \$300,000. The inmates of the asylums at Danville and Wernersville have been taken to this hospital.

Philadelphia.

DRS. JUDSON DALAND, W. M. L. COPLIN and CHARLES P. NOBLE have returned from their trip to Europe.

DR. F. SAVARY PEARCE has been appointed clinical professor of nervous diseases in the Medico-Chirurgical College, to succeed Dr. Charles W. Burr, resigned.

DR. JOSEPH MCFARLAND, professor of pathology, delivered the address at the opening of the Medico-Chirurgical College, on "The Relation of the Mosquito to Malaria Fever."

DR. ELLA B. EVERETT delivered the address to the students at the opening of the Woman's Medical College, September 26. The following changes in faculty are announced: Dr. William V. Laws, professor of clinical and operative surgery, and Mae T. Harders, demonstrator of pharmacy.

EDWARD M. PAXSON, formerly chief justice of the Supreme Court of Pennsylvania, has been elected president of the Medico-Chirurgical College, to succeed C. William Bergner, resigned. It has been decided to select only laymen as members of the board of trustees of this college, hereafter. At the present time a large number of physicians serve on the board.

THE SEVENTEENTH annual report of the Kensington Hospital for Women has been issued and shows that there were treated in the hospital during the year 839 cases, as compared with 602 cases in the previous year. Several additions are to be made at an early date, including an isolated ward for septic cases. Dr. Charles P. Noble was elected surgeon-in-chief for the ensuing year. The new directors are Bishop O. W. Whitaker, William P. Ellison, Dr. Howard A. Kelly and John B. Stetson.

THE DEATHS in the city for the week ended October 13 were 338, an increase of 4 over the previous week, and a decrease of 44 as compared with the previous week of 1899. The principal causes of death were: Apoplexy, 3; nephritis, 22; cancer, 16; tuberculosis, 55; heart disease, 22; bronchitis, 4; pneumonia, 14; inflammation of stomach and bowels, 14; marasmus, 17; poisoning, 2; suicide, 2; and tetanus, 1. Of contagious diseases 99 cases of diphtheria were reported, with 16 deaths; scarlet fever, 24 cases, 1 death; typhoid fever, 49 cases, 10 deaths.

THE UNIVERSITY OF PENNSYLVANIA will be the recipient of a gift on the part of Mrs. S. Weir Mitchell, who intends building as a memorial to her daughter an addition to the hospital, which will be used as a general ward or will be devoted to the treatment of contagious diseases. The idea of a pay hospital for contagious diseases originated in Philadelphia several years ago, and up to this time about \$5000 or \$6000 has been raised to establish that institution. The new building will be a welcome addition to the University.

AT THE LAST MEETING of the Board of Charities and Corrections, held a few days ago, Dr. John V. Shoemaker introduced a resolution to enlarge the clinical teaching in the Philadelphia Hospital. In this way it is hoped to offer advantages similar to those found in Vienna, and other cities of Europe. The general clinics and pathologic instruction are to be free to all students registered at the different medical schools. General clinics are to be given in the amphitheater twice each week, and assignments for clinical lectures are to be made from the medical staff. Classes of students are not to exceed ten at one time. Surgical and gynecological cases are to be open to physicians and students under proper regulations. Clinical lectures on and presentation of cases of insanity will be made a special feature, and the teaching of the different specialties will be arranged by the respective members of the

medical staff. Pathologists will be allowed to have classes, not exceeding twenty-five in number in the hospital museum. While such a liberal offer has been made for the utility of the different clinics to be held, the welfare of the sick is to be considered the first duty of the physician. Dr. Simon Flexner and Dr. Joseph McFarland were appointed pathologists to the hospital, and Dr. R. F. Sonnekamp assistant physician to the insane department. Dr. Robley D. Newton becomes surgical registrar.

TENNESSEE.

DR. HEBER JONES, President of the Memphis Board of Health, has gone to Europe for a three months' vacation.

THE VANDERBILT UNIVERSITY Medical Department, Nashville, opened for the college year, Oct. 1. Dr. Richard Douglas delivered the address of welcome and Dr. John A. Witherspoon conducted the first clinic at the City Hospital.

DR. HENRY P. COLLE, city physician of Knoxville during 1898 and 1899, who sued the city for \$5,000 which he claimed was due him for attending smallpox cases while in the employ of the city, has been non-suited and will appeal to the Supreme Court.

INITIAL STEPS were taken at the recent meeting of the Tri-State Medical Society of Tennessee, Alabama and Georgia, at Chattanooga, to secure medical legislation in the three states mentioned regulating or prohibiting the marriage of habitual criminals, persons afflicted with incurable diseases, drunkards and victims of harmful drugs.

THE MEDICAL COLLEGE of the University of Nashville opened for its annual session, Oct. 1. Dr. William G. Ewing made the annual address, which dealt with the history of the institution. The changes in the faculty are: Dr. Carl C. Warden, professor of anatomy; Dr. William G. Frierson, adjunct professor of surgery, and Dr. J. Dillard Jacobs, professor of physiology and hygiene.

TWO UNDERTAKERS, named Thompson, were recently convicted in Memphis of having engaged in cadaver traffic. They were said to have shipped bodies out of the state in zinc-lined and air-tight trunks. The undertakers were sentenced to pay a fine of \$750 each, and to serve 11 months and 29 days in the workhouse. The case was appealed to the Supreme Court, where the finding of the lower court was approved. Governor McMillan was then petitioned for a pardon, and wrote to the clerk of the Shelby County Criminal Court instructing him not to execute the sentence until the governor could look into the case. Some three months later, as the governor had taken no action in the matter, the sheriff was instructed by the judge of the criminal court to carry the sentence into execution.

TEXAS.

THE HEALTH DEPARTMENT of Galveston has established two depots for free distribution of disinfectants.

THE JOHN SEALY HOSPITAL, Galveston, is being repaired at the expense of the son and daughter of the philanthropist who donated the building to the state.

THE GALVESTON BOARD OF HEALTH has issued regulations requiring innkeepers to report any case of sickness to the health physician within six hours; and also requiring physicians to report to the same official within six hours full particulars of any patient "sick of any malignant fever or infectious or pestilential disease."

BRACKENRIDGE HALL, the dormitory for the female students of the medical department of the University of Texas, Galveston, which was badly wrecked, is being completely restored and refurnished by Col. George W. Brackenridge, of San Antonio. He has also advanced to the university the money needed for the repairs to the medical school.

VIRGINIA.

THE WILL of the late Dr. Benjamin Harrison, Richmond, was admitted to probate Sept. 21. The value of the estate is \$2000.

DR. CHARLES V. CARRINGTON, Richmond, has been appointed surgeon to the State Penitentiary, to succeed Dr. Benjamin Harrison, deceased.

THE UNIVERSITY COLLEGE OF MEDICINE, Richmond, held its formal opening Oct. 5. Dr. Landon B. Edwards presided. The address was delivered by Dr. Henry Pervis Smith, Davidson College, N. C., on "The Intellectual Value of Scientific Training."

THE MEDICAL COLLEGE OF VIRGINIA, Richmond, began its sixty-third annual session October 20. Dr. Christopher Tompkins, dean of the college, delivered the inaugural address. Dr. Ennion G. Williams has been made professor of histology, pathology and bacteriology, vice Dr. Ernest C. Levy, resigned.

WASHINGTON.

DR. SAMUEL J. HOLMES, bacteriologist of the board of health of Seattle, has resigned, after a service of two years.

DR. WILLIAM G. BOOTH, Seattle, was married to Miss Fannie Hamilton Norfolk, of North Walbrook, Md., September 11.

ST. LUKE'S HOSPITAL, Spokane, was reincorporated September 7. A site for the new building has been donated by John A. Finch.

THE CORNER-STONE of the Sisters of Peace Hospital, New Whatcom, was laid with appropriate ceremonies by Bishop John O'Dea, on September 23.

WEST VIRGINIA.

THE INCORPORATION of the Harrison County Hospital Company at Clarksburg is announced.

MORGANTOWN has a new hospital, which was opened for service, October 3. It has been thoroughly equipped by its owner, Dr. Spencer S. Wade, and is intended for the use of the local profession.

DR. CASSIUS C. HOGG, Huntington, has been promoted and is now major and surgeon, assigned to the Second Infantry, W. Va. N. G.; and Dr. G. Clarence Schoofield, Charleston, has been commissioned first lieutenant and assistant-surgeon and assigned to the same command.

WISCONSIN.

RACINE has about 50 cases of typhoid fever. Some of the physicians have been lax in reporting cases.

DR. ROBERT A. KITTO, Racine, who lost an eye by a street-car accident, a year ago, has so far recovered \$18,000 from insurance companies.

THE MILWAUKEE MEDICAL COLLEGE opened for its seventh annual session, October 2. Dr. John Madden delivered the address of welcome.

AT A MEETING of the State Board of Medical Examiners held at Oshkosh, October 9 and 10, 75 licenses were granted to applicants with diplomas from reputable colleges. Four applicants with diplomas from the Metropolitan College of Illinois were denied licenses.

CANADA.

DR. A. HOLMES SIMPSON, Winnipeg, has been appointed by the Provincial Government of Manitoba, chairman of the Provincial Board of Health.

DR. WEBSTER, of the Rockwood Asylum, Kingston, has been transferred to the Hamilton Asylum for the Insane, and Dr. Herriman of the Hamilton Asylum goes to the Rockwood Asylum. Both changes are promotions and will come into effect November 1.

NEWS from Dawson under date October 4, states that quarantine has been established at the Forks of Bonanza and Eldorado, against smallpox. Smallpox is epidemic at Eldorado, twelve miles from Dawson. There are also twelve cases on the isolation island, two miles below Dawson. A smallpox hospital is under construction at Dawson, and there is felt some

uneasiness lest that city be quarantined against the outside world.

The Medico-Chirurgical Society of Montreal has elected the following officers for the ensuing year: Dr. J. Ferrigno, president; Dr. Stirling, first vice-president; Dr. Macarthy, second vice-president; Dr. Bazin, secretary; Dr. Jaek, treasurer; and librarian, Dr. Lockhart. The retiring president, Dr. J. George Adami, in his report, stated that the society was ready to go on with the work of compiling the addendum to the British Pharmacopoeia, and that it would co-operate with Westmount in the erection of a contagious disease hospital.

QUEEN'S UNIVERSITY, KINGSTON.

A public meeting was held in the city of Kingston, October 9, for the purpose of discussing the granting by the city of \$50,000 to Queen's University. Principal Grant said that the passing of the bonus would in the first place anchor Queen's to Kingston and put an end to rumors about the University going elsewhere; then it would increase the capacity of the students from 500 to 1000. It would also give Kingston a right to go to the provincial government, showing that there are only two educational centers in Ontario, and that Kingston has as much right for consideration as the other one in Toronto. This attitude of Queen's is interesting to medical educationists throughout the province, as if aid be granted by the government as sought, it would be placing the Medical Department of Queen's on a par with the Medical Department of Toronto University.

FOREIGN.

THE FRENCH medical papers are urging the imposition of an extra tax on alcohol and absinthe for the purpose of raising funds for tuberculosis sanatoria.

DR. SILVA, a delegate from Mexico to the International Medical Congress, stated in his address that no case of criminal abortion had ever come before a Mexican court.

DR. A. KUHN, professor of otiology at Strassburg, died Sept. 16, 63 years of age. His principal contributions to scientific literature were on the anatomy of the ear.

THE PRESENT mayor of Lyons, France, is Dr. Augateur, who is at the same time professor in the medical faculty and surgeon-in-chief at one of the hospitals. His predecessor in the office of mayor was also a physician, and occupied the position for thirty years.

A LIFE-INSURANCE company in Gotha states that the number of policy-holders who have died of cancer during the last ten years is 1 per thousand more than during the preceding decade. The greatest increase is in policy-holders between the ages of 66 and 70.

THE UNIVERSITY of Odessa has organized a medical department and placed it in charge of Podwysotszki, the eminent pathologist of Kieff. Both the Russian and German medical schools report a diminished attendance this year. In Germany the number of medical students has fallen from 8848 in 1890, to 7518 this year, while the attendance in the law schools has increased by 3000 during this period.

THE MEDICAL inspectors of schools in Frankfurt, Germany, receive \$250 a year, and have oversight over 1700 scholars. Two hours every two weeks must be devoted to each school. The children are given a "health book" when they first enter, and it accompanies them through all their school life. Several of the large cities of Germany now have medical inspection of schools, but the system has not yet been introduced into Berlin.

THE EDITORS of the *Bibliographia Medica* announce that they will soon commence the publication of special editions of the *Bibliographia* each limited to one of the following specialties: 1, anatomy, physiology and veterinary subjects; 2, hygiene, legal medicine and assistance; 3, therapeutics and materia medica; 4, internal and general medicine; 5, general and special surgery, and 6, gynecology, obstetrics and pediatrics.

THE BERLIN sickness-insurance institution (Anstalt) has doubled the capacity of its sanatoria during this last year.

By judicious selection of the inmates 85 per cent. of the 592 patients dismissed in 1899 from the sanatorium at Goetersgolz have been able to resume their occupation. The institution is to extend the principle of sanatorium treatment to syphilitic policy-holders after this year, and has already acquired land for the purpose in one of the suburbs of Berlin.

THE SLAVONIC members of the profession have taken measures for closer organization and more extended intercourse between them and the outside world. A committee has been formed to decide on a uniform scientific terminology from comparative study of Russian, Polish, Bohemian, Servian, Bulgarian, etc. Dr. Pesina, of Prague, is the secretary. Subcommittees are to be formed in each of the countries interested. It has also been decided to publish a general review of contemporaneous Slavonic medical literature, entirely in French. Dr. Gundrum is in charge of this matter.

LONDON LETTER.

THE PLAGUE IN GLASGOW.

Thanks to the very careful and elaborate precautions of the authorities, of which I have informed you, the outbreak of plague appears to have come to an end. For nearly a fortnight no new cases have occurred. At present there are in hospital 21 cases of plague and 2 suspected cases. Two deaths have taken place in the past week. The number of persons who have been in contact with cases of plague and are detained under observation in reception houses is now reduced to 19. No doubt now remains that the Glasgow outbreak is of the same nature as that which ravaged London two and a half centuries ago; the symptoms are the same. But the means of recognition, especially the bacteriological, and the methods of sanitary defense are quite new; hence the different result. Glasgow has reaped the reward of having in the first place keen medical men who quickly recognized, first, that they had an infectious disease of doubtful nature under observation, and soon afterward that it was the dreaded plague, and in the second place of an elaborate sanitary system worked by an alert police. The most satisfactory theory of the origin of the outbreak is that the source was an unrecognized ambulant case which occurred in some sailor or traveler. As in other diseases, while plague is extremely easy of recognition in well-marked typical cases it is not so in its slighter and atypical forms. This fact is borne out in the present outbreak, for many of the cases would never have been recognized but for the association of the patients with well-marked cases. Yersin's serum was used in the treatment and seems to have given very satisfactory results. It was injected into the veins in doses of 20 c.c. Persons who were known to have been in contact with cases were given subcutaneous injections of 10 c.c. as prophylaxis.

THE SOUTH AFRICAN HOSPITAL COMMISSION.

The commission has left Johannesburg and visited the hospitals throughout Natal, taking evidence as it traveled. Further evidence was given that the medical staff was undermanned and hampered with "red tape." At Pietermaritzburg it was stated that the hospital was unsuitable. It was infected with bugs, which were found even under the patient's splints. Some men suffered terribly, and one enteric patient ran away in delirium, saying he could not stand the bugs. At Kimberley the evidence given by the doctors and the members of the hospital staffs conflicted with that given by the soldiers. The former agreed that the hospitals in the town were well arranged and well equipped, and that no complaints had been made. The latter, on the contrary, complained of bad treatment at Paardeburg owing to lack of administrative ability. The field hospitals, they said, were so badly placed that many men had to lie in pools of water. The camp at Maitland was placed in a similar position, the men lying in tents full of water, many of them without blankets, overcoats or oilskins.

The letters published by Mr. Burdett-Coutts in the *Times*, which it will be remembered were the cause of the commission, have made him immensely unpopular with a section of his own Tory party. His leader, Mr. Balfour, treated him with gross discourtesy in the House, and ridiculed even his cogent arguments. He has been opposed at the general election, which is

now proceeding, by another Tory candidate. However his constituency, Westminster, have marked their approval of his actions by returning Mr. Burdett-Coutts by a majority of 2715 votes against 439.

THE CONSUMPTION OF TOBACCO IN THE UNITED KINGDOM.

According to the government report the consumption of tobacco was higher in 1899-1900 than it has ever been known before, with the exception of a single year. It was 90,000,000 pounds, which is 2 pounds per head of the population. On the point of purity the report is very satisfactory. In 95 samples taken from manufacturers and dealers 20 were found to be mixed with licorice or glycerin. Twenty-two specimens of snuff were analyzed and except one, which contained an illegal proportion of alkaline salts, all were conformable to law.

MALARIA AND MOSQUITOES.

The part played by mosquitoes in the transmission of malaria is now being very actively investigated. The recent exceedingly dramatic attempt to prove Dr. Manson's theory has been so far successful. Drs. Sambon and Lowe, of the London School of Tropical Medicine, have now lived in a mosquito-proof tent, in the fever-stricken Roman Campagna from the early part of July up till September 21, without contracting malaria. What may be called a complimentary proof of the mosquito theory is equally satisfactory. Mr. P. T. Manson, son of Dr. Manson, has allowed himself to be made the subject of experiment—to be bitten by mosquitoes sent from Rome to London, which had been fed on a patient with a double benign quartan infection. Mr. Manson was bitten on August 29 and 31 and on September 2, 4, 10 and 12. On September 13 he had a feeling of languor and felt chilly, which symptoms were followed by headache, pains in the bones and a temperature of 101.4. The usual symptoms of tertian fever developed and the spleen became enlarged. Tertian parasites were found in his blood. Under quinin he recovered.

At the end of 1898 a committee was appointed jointly by Mr. Chamberlain and the Royal Society to investigate malaria, and it was determined, in view of the connection with mosquitoes, that collections should be made of the different species in the various tropical colonies. These have been forwarded to the Natural History Museum at South Kensington. Over 3000 specimens have been received and more are constantly coming in. The work of identifying and classifying them is performed by a professional dipterist, Mr. Theobald, who is preparing a monograph on mosquitoes, based on the collections at the museum. The genus *Anopheles*, which is the medium by which malaria is transmitted from person to person, is represented in the museum by 22 species. Although the genus is world-wide, the distribution as regards species is not wide. One of the greatest distances between any two localities for the same species is Formosa and the Straits Settlement.

Correspondence.

Yellow Fever Etiology.

WASHINGTON, D. C., Oct. 8, 1900.

To the Editor:—In Surgeon Wasdin's paper, published in THE JOURNAL, Oct. 6, 1900, p. 807, he says:

During my experimental work we were honored by a visit, at our laboratory in Havana, from Dr. Sternberg, who said to me, while passing through our animal room, that the strongest argument against the acceptance of the specificity of any one of the organisms advanced as the cause of yellow fever, was the fact that no one of them, during experiments in laboratory, had ever communicated this disease by natural infection to the animals of those laboratories; and he asserted that, whenever such infections should occur, the lesions being characteristic, and the organism recovered, he would accept that organism thus demonstrated as the cause of yellow fever, and such demonstration as the proof of its specificity.

I think that Dr. Wasdin must have misunderstood me. My recollection is that I said to him, what I have frequently said to others, that to my mind one of the strongest arguments

against the specific rôle of Sanarelli's bacillus was the fact that no one—man—had contracted yellow fever from exposure in laboratories where experiments upon animals were being conducted. Man is known to be especially susceptible to yellow fever, whereas there is, so far as I know, no satisfactory evidence that any of the lower animals suffer from the disease during the prevalence of an epidemic. During my first visit to Havana, in 1879, I exposed various animals, including dogs, guinea-pigs and rabbits, on a filthy ship in the harbor, which I assumed to be infected, as nearly all the members of the crew were sick on board with yellow fever. After this exposure I carefully observed my animals for several days, taking their temperature twice daily, but the result of the experiment was entirely negative.

In a report by Reed and Carroll, of their investigations made at the Army Medical Museum in this city, not yet published, but soon to appear in the *Journal for Experimental Medicine*, they arrive at the following conclusions: "1. Bacillus X (Sternberg) belongs to the colon group. 2. Bacillus *icteroides* (Sanarelli) is a member of the hog-cholera group. 3. The various channels of infection, the duration of the disease and the gross and microscopical lesions in mice, guinea-pigs and rabbits are the same for the bacillus *icteroides* and the hog-cholera bacillus. 3. The clinical symptoms and the lesions seen in dogs inoculated intravenously with bacillus *icteroides* are reproduced in these animals by infection with the hog-cholera bacillus. 5. Bacillus *icteroides* when fed to the domestic pig causes fatal infection accompanied by diphtheritic, necrotic and ulcerative lesions in the digestive tract, such as are seen in hogs when infected with the hog-cholera bacillus. 6. This disease may be acquired by exposing swine in pens already infected with bacillus *icteroides*, or by feeding them with the viscera of infected pigs. 7. Guinea-pigs may be immunized with sterilized cultures of bacillus *icteroides* against a fatal dose of the hog-cholera bacillus, and vice versa. 8. Rabbits may be rendered immune by gradually increasing doses of a living culture of bacillus *icteroides* of weak virulence against a fatal dose of a virulent culture of the hog-cholera bacillus. 9. The sera of animals immunized with bacillus *icteroides* and the hog-cholera bacillus show a marked reciprocal agglutinative reaction. 10. While the blood of yellow fever practically does not exercise an agglutinative reaction upon bacillus *icteroides*, the blood of hog-cholera agglutinates this bacillus in a more marked degree, thus pointing, we think, to the closer etiological relationship of this bacillus to hog-cholera than to yellow fever."

It is well known that mice, rabbits and guinea-pigs are very susceptible to infection by the hog-cholera bacillus and that they may be readily infected through the respiratory tract. It is difficult to understand how Drs. Reed and Carroll, and their laboratory assistants, who have been conducting experiments with Sanarelli's bacillus during the past two years, and during the summer months as well as in winter, could have escaped infection if this is truly the specific germ of yellow fever. The same remark applied to Dr. Wasdin and many other non-immunes who have conducted similar experiments in various parts of the world. These experiments at the laboratory of the Army Medical Museum included a large number of inoculation experiments upon lower animals and the making of autopsies when they died. That Dr. Carroll was susceptible to the disease is shown by the fact that he has suffered a severe attack this summer in Havana.

Of course, precautions as regards disinfection are taken, but it would appear that a lot of animals infected with the yellow-fever germ kept in the animal room of a laboratory during the summer months would be very likely to give rise to a local epidemic of the disease, or at least to infect a non-immune attendant whose duty it was to clean their cages.

From Wasdin's point of view the question of yellow-fever etiology is settled. I regret to say that I can not concur in this opinion. The researches which have been made by the board of which Reed and Carroll are members, in Havana during the present year, are not favorable to this view. I think, therefore, it will be wise for conservative physicians not to

consider this matter as definitely settled until the evidence is all in. I may remark that the Liverpool School of Tropical Medicine has sent a commission of experts to study the disease in Brazil. I would also call attention to the fact that the researches of Dr. Adolph Lutz, a very competent bacteriologist, made at San Paulo, Brazil, are not favorable to the Sanarelli bacillus. His results are published in the *Rivista d'Igiene e Sante Publica* (July, 1900). Very truly yours,

GEORGE M. STERNBERG.

Deaths and Obituaries.

JOSEPH PAYSON WRIGHT, M.D., assistant surgeon-general U. S. A., died suddenly at his home in Washington, October 8, aged 74. He was the son of Brevet Brigadier-General J. J. B. Wright, surgeon, U. S. A., a distinguished officer of the medical department whom many will recall personally. He graduated in arts at Dickinson College, Carlisle, Pa., 1858, and in medicine, 1860. His record of service is one extending back to the early years of the civil war. He entered the service as assistant-surgeon in May, 1861; was promoted to a captaincy in May, 1866; to a majorship in July of the same year; as lieutenant-colonel in April, 1889, and attained his final rank, that of colonel and assistant surgeon-general, on May 16, 1894. During the civil war his service was principally in the departments of Ohio and Cumberland, with General Grant's army in the field at Florence, Miss., and on various executive duties as medical purveyor and assistant medical-director. His long service necessarily took him to various posts and stations, chiefly in the West. He was ordered to the military prison at Fort Leavenworth, Kan., in July, 1884, at which place he served many years. During his more recent service Colonel Wright served as medical purveyor in charge of the large depot in St. Louis, from December, 1893, until he was detailed as chief surgeon, headquarters, department of Dakota, St. Paul, Minn., November 24, 1899. At the time of his death he was on leave of absence pending his retirement on Dec. 25, 1900.

WILLIAM V. MORGAN, M.D., a prominent surgeon of Indianapolis, at one time in charge of the department of surgery of the *Medical and Surgical Monitor*, died October 3 of peritonitis, aged 47. He was graduated from the medical department of Washington University in 1875. He had been a member of the faculty of the Central College of Physicians and Surgeons, was ex-president of Marion County Medical Society, and of the Mitchell District Medical Society, and member of the AMERICAN MEDICAL ASSOCIATION.

GEORGE W. SEAY, JR., M.D., Nashville, Tenn., a graduate of Vanderbilt University medical department in 1887, died September 26, from a gunshot wound in the head, aged 35. He was a member of the faculty of the University of Tennessee, major-surgeon of the 5th Tennessee Infantry, and served during the Spanish-American War as assistant-surgeon, 2d Tennessee Infantry, U. S. V.

* JOSEPH MCKEE, M.D., who had resided in South Denver, Colo., for about twenty years, died September 27. He was graduated from the medical department of Western Reserve University, Cleveland, Ohio, in 1852.

N. ROUNDS BARNES, M.D., Binghamton, N. Y., a graduate of Albany Medical College in 1858, and in the Civil War surgeon of the 76th and then of the 184th Infantry, N. Y. V., died at his home September 30, aged 65.

CHARLES ROEMELT, M.D., acting assistant-surgeon, U. S. A., died July 20, while serving in the Philippines. Dr. Roemelt was born in Elmira, N. Y., in 1876, and was graduated from the University of Buffalo.

STEPHEN E. DE WITT HOORNBECK, M.D., College of Physicians and Surgeons, New York, 1865, died at Ellenville, N. Y., October 3. He had for some years abandoned medicine for general business.

WILLIAM A. GROVER, M.D., Berkshire Medical College, Pittsfield, Mass., 1843, died at Berkeley, Cal., October 4, aged 82

years. He was the first secretary of the California State Medical Society.

JOHN CORTEE FAIRFAX, M.D., University of Pennsylvania, 1853, died, after a brief illness, at his home, "Northampton," Prince George County, Maryland, October 28, aged 70 years.

JOHN A. LEADER, M.D., University of Vermont, 1888, a practitioner of Lewiston, Me., aged 35, died at Boston, October 9, after undergoing an operation for ear trouble.

THOMAS J. WOOLF, M.D., New Iberia, La., a graduate of Tulane University medical department, New Orleans, in 1878, died at Denver, Colo., September 30, aged 48.

CRAWFORD IRWIN, M.D., Jefferson Medical College, 1847, died at Hollidaysburg, Pa., October 8, aged 76 years. He was an ex-president of the State Medical Society.

JACOB P. RUSSEL, M.D., Medico-Chirurgical College, Philadelphia, 1888, died October 8 at his home in Philadelphia, after a lingering illness, aged 64 years.

JOHN P. HODGES, M.D., Danville, Ala., who was graduated from the University of Nashville medical department in 1873, died September 25, after a long illness.

STEPHEN D. THACH, M.D., Vanderbilt University medical department, Nashville, Tenn., 1891, was assassinated at his home, Decherd, Tenn., October 1.

LAWRENCE M. GOULD, M.D., Harvard University, 1877, died suddenly at Portland, Me., while on a vacation. He was practicing at Hyde Park, Mass.

SAMUEL PANGBURN, M.D., Ohio Medical College of Cincinnati, 1866, died at his home in Maysville, Ky., October 4, of apoplexy, aged 62 years.

CHARLES Y. SWAN, M.D., College of Physicians and Surgeons, New York, 1856, died at Morristown, N. J., October 8, aged 65 years.

THOMAS A. ATCHISON, M.D., one of the old and esteemed physicians and citizens of Nashville, Tenn., died October 2, aged 83.

WELLINGTON MASON, M.D., University of Pennsylvania, 1898, died at Philadelphia, September 30, of appendicitis, aged 35 years.

CHARLES C. CRAWL, M.D., Omaha Medical College, 1896, died at Randolph, Neb., October 7, of injuries received in a runaway.

WILLIAM WEBB BROWNING, M.D., Bellevue Hospital Medical College, 1884, died October 3 at Brooklyn, N. Y., aged 48 years.

RALPH J. WENNER, M.D., University of Wooster, 1892, died at his home in Cleveland, Ohio, October 9, of typhoid fever.

A. J. WELFLEY, M.D., Jefferson Medical College, 1896, died at Berlin, Pa., October 3, of pulmonary tuberculosis.

JUNIUS N. BRAGG, M.D., Tulane University, 1861, died at his home, Camden, Ark., October 2, aged 60 years.

EDWARD RICHARDSON, M.D., Transylvania University, 1858, died October 9, at Louisville, Ky., aged 70 years.

ALFRED T. BROSSEAU, M.D., University of Victoria College, 1867, died October 9, at Montreal, Que.

R. T. MEAD, M.D., Albany Medical College, 1863, died at his home in Manistee, Mich., October 10.

FRANK W. CRANE, M.D., Buffalo University, 1868, died at Corfu, N. Y., aged 65.

Therapeutics.

TUBERCULOSIS.

TURPENTIN IN TUBERCULOSIS.

R. Terebinthinae	ʒiv	16
Crete preparate	ʒii	8
Sacch. albi	ʒiii	8
Pulv. acacie	ʒii	8
Aque cinnamomi, q. s. ad.	ʒiv	128

M. Ft. emulsio. Sig. Shake. One dessertspoonful three times a day on an empty stomach. —*Med. Record.*

TUBERCULOUS COUGH.

R. Syrupi pruni virginianæ	
Tinct. lobeliae	
Tinct. sanguinariae	
Syrupi ipecacuanhæ, āā	ʒiii 8
Tinct. capsici	ʒi 4

M. Sig. One teaspoonful every two hours.

Med. Summary.

SURGICAL TUBERCULOSIS OF JOINTS.

R. Formalin	m. lxxv	5
Glycerini, q. s. ad.	ʒiii	96

M. Sig. As an injection in tuberculous joints.

Hahn recommends the above as surpassing iodoform in such cases. He advises that the pus be evacuated by syringing, the cavity washed and one-third as much of the solution be injected as was evacuated. It may be repeated in two weeks if necessary. —*Denver Med. Times.*

TREATMENT OF TUBERCULOSIS.

Knopf's outline of treatment in the "Twentieth Century Practice of Medicine" is as follows:

HYGIENIC TREATMENT.

- a. Sanatorium treatment.
- b. Home treatment, such as choosing for the patient the largest, pleasantest, sunniest, best-ventilated rooms. There should be no carpets, heavy curtains or superfluous furniture.
- c. Aerotherapy and pneumotherapy.
- d. Solar therapy. Exposure of the whole body in its nude state to the air and the rays of the sun is very favorable to metabolism and oxygenation and renders the cutaneous system less susceptible to the changes.
- e. Attention to dress and personal hygiene.
- f. Hydrotherapy.
- g. Dietetic treatment.
- h. Medicinal and symptomatic treatment.

SYSTEMIC TREATMENT.

Marfan prescribes cod-liver oil, phosphorus and creosote as follows:

R. Olei morrhue	ʒxxx	336
Creosoti	ʒss	16
Phosphori, 1/1000	ʒi	32

M. Sig. One dessertspoonful after each meal.

This combination is very efficacious if well borne.

—*American Text-Book of Therapeutics.*

Hare says: 1. Never use cod-liver oil when the disease is past the primary stage unless fibrous changes are going on and the changes are slow. 2. The use of it during the rapid degenerative changes is harmful, as it is of no service, disorders digestion and destroys the appetite.

R. Creosoti carbonatis	
Ammonii sulphoichthyolatis, āā	ʒiv 16
Glycerini	ʒi 32
Aque menthae piperitæ	ʒiiss 10

M. Sig. Ten to thirty drops three times a day.

—*Goldmann.*

Landouzy states that benefit is derived from saline injections subcutaneously by reason of reflex action on the nervous system. The formula he uses is as follows, given in small doses:

R. Sodii phosphatis	gr. lxxv	5
Potassii phosphatis	gr. lxxv	5
Sodii chloridi	gr. lx	4
Sodii sulphatis	ʒv	20
Aque destil	ʒvi	192

M. Sig. To be used hypodermically in quantity desired.

R. Olei morrhue	ʒvi	192
Glycerini puri	ʒi	32
Tinct. quillajæ (soap-bark)	ʒiiss	6
Aque lauraerosi	ʒi	4

M. Ft. emulsio. Sig. Shake; one tablespoonful two or three times daily. —*Med. News.*

R. Olei morrhue 3xii 384
 Syrupi lolutani 3vi 192
 Tinct. lolutani gtt. xii 75
 Olei caryophylli gtt. ii 12
 M. Sig. Shake well and take a tablespoonful two or three times a day.

—Briemoret: *Twentieth Century Practice of Medicine.*

R. Olei olivæ 3x 300
 Creosoti 3i 32
 Vini opii m. xlv 3
 M. Sig. Two tablespoonfuls as an enema, mixed with the yolk of an egg and added to a tumblerful of water.

—*Pacific Medical Journal.*

Iodoform is recommended by such men as Flick, Ransom and De Renzi.

R. Euphroen 3i 4
 Olei anisi 3i 4
 Olei rosæ m. i 06
 Olei olivæ 3iiss 80
 M. Sig. One to two teaspoonfuls rubbed into armpits or inner parts of the thighs once or twice daily.

Flick thinks euphroen combined in this way with olive oil evolves nascent iodine.

—*Progressive Medicine.*

R. Iodoformi gr. iss 09
 Codeinæ gr. 1/3 02
 Ext. cascariæ sagradæ gr. 1/2 03
 M. Ft. pil. No. i. Sig. One pill three times a day.

—Knopf.

R. Sodii cinnamatis (aqueous 5 per cent. sol.) 3i 32

Sig. Inject four or five drops into the gluteal region, avoiding the region of the gluteal vessels and the sciatic nerve. Repeat the injection every other day.

Oppression, chilly sensation and headache are indications for reducing the size of the dose.

R. Pulv. acidi cinnamici gr. vii 5
 Olei amygdalæ dulcis 3iiss 10
 Yolk of egg No. i
 Sodii chloridi, 7/1000, q. s. ad. 3iiss 112

M. Ft. emulsiō. Sig. To be used as an intravenous injection into the fold of the elbow. Four to six drops to be used daily.

—Landauer: *Riforma Med.*

He recommends a dose of 1/60 grain of cinnamic acid gradually increased to 1/30 every second or third day. He claims that cinnamic acid produces intense phagocytosis, and causes a sclerotic condition in the tissues in the neighborhood of the morbid growth.

R. Guaiacol carbonatis gr. xv 1
 Strychnine sulphatis gr. i 06
 Resinæ capsici gr. iii 20
 Ammonii chloridi
 Quinina hisulphatis, āā gr. xxx 2

M. Ft. capsulæ no. xxx. Sig. One every four hours.

—Stewart: *Internat. Med. Mag.*

Dr. Laborde, of Paris, calls attention to the importance of conserving the digestive capacity of the patients and recommends the following to be given hypodermically:

R. Guaiacol 3v 20
 Eucalyptol 3iiss 10
 Sparteinæ sulphatis gr. xv 1
 Olei amygdalæ dulcis, q. s. ad. 3vi 192

M. Sig. Begin with eight drops and inject while the patient is in bed; gradually increase the amount of the injection to six or seven cubic centimeters—ninety to one hundred minims.

—*Therapeutic Gazette.*

Gimbert used the following hypodermatically:

R. Creosoti m. xv 1
 Olei amygdalæ dulcis 3iiss 14

M. Sig. Inject drop by drop intermitting occasionally to avoid pain until the full amount is injected.

The virtue of creosote depends upon its purity and especially on its freedom from carbolic acid and pyrogallol. Pure creosote has an oleaginous appearance, a strong resinous odor, a caustic taste, is slightly soluble in water, very soluble in al-

cohol and oils. The true virtue of creosote is chiefly nutritional. —Whittaker.

R. Ichthyolici
 Aquæ destil. āā 3v 20

M. Sig. Begin with four drops three times daily before meals and increase to forty drops. Children between 5 and 12 years take one half the dose. A draught of black coffee after taking it will disguise the bad taste. Cohn reports nothing but good effects from its use.

—*American Text-Book of Therapeutics.*

R. Creosoti 3ss 24
 Olei amygdalæ dulcis 3vi 24
 Yolk of egg, No. 1
 Aquæ destil. 3viiss 208

M. First dissolving the creosote in the oil and subsequently emulsify with the yolk of egg. Sig. Inject per rectum at night.

The oil of sweet almonds is preferred, because it does not produce colic and because it contains matters that act as adjuvants in alimenteration.

—Vopelius: *Text-Book of Applied Therapeutics.*

CREOSOTE IN THE FORM OF A WINE.

R. Creosoti 3ss 16
 Tinct. gentianæ comp. 3i 32
 Alcoholis 3iiss 96
 Vin. xerici, q. s. ad. Oii 1024

M. Sig. One dessertspoonful three times a day, provided the temperature is not too high. —*Les Nouveaux Remèdes.*

R. Creosoti m. xxv 115
 Tinct. gentianæ 3ss 16
 Spts. vini rect 3vi 24
 Vin. xerici q. s. ad 3vi 192

M. Sig. One tablespoonful three times a day.

R. Argenti nitratis (2.5 per cent. sol.) 3i 32

Sig. Inject four to seven drops in the neck over the course of the vagi, on the same side as the diseased lung. Repeat the injection once a week only.

—Thos. J. Mays: *Med. and Surg. Reporter*

R. Iodoformi gr. xxiv 15
 Creosoti m. iv 25
 Ol. eucalypti m. viii 5
 Chloroformi m. xlv 3
 Alcoholis
 Etheris, āā q. s. ad 3ss 16

M. Sig. Five to twenty drops to be used in an inhaler every three hours.

—Wm. Perry Watson.

INHALATION OF FORMALIN.

R. Formalin 3i 4
 Glycerini 3iv 16
 Aquæ 3v 160

M. Sig. Use in the inhaler four or five times in twenty-four hours.

—Green: *N. Y. Lanct.*

It must be kept in mind that formalin is only 40 per cent. strength of formaldehyde.

When there is great exhaustion and the sputum clings about the throat and mouth, Foxwell recommends the following:

R. Spts. etheris 2
 Spts. ammoniæ arom. m. xxx 2
 Tinct. aurantii m. x 66
 Aquæ camphoræ, q. s. ad 3i 32

M. Sig. One tablespoonful to be taken every six, four or two hours.

—*Phil. Med. Jour.*

PURIFICATION OF AIR.

To purify the air in a room occupied by a phthisical patient, use the following:

R. Guaiacoli 3iiss 10
 Acidi carbolicæ 3iiss 6
 Eucalyptol 3i 8
 Menthol 3i 4
 Thymol

Olei caryophylli, āā 3ss 2
 Alcoholis—pure 3vi 192

M. Sig. Spray frequently in the room.

—*Louisville Med. Monthly.*

NIGHT SWEATS.

R. Agaricin	gr. viiss	5
Pulv. opii et ipeacuanbæ	gr. iiii	48
Pulv. althææ		
Mucil. acaciæ, āā	ʒi	4
M. Ft. pilula No. 1. Sig. At bedtime for night sweats.		
R. Zinci oxidi	gr. iiii	20
Extracti belladonnæ	gr. ʒ	008
Extracti hyoscyami	gr. i	06
M. Ft. Pilula No. 1. Sig. At bedtime for night sweats.		

—Whitla.

LOTION FOR NIGHT-SWEATS OF TUBERCULOSIS.

R. Balsam Pern	gr. xx	133
Acidi formici	ʒiiss	6
Chloral hydratis	ʒiiss	6
Acidi trichloractici	m. xx	133
Alcoholis—absolute	ʒiv	128

M. Sig. Apply locally as a lotion in night-sweats of tuberculosis. —Kohnstamm.

Dr. Burghart (*Med. Archives*) seldom resorts to internal medication, but occasionally uses camphoric acid. He advises cool bathing at night with plain or aëdulated water or alcohol. Mentholated alcohol 1 to 2 per cent. is recommended.

R. Atropinæ sulphatis	gr. i	06
Aquæ destil	ʒi	32

M. Sig. Five drops in a teaspoonful of water at bedtime. Ringer and Brunton seem to favor atropin as the remedy for night-sweats.

R. Acidi camphorici	ʒi	8
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Ft. chartulæ No. viii. Sig. One powder dry on the tongue at bedtime.

THE COUGH.

R. Codeinæ sulphatis	gr. vii	5
Acidi sulphurici dil	ʒiiss	6
Glycerin		
Aquæ laurocerasi, āā	ʒi	32
Syr. pruni virginianæ	ʒiii	64
Syr. tolutani, q. s. ad	ʒvi	192

M. Sig. One teaspoonful whenever the cough becomes distressing; more than six teaspoonfuls should not be given in twenty-four hours. —*Prog. Mcd.*

R. Codeinæ	gr. iv	25
Acidi hydrochlorici dil	m. xxx	2
Spts. chloroformi	ʒiiss	6
Syrupi limonis	ʒi	32
Aquæ destil., q. s. ad	ʒiv	128

M. Sig. One teaspoonful as occasion demands. —Murrell.

R. Terpin hydratis	gr. xv	1
Codeinæ	gr. iss	09
Extracti belladonnæ	gr. iss	09
Extracti hyoscyami	gr. ʒ	045

M. Ft. pil. No. x. Sig. One pill four times daily between meals. —*Jour. des. Practiciens.*

R. Acidi hydrocyanici dil.		
Tinct. belladonnæ, āā	m. xxxvi	24
Ext. opii liquidii	m. lxiv	425
Syrupi limonis	ʒss	16
Mucil. acaciæ, q. s. ad	ʒiiss	48

M. Ft. syrupus. Sig. One teaspoonful for the cough and repeat in three or four hours if necessary.

—*Manual of Mcd. Treatment.*

THE HEMOPTYSIS.

R. Acidi gallici	gr. lxxx	533
Glycerin	ʒiv	16
Spts. vini rectificati, q. s. ad	ʒiii	64

M. Sig. Two teaspoonfuls in a tablespoonful of iced water every hour or two, then less frequently. —Yeo.

R. Ext. hamamelidis fluidi	ʒi	32
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Sig. Twenty drops every two hours.

R. Potassii bromidi	ʒiiss	10
Tinct. digitalis alc.	m. xlv	3
Aquæ	ʒviiss	208

M. Sig. Two tablespoonfuls per day in cases of hæmorrhage with excitement. —Whittaker.

Opinions differ as to the propriety of administering digitalis for hæmoptysis, on account of increasing the contractility of the heart and increasing vascular tension.

R. Tinct. iodi	ʒi	4
Camphoræ pulv.	ʒiiss	80
Essential oil of tar	ʒiiss	80
Spts. etheris compositi	ʒss	16

M. Use in an inhaler and take from five to twenty inhalations at a time and repeat three or four times a day.

—M. E. Chartier.

R. Sodii chloridi	ʒss	16
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Sig. Give two or three teaspoonfuls in a small amount of water as possible.

Skoda claims that the effect is reflex, through irritation on the gastric mucous membrane and contracts the small pulmonary arteries.

Cold applied to the chest and the use of morphin or codein is indicated in severe pulmonary hæmorrhages.

R. Ext. ergotæ fluidi	ʒi	32
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Sig. One half to one teaspoonful once every two hours if necessary.

FEVER OF PHTHISIS.

R. Quinina sulphatis	gr. xxiv	150
Pulv. digitalis	gr. xii	75
Pulv. ipeacuanhæ		
Pulv. opii, āā	gr. vi	36
Extracti glycyrrhizæ, q. s.		

M. Ft. pil. No. xxiv. Sig. One pill three times a day.

—Heim: *Manual of Ther.*

DIARRHÆA OF PHTHISIS IN ADVANCED CASES.

R. Extracti coto fluidi		
Tinct. cardamomi comp. āā	ʒi	4

Mix and triturate slowly with:

Mucil. acaciæ	ʒiii	12
Syrupi simplicis	ʒiii	8
Aquæ, q. s. ad	ʒvi	192

M. Sig. One tablespoonful at a time and repeat as necessary.

—Burney Yeo.

R. Extracti opii	gr. iss	1
Syrupi aurantii	ʒv	20
Infusi calumbæ, q. s. ad	ʒv	160

M. Sig. One tablespoonful every two hours.

R. Salol	gr. xxx	2
Bismuth subnitratiss	ʒi	4

M. Ft. chartulæ No. vi. Sig. One powder every three or four hours. Regulate the diet or adopt a milk diet.

ANOREXIA—LOSS OF APPETITE.

R. Tinct. nucis vomicæ	ʒi	8
Tinct. cinchonæ comp.		
Tinct. cardamomi comp., āā	ʒi	32
Tinct. gentianæ comp., q. s. ad	ʒiv	128

M. Sig. One teaspoonful in water before each meal.

VOMITING OF PHTHISIS.

R. Bismuth subnitratiss	gr. x	66
Tincturæ opii	m. ii	12
Magnesiæ carbonatis	gr. v	33
Misturæ tragacanthæ	ʒi	8
Infusi aurantii, q. s. ad	ʒi	32

M. Sig. Shake at one dose. —Yeo.

BEDSORES IN TUBERCULOSIS.

R. Alcoholis	ʒi	32
Aquæ, q. s. ad	ʒiv	128

M. Sig. Harden the skin by bathing the parts with the above solution.

THE ANEMIA.

R. Ferri sulphatis—exsic.	ʒi	4
Sodii carbonatis—exsic.	ʒi	4
Acidi arsenosi	gr. i	06

M. Ft. capsulæ No. xxx. Sig. One capsule after each meal three times a day.

Medicolegal.

Baking Powder Law Constitutional.—Chapter 245 of the general laws of Michigan of 1899 requires all manufacturers and sellers of all compounds or mixtures intended for use as a baking powder to affix a label to every box or can, containing the name and residence of the manufacturer, and the words, "This baking powder is composed of the following ingredients," "and none other"—following the names of the ingredients. This chapter is an amendment of an act of 1889, which required such a label to be put upon boxes and cans containing alum, in any form and shape, as a constituent. And, as the Supreme Court of Michigan held the earlier statute constitutional, so now does it hold, in the case of *State vs. Sherod*, the enactment of 1899 valid, declaring that it is neither an infringement upon private rights nor class legislation.

Record Warranting Exhibition of Foot to Jury.—A young farmer had his foot caught in a hole in a depot platform and severely injured as he was attempting to board a train which was just at that moment moved a couple of car lengths. His ankle was dislocated, and its ligaments torn. His toes were turned around, and the larger bone of his ankle was pushed forward. It was also proved that his ankle would be permanently stiff. The jury awarded him \$2000 damages. Taken to the Court of Civil Appeals of Texas, one of the points argued, *Texas Midland Railroad vs. Brown*, was that it was error, in the trial of the cause, to permit the party to exhibit his injured foot to the jury. But, it appearing from the bill of exceptions, and also from the statement of facts, that the condition of the foot was fully shown by the evidence, the court holds that the objection to the exhibition of the foot on the ground that it could not be set up in the record was not well taken. The Supreme Court of Texas has denied a writ of error.

Four Thousand Dollars for Colored Boy's Arm.—In the case of *Jackson vs. the St. Louis Southwestern Railway Company*, where it says that there is no law authorizing the taking off of a boy's arm at the shoulder as a penalty for trespassing on railroad or any other property, the Supreme Court of Louisiana holds that four thousand dollars is not an excessive award of damages for the loss of his left arm by a colored boy fourteen years of age. It says of the boy in question that he was poor, black, illegitimate, and ignorant, and when injured was receiving 75 cents a week for working about a negro barber shop, to which were added his earnings—probably a few dollars a week—as a bootblack. Continuing, the supreme court says that it seems to it that, being about as badly situated as a boy of fourteen who is not an invalid or a criminal could be, he was particularly in need of the arm of which he had been deprived: for that and the other arm were about all that he had to depend upon to help him through in the long struggle which lay before him, and which is hard enough even for those who are better situated and have both arms and hands. Hence, it holds the amount specified not excessive compensation for the boy.

Allowance for Nursing of Minor in Injury Case.—In *Texas & Pacific Railway Company vs. Short*, an action brought by the latter party to recover damages for the loss of his minor son's services, and for expenses incurred for nursing, medicines, and doctor's bills because of the boy's leg being broken and he otherwise injured by the alleged negligence of the railway company, objection was made to the trial judge's permitting the father to prove the price he contracted to pay for the nursing of his son. But the Court of Civil Appeals of Texas declares that it can not say that this was error. Yet, in such a case, it would be the duty of the court, if requested to do so, it holds, to charge the jury that the reasonable value of the services rendered, and not the contract price, would be the true measure of damages. In determining the reasonable value of the services, it then goes on to say, all the circumstances under which the services were rendered should be taken into consideration. And it holds that the father, if entitled to recover at all, could recover for the services of himself, of his wife, and of his minor son and daughter in nursing the injured boy. To

this it adds that, while it is not prepared to say that the father could not recover therefor without so doing, under such a claim of damages as above mentioned, it would suggest that it would be better practice for the petitioner to allege that his minor son and daughter assisted him in nursing their brother.

A Crime Against Nature.—The Supreme Court of Louisiana says, in *State vs. Vieknair*, that it is incomprehensible why, in the common-law courts, the use of the mouth should not have been considered as much against nature as though the act were committed per anum. But the "crime against nature" being a common-law offense, made a statutory offense in Louisiana, and the definition of which, as known to the common law, having been adopted by statute, it was competent for the legislature, it holds, to amend the existing law, denouncing and defining the crime, by declaring, as was done by the statute of 1896, that a particular act, not otherwise so considered, as for example committing the offense "with the mouth," should, as well as sodomy, constitute said crime; though, no doubt, it says it must appear that the sexual organ of the one party or the other, either the agent or the pathic, was used. The crime here considered, the court goes on to say, is generally regarded as being governed in some respects by the principles of law which are applicable to rape. But it thinks that it can be readily understood why proof of emission might be considered necessary to establish the latter crime, and yet not be necessary to establish the former. And so, while the English courts and those of this country have been divided in opinion as to whether, in regard to rape, such proof was necessary, under the common law, the court holds here that, particularly as the enormity of this crime against nature consists solely in its utter bestiality, proof of emission is not necessary to conviction in a prosecution for it, as denounced by the statute of 1896; nor does it matter, in the case of an adult, whether he be charged as agent or pathic, so long as the particular act charged brings it within the definition of the statute.

Charges by Student Makes Practice Unlawful.—In Arkansas there is a statute which declares that it shall be unlawful for any person to practice or attempt to practice dentistry or dental surgery, in the state of Arkansas, without first having received a certificate from the board of dental examiners: provided, this shall not be construed as preventing any regular licensed physician from extracting teeth, nor to prevent any other person from extracting teeth, when no charge is made therefor by such persons. From this language, the Supreme Court of Arkansas holds, in the case of *State vs. Reed*, it is impossible to escape the conclusion that the performance of dental work, and charging and receiving pay therefor, is practicing dentistry. And it condemns the theory of the trial court in this case, which seemed to be that, notwithstanding this, yet, as the party accused of practicing dentistry without first obtaining a certificate from the board of dental examiners was, when he did the work in question, a mere student, and doing his work under the direction of a licensed dentist, he was not answerable to the law on the subject. It must be noted, the supreme court says, that if this is any defense at all, on which point it expresses no opinion, but makes this suggestion, while this relation existed in this case between the accused and a regular practicing dentist, so far as the dental work in question was concerned, yet the charge for the same was not made in the name of the licensed dentist, nor was the pay received by him. The charge was made by the accused for himself, independent of his preceptor, and so was the pay received by him. Under such circumstances, the supreme court holds, it was error for the trial judge to instruct the jury to the effect that if they believed that the accused was in the office of the regular dentist mentioned, and was working under the latter's directions and advice, he should be acquitted.

Postmaster General's Power to Prevent Fraud.—In the case of the *American School of Magnetic Healing vs. McAnnulty*, the United States Circuit Court was asked to restrain the postmaster at Nevada, Mo., from obeying a certain order issued by the postmaster general. That order directed

the Nevada postmaster to return to the senders thereof all letters, whether registered or not, which arrived at his office addressed to the complainants in this suit, and to stamp thereon the word "Fraudulent." or to transmit said letters to the dead-letter office at Washington, D. C., to be disposed of as other dead matter, under the laws relating thereto, when there was nothing on said letters to indicate who were the senders of the same. This order contained a finding by the postmaster general, in accordance with the acts of congress giving him his authority in the matter, that it had been made to appear upon evidence satisfactory to him that the American School of Magnetic Healing, S. A. Weltmer, the president thereof, and J. H. Kelly, its secretary, were engaged at Nevada, Mo., in conducting a scheme or device for obtaining money through the mails by means of false and fraudulent pretenses, representations, and promises. Under these circumstances, the court holds that it could not lawfully grant the temporary injunction prayed for. It says that it is manifest from an inspection of the United States statutes bearing on the subject that congress has in express terms conferred upon the postmaster general the power to prohibit the delivery of any and all mail matter to a person whom that officer, after a due investigation, finds to be engaged in conducting through the mails either a lottery or a scheme to obtain money by false and fraudulent pretenses. Nor does the court consider the statute unconstitutional. It says that it is hardly necessary to observe that, if the right to use the mails is a statutory privilege, and not property, within the meaning of the fifth amendment to the federal constitution providing that no person shall be deprived of his property without due process of law, as is held, then no fault can be found with the statute here under consideration, because it devolves on the postmaster general the duty of ascertaining by satisfactory evidence if one is using the mails to defraud, and make his right to use the mails dependent upon that finding. Neither does it think that the courts should interfere on the ground that the power conferred on the postmaster general is of an arbitrary character, and, if erroneously exercised at any time, might occasion great loss and inconvenience to the citizen.

Rape by Boy Under Fourteen Years of Age.—The Supreme Court of Florida has reversed a conviction of rape, in *Chism vs. State*, where the death sentence was imposed. The testimony for the accused tended to show that he was under the age of 14 years at the time the offense was alleged to have been committed. And the court holds that it was error to instruct the jury that, if they believed from the evidence that the accused was under the age of 14 years a presumption arose that he was incapable of committing the crime, and that this presumption continued until the state by competent testimony overcame it, and established capacity by showing that he had reached the age of puberty to the exclusion and beyond a reasonable doubt. It says that the rule of the common law is that a boy under the age of 14 years is conclusively presumed to be incapable of committing the crime of rape; and this rule, it holds, is still in force in the state of Florida. All the American courts, without exception, it says, admit that, at common law as administered in England, a boy under 14 years old could not commit the crime of rape, not because he had not then arrived at the age of discretion to discern right from wrong, but because he was deemed to be physically incapable of committing the particular crime of rape. But several American courts, it continues, have refused to apply absolutely the common-law rule in their respective jurisdictions, on the theory, it would appear from the reasoning employed, that, as the rule originated in England under climatic and other conditions surrounding the English people showing that puberty did not develop in males before the age of 14, it should not be rigidly applied here, where experience frequently shows a development of puberal capacity before that time. In other words, the common-law rule, according to this view, is deemed sufficiently flexible to admit of application to actual facts as they may be shown to exist, and so it is laid down that before the age of 14 a presumption exists of incapacity, but that it may be overcome by proof. This doctrine impresses the court

with merit, and it says that it is not at all surprising that some of the courts in this country have adopted it. Yet, where, as in Florida, the common law of England in relation to crimes has been adopted by statute, and there is no enactment on the subject of the age under which a male can not commit the crime of rape, the courts, the Supreme Court of Florida holds, are not authorized to set the common-law rule aside for the reason that the climatic or racial conditions of the people differ from those of England, where the law was developed. If such conditions demand a change of the common law, it is for the legislature to make it and not the courts.

Societies.

Coming Meetings.

- American Public Health Association, Indianapolis, Ind., Oct. 22-26.
- Medical Society of Virginia, Charlottesville, Oct. 23.
- Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13-15.
- Oklahoma Territory Medical Society, Oklahoma City, Nov. 15.
- The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, Nov. 13-15.
- Indian Territory Medical Association, Muscogee, Dec. 4-5.

THE FRESNO COUNTY (Cal.) MEDICAL SOCIETY met at Fresno, October 2. Dr. J. H. Parseshian read a paper on the "Treatment of Rheumatism."

THE SPRINGFIELD (Ohio) ACADEMY OF MEDICINE recently held its second meeting of the season, when Dr. M. V. Patton read an article on "Medical Ethics." Dr. Louis L. Syman presented a case of musical heart.

THE COLUMBI'S (O.) ACADEMY OF MEDICINE, at its session, October 1, listened to and discussed papers by Dr. Herbert M. Platter, on "The Recent Epidemic of Smallpox in Columbus" and "The Diagnosis of Tubal Pregnancy Before Rupture."

THE CAMBRIDGE (Mass.) MEDICAL IMPROVEMENT SOCIETY met for its regular monthly session, September 24, and listened to a paper by Dr. Joseph S. Lockhart on "Infantile Hemiplegia" and a report by Dr. Walter J. La Marche of two interesting abdominal cases.

THE ORANGE COUNTY (Cal.) MEDICAL ASSOCIATION held its October meeting on October 2, at Westminster. Dr. H. S. Gordon presented a paper on "Pelvic Inflammation"; and Dr. F. E. Wilson one on the "Microscope in Diagnosis." The next meeting will be held in Santa Ana.

THE FAIRFIELD COUNTY (Conn.) MEDICAL SOCIETY held its one hundred and eighth semi-annual meeting at Westport Sanatorium October 9. Papers were read by Dr. William B. Coley, New York City, on "Female Hernia;" and Dr. J. Murray Johnson, Bridgeport, on "Pulmonary Surgery."

THE CLINICAL SOCIETY OF WASHINGTON, D. C., met after the summer vacation, on October 8, and elected the following officers: Dr. Charles C. Marbury, president; Dr. Duff G. Lewis, vice-president; and Dr. J. Carlisle De Vries, secretary and treasurer. Dr. Wallace Johnson read a paper on "Clinical Pathology," which was discussed by many of those present.

THE CLINTON COUNTY (Ia.) MEDICAL SOCIETY held its quarterly meeting at Clinton, October 2. A paper was read by Dr. Harry R. Reynolds on "Specific Tertiary Lesions." A paper was also presented by Dr. Robert E. Everhart on "Rheumatism," and Dr. John F. H. Sugg opened a discussion on the "X-Ray in its Medico-Legal Relations."

THE LUCAS COUNTY (O.) MEDICAL SOCIETY met at Toledo, October 5. Dr. Clarey E. Stewart read a paper entitled "The Doctor," and Jesse L. Baird read a paper on "Mercurials—Some of their Attributes and Uses." A general discussion on "Should Chloroform and the Obstetric Forceps be Used More Frequently in Labor Cases?" then took place, which was opened by Drs. Watson, Gillette and Strausz.

THE MADISON COUNTY (Ind.) MEDICAL SOCIETY held its quarterly meeting at Pendleton, October 2. Papers were read by Dr. John B. Fattie, Anderson, on "Treatment of Electrical

Injuries"; Dr. Anthony E. Otto, Alexandria, on "Hay-Fever and its Treatment," and Dr. Frank P. Nourse, Alexandria, on "Pelvic Inflammation." Dr. John W. Cook, Pendleton, gave some reminiscences of a recent trip abroad.

THE DENVER AND ARAPAHOE (Colo.) MEDICAL SOCIETY met in Denver, October 9. Papers were read by Dr. Francis H. McNaught on "The Treatment of Puerperal Infection"; by Dr. Horace G. Wetherill, "The Prevention of Puerperal Septicemia," and by Dr. Charles A. Powers, on "The Surgical Importance of Apparently Simple Carbuncles and Furuncles of the Upper Lip" and "Abdominal Testicular Ectopia, Associated with Inguinal Hernia-Management."

THE THURBER MEDICAL ASSOCIATION held its 47th annual meeting at Milford, Mass., October 4. The officers elected for the ensuing year were: President, Dr. Nathaniel C. B. Haviland, Holliston; vice-president, Dr. Ralph C. Fish, Hopedale; secretary, Dr. John M. French, Milford; treasurer, Dr. Le Grand Blake, Milford. The prize for the best paper read during the year was voted to Dr. John M. French, Milford, for his paper on "The Treatment of Acute Croupous Pneumonia." The anniversary address was delivered by Dr. Wilfred W. Browne, Blackstone, on "The Lights and Shadows of a Physician's Life."

THE SOUTHWESTERN TRI-STATE MEDICAL ASSOCIATION, composed of physicians from Texas, Oklahoma and Indian Territory was organized at Dallas, Tex., October 1. Dr. Vene P. Armstrong, Dallas, was elected temporary chairman, and Dr. John O. McReynolds, Jr., Dallas, temporary secretary. The code of ethics of the AMERICAN MEDICAL ASSOCIATION was adopted. The following officers were elected: Dr. Henry K. Leake, president; Dr. J. W. Lowe, Holdenville, J. T., first vice-president; Dr. Charles R. Hume, Anadarko, Okla., second vice-president; Dr. Hugh L. McNew, Honey Grove, Tex., third vice-president; and Dr. Samuel E. Miliken, Dallas, secretary and treasurer.

Mississippi Valley Medical Association.

*Twenty-sixth Annual Meeting, held at Asheville, N. C.,
October 9-11, 1906.*

President Dr. Harold N. Moyer, Chicago, in the chair.

Addresses of Welcome on behalf of the city, state and local profession were delivered by Hon. Theo. F. Davidson and Dr. John H. Williams.

PRESIDENTIAL ADDRESS.

DR. MOYER referred to matters of general interest to the profession. He alluded to an address which was delivered at the recent International Medical Congress by a distinguished American colleague, who saw fit to discuss the old code question. The speaker (Dr. Moyer) thought it unfortunate that this subject, long since dead, but not buried, should be embalmed in the records of that Congress. The medical profession of America does not need an apologist for its standard of medical education to-day, and in support of this contention the speaker quoted from an editorial in the *London Lancet* of comparatively recent date.

As to medical societies, there can not be too many of them. In no other country are they so numerous as in America. Abroad these societies are for the few; in this country they are for the many, and it is to their collective voice, speaking in no uncertain tones, that the profession owes the uplift of medical education.

The speaker then discussed the relation of the profession to the law. The passage of medical-practice acts has been urged by the medical profession, and physicians have been distinctly misunderstood in their attitude toward such legislation. Legislators feel in some way that the medical profession wishes to put a fence around the practice of medicine and that physicians, being on the inside, may fatten on it. This is not true. Physicians do not urge the passage of medical-practice acts for their personal aggrandizement, but simply to protect the people, to prevent the illegal practice of medicine by unqualified persons and by quacks.

If anything can be said in criticism of the medical profession in this country, it is the overweening inclination toward specialism. The physician should spend several years in general practice before adopting a specialty. Specialism has wrought great good for medicine, but the profession should see that it is not overdone. If a physician desires to acquire a broad general culture, it can only come from general practice. The selection of a specialty should, like matrimony, come naturally, and without being forced.

ABDOMINAL VERSUS VAGINAL HYSTERECTOMY.

DR. H. O. WALKER, Detroit, Mich., read a paper on this subject. The question of the best approach surgically to the uterus and adnexa has not been settled, judging from the amount of discussion of late on this topic. Cancer of the uterus is not an infrequent cause of death in women. The recurrence of cancer of the uterus is very important and is immediately connected with the method of its removal. The manner of recurrence of cervical cancer is either by extension into the broad ligaments, vagina downward, and other contiguous parts, as the bladder and rectum, and occasionally the body of the uterus; or by metastases, through the lymph-channels and by distant direct implantation. The surgeon is to be governed by the method of operation that will offer the best advantages in avoiding a recurrence of the disease, and in order to illustrate the two routes he reported two interesting cases, in one of which he could not have operated as successfully by the vagina as through the abdomen. In the other case the vaginal route was indicated, and this operation was done. All things being equal, the abdominal route offers a more complete hysterectomy than the vaginal method. 1. The surgeon is better able to see what he is doing. 2. He can control hemorrhage more efficiently and completely than by the vaginal route, where he is working in a dark cavity. There is less liability of slipping of the ligatures, and if they should slip, they are reached more easily than by the vaginal section. 3. The danger to the ureters is minimized, and, if injured, the opportunity for their repair is much better; while if they are injured by the vaginal route, the surgeon would have to do an abdominal section to effect repair. 4. The prevention of sepsis is more certain by the abdominal than by the vaginal route, aided, in the former instance, by the Trendelenburg position, which gives opportunity for full protection of the intestines and peritoneum; while in the latter the opportunity for protection is limited, as it is an impossibility to secure perfect asepsis in the vagina where there has been a long-standing infective disease.

CANCER OF THE UTERUS AND ITS TREATMENT.

DR. R. S. SUTTON, Pittsburg, contributed this paper. Cancer operations should not be recommended as curative, but as palliative and therefore useful. Total vaginal extirpation of the uterus at or after time of climacteric, should find a place as prophylactic treatment against cancerous disease. This paper consisted of a compact review of the anatomy, pathology, diagnosis and present method of treatment.

The author expressed the opinion that treatment for existing cancer of the uterus had probably reached its complete evolution. In view of the ultimate results of this treatment, which he heartily endorses, because there is none other known to take its place, he asks the question, *cui bono?*

He then discussed the question of prophylaxis, and showed that the average age of his patients operated on was 43 years and a fraction, and claims that if these patients had all been subjected to total vaginal extirpation, at the average age of 40 years, all of them would have escaped cancer of the uterus; that according to his own statistics, but 4 per cent. of the cases would have died; whereas, nearly 100 per cent. of the cases did die, within a period of two or three years, after operations for cancer.

He urged greater attention to the early repair of lacerations of the cervix, and a more painstaking observation, and consideration by physicians at large of that train of symptoms preceding, and leading up to, the development of cancer of the uterus. He unequivocally recommends radical surgical treatment in all such cases, and clearly announces that if we are

to diminish the number of uterine cancer cases, and consequent mortality in the future, it must be done in forestalling the disease.

In the discussion, Dr. Edward W. Lee, St. Louis, favored the abdominal route in the majority of cases, for the reason that it is casier of performance; the surgeon can see what he is doing; he has a more perfect control of the tissues, and can do a more thorough operation. The only condition in which he believes the vaginal operation is justified is in cases of small, uncomplicated fibroid tumors of the uterus which can be easily shelled out.

DR. CHAUNCEY D. PALMER, Cincinnati, said that until within the past few years the vaginal method was preferred to the abdominal. It is important in cases of cancer of the uterus that all of the diseased structure be removed; consequently this can be done more easily and thoroughly by the abdominal route.

DR. J. WESLEY BOVEE, Washington, mentioned three classes of cancer of the uterus, where the removal of whatever other structures may be involved, is advisable. In very feeble patients, who are not able to stand a prolonged or tedious operation, he favors the combined method advocated by Ries, Clark, Werder and others. He has done the combined operation in 13 cases, all of whom are living, with 2 recurrences.

DR. A. H. CORDIER, Kansas City, Mo., said, in cases in which there is extensive involvement of the cervix by the cancerous process, as involvement of the bladder and rectum, patients derive much benefit by a thorough curettage of the cancerous mass, then the Paquin cautery, and packing of the parts with carbide of calcium. Along with this he uses the old Goodell injection (vaginal) of permanganate of potash.

DR. HUGH A. COWING, Muncie, Ind., urged upon the general practitioner the importance of making an early diagnosis of cancer of the uterus.

DR. WILLIAM F. BARCLAY, Pittsburg, thinks the general practitioner is blamable for not referring cases of cancer of the uterus early to specialists. For years he has made it a rule, when in doubt as to the diagnosis of disease of the uterus, particularly when the patient complained, to refer the case to a specialist, and has been satisfied with the results.

POST-OPERATIVE INTERNAL HEMORRHAGE.

DR. A. H. CORDIER, Kansas City, drew the following deductions: 1. In diagnosing post-operative hemorrhage the history of the patient will aid much. 2. Symptoms of shock and hemorrhage are very similar. 3. In suspected cases a single stitch in the incision cut will tell. 4. In cases in which bleeding is anticipated, a tube should be used. 5. The surgery must be quick and decisive in these cases. 6. Large quantities of normal saline solution will save many cases. This should be used both per rectum and into the veins. 7. Strychnia, belladonna, etc., will not control bleeding from the uterine or ovarian artery any better than from the radial or temporal. 8. The surgeon should do what his surgical conscience tells him is right.

INTERMITTENT HYDROPS OF THE KNEE.

DR. GEORGE W. CALE, Springfield, Mo., reported the case of a woman 45 years of age. The first appearance of her trouble began five years ago. There was no history of injury. There was a rapid accumulation of fluid in the left knee-joint, but which was not painful. This disappeared in from one to four weeks, with or without treatment. The disease would recur at periods varying from one to six months.

VENTRAL HERNIA FOLLOWING LAPAROTOMY.

This paper was read by Dr. E. BRINDLEY EADS, Chicago. The occurrence of ventral hernia as a sequence of abdominal section is so common that it should command thoughtful consideration. The author urged the adoption of those methods which personal experience has demonstrated to be of the greatest use, both immediate and remote. He quoted Greig-Smith as saying that ventral hernia is a mere stretching of scar tissue, but the essayist regards it as a stretching not only of the scar tissue, but of all of the tissues of the abdominal wall at the site of its occurrence.

As intact innervated muscular fiber is the only safeguard against hernia following laparotomy, the first rule is to make the abdominal incision parallel, or nearly so, with the direction of the motor nerves, and of the most important muscular fibers supplied by these nerves. In considering the incision the following points must be taken up: 1. The length is largely dependent on the thickness of the superficial fascia; it must be sufficient to allow free access to the muscles whose functional integrity is essential to success. 2. The length must be relatively greater than when muscular fibers are to be separated instead of divided. 3. It must vary with the pathological condition for which the operation is performed. 4. An opening of sufficient size must be secured for thorough exploration and to obtain the requisite degree of precision and rapidity in manipulation. 5: A long incision through the skin and superficial fascia does not predispose to hernia. 6. It lessens the mortality by providing ample space for the protection of surrounding viscera. 7. It lessens shock by diminishing the time required for the operation, and also the duration of the anesthesia.

Several incisions were mentioned by the essayist. The difficulties he has experienced in reaching the appendix through the McBurney incision in acute suppurative cases of appendicitis have caused him to devise another method of approach in a more dependent part. This incision overlies the outer border of the cecum and leads directly to the appendix. It is slightly curved outward and downward, crossing an imaginary line drawn between the anterior superior iliac spines. The center of this curve is from an inch to an inch and a half to the inner side of the right superior iliac spine. The skin and superficial fascia are incised for about two inches. This freely exposes the aponeurosis of the external oblique, which is separated by means of the dry dissector, or the handle of a scalpel, in the direction parallel to its fibers, and well retracted. This brings into view the transversely arranged fibers of the internal oblique and transversalis muscles, and the twelfth abdominal, ilio-hypogastric, and possibly the ilio-inguinal, nerves which are in turn retracted in order to reach the transversalis fascia, which, together with the peritoneum, is divided transversely. The advantages gained by this incision are: 1. It provides easy access to the diseased area. 2. It enables the operator accurately and securely to protect the peritoneal cavity from infection. 3. It lessens liability to breaking down the inner limiting wall of adhesions. 4. It affords a better opportunity to open the abscess cavity from the outer side. 5. It favors drainage. 6. It has not been followed in the author's experience either by appendicular fistula or post-operative hernia.

GANGRENE OF THE SCROTUM AND PENIS.

DR. E. H. RICHARDSON, Atlanta, Ga., narrated the history of a case which showed the initial lesion to have been an abrasion of the skin near the os pubis, with probably infection from the erysipelatous cocci at this point, and later a mixed infection from the streptococcus of gangrene, terminating in the destruction of the gangrenous process of the entire integument of the penis and of three-quarters of the scrotum. A plastic operation was made, with the result that the integument of the penis and testes was preserved. The patient made a perfect recovery.

TRACHELOPLASTY.

DR. HENRY P. NEWMAN, Chicago, read a paper on this subject. In order to maintain a condition of normal health in the body, it is necessary that all of the organs properly perform their functions. The author calls attention to the great importance of the function of the cervix uteri in relation to disease in women. In former times cervical lesions were recognized as a fruitful source of gynecic evils, and many operations and instruments were devised for their correction. Emmet's trachelorrhaphy, once so popular, has ceased to be adaptable to the needs of to-day in repairing cervices. Dr. Emmet, in conceding this himself, and offering amputation as a substitute, states that the great advance in the obstetrical art and the methods of caring for a lacerated cervix in labor have altered the character of surgical pathology, so that trachelorrhaphy, as formerly practiced, is rarely called for.

The author finds the indications for plastic work on the cervix still widespread enough to justify the presentation of a new method of operating. This he calls tracheloplasty, it being plastic work designed not only to restore normal contour and relation, but to re-establish proper function. The distinctive features of the methods are the use of a specially designed knife, the shape of the flaps in the anterior and posterior lips of the cervix, clean, smooth-cut surfaces, accurate approximation of flaps, the certainty of restoring the proper lumen of the canal, and the simplicity of the after-treatment. Neither tracheloplasty, nor any one operation of the kind, should be relied on to correct all the ills which accrue from lacerations in child-bed. It is frequently necessary to do such simple work as shortening the round ligaments, or suspensio uteri, where there is a displacement of the uterus; division and curetting where disease has extended to the endometrium above; reparation of the pelvic floor where, through relaxation or trauma, there is a hernial condition of the rectum, bladder, vagina or superimposed viscera; sometimes even the opening of the abdomen for plastic work, or resection of pathological conditions of the ovaries, tubes, etc. Any one or two of these accessory operations may be necessary to restore the patient, although the disease or deformed cervix may have been the essential, perhaps the sole, etiological factor in the case.

MIDDLE-EAR DISEASE IN ITS RELATION TO THE CRANIAL CAVITY.

DR. O. J. STEIN, Chicago, read a paper on this subject, in which he pointed out the necessity of recognizing the importance of possible intracranial complications in every case of middle-ear disease. The various avenues of infection were dwelt on at length, these being illustrated by beautiful drawings and specimens. The symptomatology of intracranial phlebitis, thrombosis and abscess was discussed, and several instructive cases reported. In connection with this paper, Dr. J. Holinger, Chicago, gave an interesting stereopticon demonstration.

ADDRESS IN MEDICINE.

DR. I. N. LOVE, New York City, selected for his subject, "Nutrition and Stimulation." Continuance of life, beginning with the original protoplasm, the cell, depends on proper nourishment. The recognition of this fact is essential in all the work of the physician. The proper nutrition of the new being, from the very beginning, prior to birth, should be carefully looked after by the careful physician. After birth the security of the infant depends on the proper appreciation of its proper feeding. From infancy to maturity this should be the essential thought of the parent and the doctor, who should ever realize his importance as the helper of the parent in the building-up of a complete man or woman. The entire scheme of tissue-building, of repair, of maintenance of the mechanism of the human body involves not only nutrition, but perfect elimination, and the two together are expressed in the term metabolism. Interrupted metabolism tends toward organic disease, and finally death. Perfect metabolism means perfect health.

Stimulants are of value, if used in the right way and at the right time. In the healthful condition they are not needed. They are essentially a luxury. All luxuries should be used with the greatest care, and only the thoroughly healthy can indulge safely in luxuries. Stimulants are divided into two classes, namely, those that are exclusively remedial, and those that come under the head of luxuries associated with everyday life. Of all the stimulants, alcohol stands first. It is probably the most prompt diffusible stimulant we have. There are arguments for and against alcohol as a food.

Coffee and tea are essentially domestic pleasures, and while seemingly harmless, they are potent whippers-up of energy and should be used with great care. Tobacco has never been thought of as a food. It is primarily a stimulant, but, like all other stimulants, it is secondarily a depressant. It is a luxury, pure and simple. Morphin, cocain and others of their class are of great value to the profession, but improperly used are more deadly in their effects than the scalpel in the hands of the unskillful.

TREATMENT OF PERIRECTAL ABSCESSSES.

DR. JOHN L. JELKS, Memphis, Tenn., read a paper on this subject. Rectal abscesses, when properly treated, are not so serious as when it was the practice to use poultices and await pointing. These abscesses need not result in fistula, unless they are the result of malignant diseases, as tuberculosis, cancer and syphilis. The fault to be found in a simple incision and drainage of these abscesses is that their walls are not gotten rid of; hence this barrier to general infection or infection of other and deeper structures remains to continue an irritation and to cause suppuration. In many cases the abscess wall becomes ealoused, and all efforts to establish granulation are futile. When he is able to elicit fluctuation, he opens freely and hastily irrigates through an irrigating curette, attached to a fountain syringe, until the irrigating fluid comes away free from debris; then with a sharp irrigating curette he removes all of the abscess wall, thereby converting the cavity into a surgical wound. He uses formalin solution in irrigating these cavities and packs them with iodoform gauze. After thus treating these cases he expects no further suppuration. Since using formalin solution in irrigating these cavities he has, in the after-treatment of them, seldom noticed any suppuration.

Superficial abscesses should be dealt with in the same manner; or they may be frozen and excised as the surgeon would a tumor. They are, when otherwise treated, liable to infect deeper structures. Local anesthesia will suffice, and curettage can be properly practiced with it. If the wound is painful, or the formalin solution irritating even when very dilute, antibrule in 50 per cent. solution is to be preferred. In rectal surgery he has not found the objections to the use of formalin which have been referred to by rhinologists and laryngologists.

SIMPLE OPERATION FOR HEMORRHOIDS: ENUCLEATION.

DR. J. RAWSON PENNINGTON, Chicago, contributed this paper, which was profusely illustrated. He gives a cathartic the second night before the operation, a saline the following morning and a bath, and colonic flushing the night before. The next morning he gives an enema of from one-half to one pint of cool water, and operates two hours later. He emphasizes the importance of carefully examining the entire rectum. He grasps each anal quadrant at the muco-cutaneous junction with a pair of forceps; the anus is everted, and the internal tumors exposed. Seizing with the hand the forceps attached to the posterior quadrant, he fully everts it, and, with a pair of scissors curved on the flap, cuts off the redundant membrane only, which is usually about one-third or one-half of the uppermost part of the hemorrhoidal node. This permits the blood in the tumor to escape. All of the angiomatous tissue is carefully removed, when the remaining wall collapses. Each quadrant in regular order is treated in a like manner. A stream of hot sterilized water flows over the field continuously during the operation. Spurting vessels, if any, are caught with forceps and thoroughly twisted. Should this fail to control hemorrhage, he throws a ligature around the vessel and ligates it. The operation having been completed, he introduces a rubber-covered tampon, which has been fully described in previous articles by the author.

The advantages of this method are: There are no stumps to slough, nor nerves caught and squeezed, which will cause excruciating pain, as when the ligature is used; nor are the nerves and tissues burned to a crisp, as when the clamp and cautery are employed. The formation of stricture is obviated.

The patient is given a cathartic and the tampon painlessly removed at the end of forty-eight hours. There is no pain nor bleeding with the movement of the bowels. After the bowels have moved the patient is instructed to keep them soft for two or three weeks by taking compound licorice powder or Apenta water, the latter being very palatable and effective. He has performed this operation in fifty cases, with more satisfactory results than he has obtained by any other method.

OBSTIPATION.

DR. STERLING B. TAYLOR, Columbus, Ohio, read this paper. Obstipation was defined, and a comparison of obstipation,

constipation and costiveness made. The causes of obstipation were dwelt on and classified. Hypertrophy of the rectal valve was emphasized as the usual cause of obstipation. The essayist defended the views of Martin and his method. The symptomatology of the affection and palliative and radical treatment were discussed, the author closing his paper with the citation of several cases.

TUBERCULOSIS OF THE SPINE.

DR. ALEXANDER C. WIENER, Chicago, contributed a paper on this subject. He made a plea for early diagnosis before deformity is noticeable. Extension and hygienic treatment are essential in avoiding complications, such as paresis and gravitation abscess. He exhibited a specimen which illustrated the possibilities of forcible correction of the spine. He narrated cases of psoas abscess in which he had effected a cure with injections of concentrated carbolic acid.

MEDICAL AND SURGICAL TREATMENT OF ACUTE AND CHRONIC CERVICAL LYMPH NODES.

DR. HORACE H. GRANT, Louisville, dwelt on the purpose and function of the lymphatic glands. He showed how they may be rendered useless and harmful by disease and disintegration. He pointed out the limitations of medical and expectant treatment, and outlined the indications for the various surgical procedures.

ADDRESS IN SURGERY.

DR. CHARLES A. WHEATON, St. Paul, chose for his subject "Fulminating Appendicitis." He said that every case of appendicitis is and by rights ought to be considered surgical, because the surgeon's training specially qualifies him to best interpret the meaning of the symptoms encountered. Every case of so-called fulminating appendicitis should be operated on as soon as its distinctive characteristics are known. High temperature and accelerated pulse, associated with local pain and rigidity, are strong presumptive evidences of malignancy in the attack, and if associated with vasomotor disturbances, are practically proof positive of perforation. The surgeon who refuses the only chance that drainage may give even the most desperate cases is false to himself, and fails materially in discharging his obligations to his patient, obligations which the patient has a right to expect at his hands. A puncture in the median line, in the loins or, in a woman, in the posterior cul-de-sac, under local anesthesia, does not add to the danger of the condition, and it materially aids nature in the awful uphill fight. In short, in every fulminating case, operate first and philosophize afterward.

SUBARACHNOIDAL INJECTIONS OF COCAIN FOR OPERATIONS BELOW THE DIAPHRAGM.

DR. CARL H. ANDERSEN, Chicago, referred to the work of Tuffier, Bier and others in this comparatively new field, saying that sufficient credit had not been given to Leonard Corning as the originator and adviser of this method of anesthesia. He described its technique, which is substantially that outlined by Tuffier, and reported six cases in which he had resorted to the method.

CASE 1.—Hydrocele, with vague history. Patient, colored, 28 years of age, strong and healthy. Subarachnoidal injection of 15 minims of 2 per cent. solution of cocain. Anesthesia complete. On opening the scrotum sarcoma of the testicle was found and removed. Ninth day after operation patient died from pulmonary embolism.

CASE 2.—Varicose veins of the leg. Injection of 8 minims of 2 per cent. solution of cocain. Anesthesia lasted five hours and ten minutes. No pain during operation. Perfect recovery.

CASE 3.—Tracheorrhaphy. Cocain anesthesia. As soon as operation was finished the patient fainted and remained in that condition for two hours. Under strychnin and salt water per rectum she rallied and recovered.

CASE 4.—Amputation of toe in a man 72 years of age. Seven minims of 2 per cent. solution of cocain injected. Uninterrupted recovery.

CASE 5.—Operation for suppurative appendicitis. Patient, woman. Operation performed at 10 a.m.; at 2 p.m. patient showed symptoms of medullary irritation, pain in the back, and severe headache. It is now several days since the operation was done, and patient has had a terrific headache ever since.

CASE 6.—Version and use of forceps. At the suggestion of Dr. Harold N. Moyer, Dr. Andersen injected 16 minims of a 4 per cent. solution of eucain B in this case, with very satisfactory results. Patient suffered no pain whatever. Eucain B can be perfectly sterilized by boiling.

Dr. Andersen spoke of the difficulties attending the sterilization of cocain, and outlined a method by which this can be accomplished. He regards lumbar puncture as a serious operation, and urged practitioners to be exceedingly cautious in employing it. These cases were reported for the express purpose of warning the profession that the method is far from harmless, and if it is employed indiscriminately it will lead to disastrous consequences.

DR. HAROLD N. MOYER, in the discussion, said that if advised as to the use of this method of anesthesia, he would say, do not use it. No surgeon should undertake it unless he has a well-equipped laboratory. The method is at best in its experimental stage, and further research and experiments should be carried on in well-equipped clinics until the possible dangers of this method are better and more clearly understood. Among the dangers are the toxic properties of the cocain. A 4 per cent. solution of eucain B can be used with absolute safety. It is about one-third as toxic as cocain and one-half as anesthetic as cocain, but it can be absolutely sterilized. The danger of infection from such injections is considerable, and should not be overlooked. As to the remote dangers from this form of anesthesia, cases have not been observed sufficiently long to enable surgeons to say whether or not there are such dangers.

TREATMENT OF TUBERCULAR AND PURULENT HIP-JOINT DISEASE WITH LARGE SPECULUM DRAINAGE AND PURE CARBOLIC ACID.

DR. A. M. PHELPS, New York City, read a paper with this title. All abscesses, tubercular or purulent, should be opened as soon as the diagnosis is made, for the purpose of exploration; secondarily, for drainage, and for any surgical procedure which may be deemed advisable. Excisions should be performed when the acetabulum is extensively diseased, the diseased tissues removed, and the joint thoroughly washed out with pure carbolic acid, then with pure alcohol, and finally with a 2 per cent. solution of carbolic acid, and as large a drainage-tube of glass, as the wound will take, should be inserted. Through this large drainage-tube the packing for drainage purposes can be made. The large glass speculum enables the operator to watch every pathological change which takes place throughout the wound. It keeps the soft parts widely separated, and prevents their union until after the bone has granulated up and healed. It enables the operator to dress his patient without doing violence to the granulating surfaces of the wound, and inflicting unnecessary pain. All rubber drainage-tubes should be entirely discarded, as they are filthy, collapsible, and are a source of infection. The carbolic acid is absolutely neutralized by the action of the alcohol. Local carbolic poisoning, and even when the drug is taken internally, is neutralized by the action of the alcohol. Pure carbolic acid applied locally is a specific for erysipelas, the points of which were brought out in the paper.

PULMONARY TUBERCULOSIS IN INFANCY AND CHILDHOOD.

DR. FRANK P. NORRURY, Jacksonville, Ill., said that this disease is not a rarity among children, as the utilization of available post-mortem material shows. Heredity is of etiological importance, but it has lost its prestige as compared to its former standing. Modern scientific inquiry has shown that infection is the etiological factor par excellence. Direct heredity can account for a limited number of cases. The infection theory is proved by the lateness of the appearance of disease; few cases occur during the first year of life, and steadily increase thereafter. The mode and route of infection are important considerations. Northrup, Carr, and others have shown that tuberculosis starts more frequently in the thorax than elsewhere. Pulmonary affections, such as whooping-cough, influenza, etc., create favorable conditions for infection. Enterocolitis and gastroenteritis create portals for intestinal infection. Milk is a source of infection; likewise tuberculous meat.

The diagnosis may be confounded with cases of malnutrition. Bovaird says two evidences of early invasion are "progressive emaciation, not explained by other disease; continued elevation of temperature similarly conditioned." Differential diagnosis from bronchopneumonia can be made only by laboratory methods. Acute miliary tuberculosis and bronchopneumonic tuberculosis are most frequently found in infants and children.

The complications are meningitis, empyema, and involvement of bones. The prognosis is grave in most all cases, but lesions of lungs may heal under favorable conditions. With reference to treatment, prophylaxis during infancy should include attention from birth, if mother is tuberculous; also good hygienic, open-air treatment; climatic change, when possible. The symptomatic care should be the same for children as for adults. Good nutrition should be maintained, and as little medicine given as possible. Creosote is recommended by the author, also simple tonics.

THE PHYSICIAN AS A SANITARIAN.

DR. HUGH A. COWING, Muncie, Ind., read a paper on this subject in which he discussed preventive medicine; hygiene of infection; the physician as a factor in the spread of infection; the physician and the health officer; health legislation, and the physician and the public schools.

THE PHILOSOPHY OF THE SCIENCE AND ART OF MEDICINE.

DR. WILLIAM F. BARCLAY, Pittsburg, said that thoughtful minds should be engaged in ascertaining truth from falsehood. True and false philosophy should be appropriately applied to results obtained in rational conclusions. The philosophy of medicine is the comprehension of the truth in the investigation of the science, enabling one to arrive at rational conclusions in the study of physical laws which govern organized matter in their normal and pathological condition.

ASTHMA.

DR. B. ALEXANDER BATE, Louisville, stated that Loomis, Trouseau, Salter and others, have considered asthma a diathetic neurosis. Haig attributes it to the effect of uric acid on the circulation in the thorax. Modern opinion seems to regard asthma as a neurosis of the pulmonary plexus. In bronchial asthma uric acid in the blood so alters nutrition as to cause a neurosis of the branches of the pulmonary plexus, thus inducing hyperesthesia and engorgement of the bronchial mucosa, spasmodic contraction of the muscular fibers, and the various manifestations of metabolism. Asthma frequently alternates with such diseases of the arthritic diathesis as neuralgia, migraine, angina, and gout. Clearing the blood of uric acid has relieved asthma only to be followed by gout, as the uric acid was precipitated into the tissues. Asthma may be said to belong to the class of uric-acid diseases due to the effect of high arterial tension in contradistinction to those produced by precipitation of urates into the tissues. Cases are recorded in which mediastinal tumors pressing on the pneumogastric nerve continuously first cause asthmatic paroxysms during the alkaline tide. Pressure explains the neurosis, and the time of the paroxysm manifests the uric acid. Modern treatment has been able to cut short the attacks in most instances, and often to prevent their return. Prophylactic treatment should embrace proper hygiene and diet. Prophylaxis should be begun in the children of lithemic individuals. The therapeutic measures embrace the care of the attack and treatment during the interval. After the removal of the exciting cause the treatment consists in the use of such remedies as overcome arterial tension by freeing the blood of uric acid. The treatment of the interval consists in the use of such drugs as eliminate uric acid from the system, and the adherence to such a diet as permanently keeps down arterial tension. Rational treatment, based on the theory of uricaemia as the chief factor in the production of asthma, has been most satisfactory in the hands of the essayist.

CURABILITY OF INEBRIETY BY MEDICAL TREATMENT.

DR. T. D. CROTHERS, Hartford, Conn., said that inebriety is a neurosis, usually self-limited, and very largely curable. The craze for drink is symptomatic. The real causes are central

nerve irritation, exhaustion, poisoning, and starvation. The success of the treatment depends on accurate knowledge of the causes and conditions present in each case, and the accurate application of general means and measures for their removal. Each case requires special means and measures, particularly adapted to meet the conditions present. The family physician as well as the specialist should treat these cases successfully.

FURTHER OBSERVATIONS ON THE CLINICAL APPLICATION OF THE SUPRARENAL CAPSULE.

DR. W. H. BATES, New York City, regards the aqueous extract of the suprarenal capsule as the most powerful astringent, hemostatic, and heart tonic known to the profession. It lessens congestion of the eye and of other organs. The extract is not irritating or poisonous, and, unlike other powerful drugs, is never in his opinion contraindicated. In short, the profession has no remedy which is so useful in all forms of inflammation.

CLINICAL VALUE OF PURGATIVE MINERAL WATERS.

DR. EDWIN ROSENTHAL, Philadelphia, discussed this subject. He spoke of natural and artificial mineral waters; simple, thermal, common salt, or muriated waters. He dwelt on the waters mostly met with in commerce, spoke of their chemistry, names, mode of action, uses, method of selection of a special purgative water, etc.

WHAT THE LAW REQUIRES OF A SURGEON.

DR. DUDLEY S. REYNOLDS, Louisville, stated that a surgeon must possess a reasonable familiarity with the science of his profession; he must exercise reasonable skill for the locality in which he practices, and must devote due diligence and care in attending to his patient. If the patient declines to submit to that treatment which in the judgment of the surgeon is most appropriate, and he does not abandon the case at once, he assumes liability for the result of failure to do that which in his judgment was best for the relief of the patient.

DIFFERENTIAL LEUCOCYTOSIS.

DR. L. H. WARNER, Brooklyn, read this paper. Experiments in recent times have given us a better insight into leucocytosis. It has been demonstrated to be due to three causes—digestion, inflammation, and infection. Physiological and biological experiments have proved that by means of medication a true picture of leucocytosis may be produced, but which in reality represents leucocytosis-diarresis, a condition very desirable in the treatment of disease and a recognition of which is of the greatest value when hematology is called on to aid in arriving at a correct diagnosis.

The following officers were elected for the ensuing year: President, Dr. A. H. Cordier, of Kansas City, Mo.; first vice-president, Dr. Charles F. McGahan, of Aiken, S. C.; second vice-president, Dr. Charles L. Minor, of Asheville, N. C.; secretary, Dr. Henry E. Tuley, of Louisville, Ky., re-elected; treasurer, Dr. Dudley S. Reynolds, of Louisville, Ky., re-elected.

Put-in-Bay, Ohio, was selected as the next place for holding the meeting; time, September, 10-12, 1901. Dr. J. C. Culbertson, of Cincinnati, Ohio, was selected as the chairman of the committee of arrangements. The meeting ended with a banquet at the Battery Park Hotel, given by the Buncombe County Medical Society.

Cincinnati Academy of Medicine.

Stated Meeting, September 24.

President Dr. Charles L. Bonifield, in the chair.

EPITHELIOMA OF WRIST.

DR. MEYER L. HEIDINGSFELD presented a negress, aged 62, with a large epithelioma on the posterior surface of the right wrist, which had commenced about eight months before as a small wart, and now occupied an almost circular area about two inches in diameter. The growth was very warty in character, but did not extend deeply into the tissues of the wrist. The cubital glands were somewhat enlarged, but those of the axilla were not involved. In connection with this case he wished to present for Dr. Samuel E. Allen a similar case, in which the

tumor had been excised by a so-called "cancer doctor"; on microscopic examination the excised portion was found to be not epitheliomatous but syphilitic.

DOUBLE HYDROSALPINX.

DR. EDWIN S. RICKETTS presented specimens of double hydrosalpinx removed from a woman thirty-three years of age, whose husband was known to have had gonorrhoea at the time of his marriage. She had never been pregnant. The unusual feature of the case was that she should have had hydrosalpinx and not pyosalpinx, and that on operation the ovaries and tubes were found absolutely free from adhesions.

PATHOLOGICAL SPECIMENS.

DR. HENRY W. BETTMAN presented some pathological specimens obtained during the previous week at autopsies at the Cincinnati Hospital.

1. *Cor bovinum*, in which the principal organic change was found to be a stenosis of the aortic valve, of so high a grade that only a medium-sized probe could be inserted into the opening. The cause of the stenosis was an enormous amount of granulation tissue completely surrounding and occluding the orifice. There was also incompetency of the aortic valve, as well as relative incompetency of the mitral. The heart was greatly enlarged, particularly on the left side. The cavities were all dilated. Myocardial changes of considerable degree also existed. The spleen enlarged and presented a large red infarct.

2. *Pseudo Female Hermaphroditism*.—The external and internal genital organs were presented. The individual had dressed as a woman, and as she had died from the effects of severe burns, inflicted in an attempt to save a number of helpless children, her womanly instincts were probably well developed. Her general build was rather masculine than feminine, though the breasts were of the feminine type. At the usual location of the clitoris there was a small undeveloped penis without urethra; the vaginal orifice was only about two inches in length and there was a separate orifice for the urethra. The testicles were situated to the right behind the nymphæ. There were no internal female organs of generation.

3. *Stone in the Kidney*.—Removed from a patient who died from alcoholic meningitis. The kidney with its capsule weighed two pounds. On opening the organ, a stone was found involving almost one-third of the entire mass, together with numerous smaller stones. The larger stones were surrounded by pus. The speaker was often in doubt whether the irritation of the stones caused the suppuration, or the pus formation resulted in a precipitation of the phosphatic material. The other kidney was normal beyond a compensatory hypertrophy.

INTESTINAL ANASTOMOSIS.

DR. MAGNUS TATE called attention to Johnson's device as an aid to intestinal anastomosis—a cylinder of potato or other vegetable, which was crushed after the two ends of the intestine had been brought together by a Lembert suture.

DIABETES MELLITUS.

DR. MARK A. BROWN reported a case of diabetes mellitus, showing how, under strict diabetic diet, rest, and a single remedy, much could be done to alleviate the condition. The patient, when admitted to the hospital, complained principally of inability to retain urine and polyuria, which had persisted for more than a year. He was apparently in the best of health, robust, and looked ten to fifteen years younger than 71, his true age. Analysis showed a decided reaction for sugar. He was put on the bromid of gold and arsenic, ten drops three times a day, the dose to be gradually increased. Not only has the total quantity of urine passed in the twenty-four hours diminished, but the percentage of sugar in this decreased in amount, and consequently the total output of sugar has also lessened, showing beyond all doubt that improvement has taken place.

NEPHRITIS.

DR. ALFRED FRIEDLANDER presented a case of nephritis. The patient, a female, aged 28, had had scarlet fever in childhood, and remembered that at that time her face had become greatly

swollen. For eighteen years following this she had enjoyed perfect health. Five years ago she became dull, stupid, with loss of appetite, dizziness, marked diminution in the secretion of urine, and finally convulsions. Similar attacks followed at irregular intervals, each attack being followed by apparent recovery with absolutely no abnormal symptoms during the intervals. A year ago she was married. During the pregnancy that soon ensued edema of the face and extremities, without ascites, appeared; albuminuria existed from the third month with casts. Her condition grew steadily worse, until, in the eighth month of pregnancy, it became necessary to induce labor. The patient promptly recovered. Three months later she had an attack of appendicitis, followed by dulness, marked disturbance of vision, intense headache, and almost complete suppression of urine. For four days thereafter, the urinary secretion did not exceed two ounces, but there was no edema of the face or extremities, no ascites, and no albuminuria. A week later, under treatment, the urine had risen to a pint and a half in twenty-four hours; at this time there was albuminuria and casts were found. Improvement was rapid, and at the present time she enjoys excellent health, the urinary conditions being normal.

INCIPIENT POTT'S DISEASE.

DR. ALBERT FREIBERG reported a case of incipient Pott's disease in which there was pronounced lateral, but no antero-posterior curvature. He called attention to the difficulty of early diagnosis in these cases, and said that even when some curvature was present, it was necessary to exclude stone in the kidney. The marked improvement of his patient in a well-fitting plaster jacket he also considered a diagnostic point of some value.

Philadelphia Academy of Surgery.

October 1, 1900.

President Dr. De Forrest Willard in the chair.

DISLOCATION OF THE TOE.

DR. GWILYM G. DAVIS called attention to the frequency with which this injury was overlooked. The physical signs are slight separation of the toes on standing, local pain, projection of sole of the foot, and of the head of the metatarsal bone of the affected toe. The dislocation has such a tendency to recur that opening of the joint and loosening all fibrous attachments and tendons in arthrosis is advised. A more sure operation would be to amputate. Resection he would not advise on account of the tendency of the toe to become displaced, and a source of pain and annoyance.

OPERATION IN THE PRE-PERFORATIVE STAGE IN TYPHOID FEVER.

DR. ROBERT G. LeCONTE reported the case of a patient aged 23, who had been admitted to the Pennsylvania Hospital on account of symptoms pointing to appendicitis. He was anesthetized, the abdomen opened, and intestines drawn into the wound, when it was found that they were entirely covered in areas with plastic lymph, which was removed carefully. There were small dark spots along the ileum due to necrotic Peyer's patches. The peritoneal cavity was washed off as much as possible by gauze. Ten days later there was a discharge of feces through a fistulous opening, typical symptoms of typhoid fever developed and the blood gave a positive Widal reaction. He was discharged cured on the fiftieth day.

DR. WILLIAM J. TAYLOR believed that the only hope in cases of perforation during the course of typhoid fever was to operate at the earliest possible moment. In cases where there had been only a perforation without peritonitis and in which an operation had been done, recovery followed. The physician delays too long before referring such cases to the surgeon, and it devolves on the physician to make an early diagnosis.

DR. G. G. DAVIS advised isolation of the diseased parts by means of gauze rather than invagination or suturing.

SHOT AS A NUCLEUS OF A VESICAL CALCULUS.

DR. ROBERT G. LeCONTE reported a case in which the patient, while hunting, had accidentally discharged his gun, and the

charge penetrated his left side. A few days later fourteen shot were discharged in the urine. Several years after the injury he complained of pain and tenesmus on micturition and other evidences of stone, which was found on examination. Litholapaxy was done, and in the fragments a No. 6 shot was found; it appeared to have acted as the nucleus. He made a good recovery.

DR. WILLIAM G. PORTER reported a case in which a twig had acted as a nucleus of a vesical calculus.

PERFORATION OF THE SMALL INTESTINE.

DR. WILLIAM J. TAYLOR reported a case of a young man who, while hunting, accidentally discharged the gun, the stock of which struck him in the abdomen. A few days later general peritonitis developed. He was first seen by the speaker about the eighth day. Immediate operation was advised, and, on opening the abdomen, the intestines were found completely matted together by plastic lymph. While separating a portion of the bowel, a sudden gush of liquid feces escaped, which it was found had come from a perforation enclosed in the matted portion of the intestine. The perforation was closed with a double row of sutures, but the patient subsequently died.

DR. RICHARD H. HARTE desired to emphasize the importance of early operation in certain cases of contusions of the abdomen. In 4 cases of contusions in this region in which he had operated the intestine was found to be ruptured in 2 and the liver ruptured in the other two.

DR. DEFORREST WILLARD spoke of a case in which a child 3 years of age had fallen on a picket fence which had made a large rent in the stomach and had protruded through the diaphragm and upward toward the heart. The patient was operated on without an anesthetic, and the injury repaired, but death followed several hours later.

DR. WILLIAM G. PORTER asked Dr. Harte what signs or symptoms he considered most important indications for opening the abdomen. Dr. Harte replied that shock, a slow pulse, tympanites and evidences of peritonitis were in his opinion most important.

DR. ROBERT G. LECONTE believed that if operation was to be done, it should be done within the first twenty-four hours, but after that point it should be treated upon the expectant plan.

PRESENTATION OF A SPECIMEN.

DR. MICHAEL O'HARA presented a specimen of intestine removed from a dog on which he had done an end-to-end anastomosis fourteen days previously. The union appeared to be perfect. In using his forceps in these cases he had not met with any hemorrhage from the mucous coat. In suturing, he endeavored to go through this coat. Dr. LeConte and Dr. Girvin both corroborated the statements of Dr. O'Hara that there is usually no hemorrhage.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), October 9.

- 1 *Internal Secretion of the Ovary. Arthur W. Johnstone.
- 2 *Internal Antisepsis. Reynold W. Wilcox.
- 3 *The Treatment of Consumption at Home. Joseph Eichberg.
- 4 Iritis. J. H. McCassey.
- 5 Meralgia Paresthetica. James J. Walsh.

New York Medical Journal, October 6.

- 6 *Prevalent Errors Regarding the Diagnosis and Treatment of "Eye Strain" from Various Causes. Ambrose L. Itanney.
- 7 Some Observations upon Syphilitic Manifestations in the Optic Nerve and Retina; Inflammatory Manifestations. (Continued.) Paul T. Vaughan.
- 8 *The Use of the Suprarenal Capsule in Diseases of the Heart: a Preliminary Report. S. Floersheim.
- 9 *Combined Electrization or Galvano-faradization. A. D. Rockwell.
- 10 Implantation of an Artificial Vitreous; "Mules' Operation." Matthias L. Foster.
- 11 Fibroma of the Larynx. A. B. Thrasher.
- 12 A Case of Pln in the Larynx for Two Years; Removal by Endolaryngeal Methods. A. W. De Roalden.

Boston Medical and Surgical Journal, October 4.

- 13 *Remarks upon Obscure, Non-Traumatic Tumors of the Lower Abdomen Suddenly Appearing where None had Previously been Detected. Maurice H. Richardson.
- 14 A Case of Inflamed Peritoneal Cyst Simulating Ovarian Cyst with Twisted Pedicle. Agnes C. Victor.
- 15 Serum Therapy in Pneumonia. William H. Smith.
- 16 Case of Patent Foramen Ovale in Advanced Life. William L. Worcester.

Philadelphia Medical Journal, October 7.

- 17 Hemorrhagic Pancreatitis and Fat-Necrosis Following an Operation on the Gall-Bladder. Charles G. Stockton and Herbert U. Williams.
- 18 *Obstruction of the Common Bile-Duct. John B. Deaver.
- 19 *The Relation Between Gall-Stones and Appendicitis. A. J. Ochsner.
- 20 *The Etiology of Gall-Stones. Frederick C. Shattuck.
- 21 Indications for the Drainage in Diseases of the Biliary Passages and the Technique of Operation. J. E. Summers, Jr.
- 22 A Case of Gall-Stone Obstruction of the Cystic Duct Illustrating the Difference in Pathology, Symptoms and Treatment between this and Gall-Stone Obstruction of the Common Duct. Frederick A. McGrew.
- 23 *Diagnosis of Medical and Surgical Diseases of the Liver and Biliary Passages. John H. Musser.
- 24 *On Lesions of the Pancreas Stimulating Gall-Stone-Impactions of the Common Duct. Maurice H. Richardson.
- 25 Two Interesting Cases: Gall-Stone of the Cystic Duct, with Situs Viscerum Inversus; and Gumma of the Liver. Frank Billings.

Medical Record (N. Y.), October 6.

- 26 *Medullary Necrosis During Labor. S. Marx.
- 27 *Observations on Subclavian Dilatation. Schuyler C. Graves.
- 28 Tuberculosis and its Treatment. Margaret Stanton.
- 29 *Appendicitis Larvata, and Inflammation of the Right Broad Ligament, Tube and Ovary. Otto Thielenhaus.

Cincinnati Lancet-Clinic, October 6.

- 30 *Tuberculosis of the Skin. A. Ravogli.
- 31 *Pathology of Tuberculosis of the Skin. M. L. Heidingsfeld.
- 32 *Treatment of Tuberculosis of the Skin. A. G. Drury.

St. Louis Medical Review, October 6.

- 33 *The Cell Doctrine. C. Fisch.
- 34 *Medical Fortnightly (St. Louis), September 25. Report of the Remote Results of Sanguinary Intervention (Intervention Sanglante) in Urethrostenosis. Reginald Harrison.
- 35 Diseases of the Lungs and Pleura. Albert Abrams.

American Practitioner and News (Louisville, Ky.), September 15.

- 36 Serum Treatment. Ewing Marshall.
- 37 Exophthalmic Goiter. John J. Moran.
- 38 The Aspect of Smallpox in the United States, its Source and Character; with Report of Two Cases and a Case of Vaccinia. J. Brent Palmer.
- 39 "Only a Country Doctor." Harold Emery Jones.

Annals of Surgery (Philadelphia), October.

- 40 *The Surgical Treatment of Primary Renal Tuberculosis, with a Consideration of the Immediate and Remote Results after Operation. Otto G. Ramsay.
- 41 A Study of One Thousand Operations for Acute Intestinal Obstruction and Gangrenous Hernia. Charles L. Gibson.
- 42 *Mesenteric Cysts. Charles B. Dowd.
- 43 *Dislocation of the Humerus, Complicated by Fracture at or Near the Surgical Neck. Charles B. Lyman.
- 44 *Remarks on Technique of Prostatectomy, with Report of a Case. Herman Mynter.
- 45 Suprapubic Retrocystic Extraperitoneal Resection of the Seminal Vesicles, Vasa Deferentia, and Half of the Bladder. Hugh H. Young.
- 46 Excision of the Right Vas Deferens and Vesicle Seminalis for Secondary Tubercular Disease. James A. Hutcheson.
- 47 A New Method of Calpospasty in a Case of Entire Absence of the Vagina. Carl Beck.
- 48 Tetanus. (Concluded.) Alexis V. Maschewitz.

Bulletin of Cleveland General Hospital, April

- 49 The Treatment of Lacerated Wounds. William E. Lower.
 - 50 A Case of Gumma of the Iris. W. E. Shackleton.
 - 51 Address at Commencement Exercises, Cleveland College Physicians and Surgeons. Epworth Memorial Church, May 3, 1899. Albert R. Baker.
 - 52 Foreign Bodies in the Hand. N. Stone Scott.
 - 53 A Case of Puerperal Hematoma. R. E. Skeel.
 - 54 Some of the Newer Remedies: Orexine Tannate, Styptlein, Nosophen, Neroform. J. B. McGee.
 - 55 A Preliminary Report on the Direct Treatment of Chronic Diarrhea—Catarrhal Proctocolitis. Thomas Charles Martin.
- American Gynecological and Obstetrical Journal (N. Y.), September.**
- 56 *Pelvic Necrosis from Disturbed Pelvic Mechanism. Byron Robinson.
 - 57 *The Causes, Diagnosis, and Non-Surgical Treatment of Pelvic Inflammation. Edward J. Hill.
 - 58 Some Local Nutritive Influences in the Pelvic Disorders of Women. O. B. Will.
 - 59 Ventral Hernia: Report of a Case. Marie Rennotte.
 - 60 *Uretero-intestinal Anastomosis and its Place in Pelvic Surgery. Reuben Peterson.

Western Medical Review (Lincoln, Neb.), September 15.
 61 Acute Osteomyelitis—(Syn.) Acute Infective Panosteitis. Charles C. Allison.
 62 Aortic Aneurysm, with Report of Cases and Exhibition of Specimens. J. N. Hall.
 63 *Reflex Neurosis from Disturbed Pelvic Mechanism. Byron Robinson.
 64 How Shall we Manage our Cases of Membranous Croup? Wilbur N. Hunt.
Obstetrics (N. Y.), September.
 65 *Hemorrhage Occurring after the Menopause. E. C. Davis.
Maryland Medical Journal, October.
 66 Pyroelectomy for Adenocarcinoma, with Report of a Case. Jos. H. Branham.
 67 Report of a Case of Encysted Pre-urethral Gravel. William E. Hunger.
 68 Report of Twelve Cases of Mastoiditis, with Operations. George S. McKeypolds.
Annals of Gynecology and Pediatrics (Boston), September.
 69 *The Prophylactic Douche. O. S. Chapman.
 70 Pelvic Suppuration. Florus P. Lawrence.
Clinical Review (Chicago), October.
 71 Prolapsus Uteri. Henry F. Lewis.
 72 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
 73 Uro-nephrosis. M. L. Harris.
 74 Disturbance of the Stomach in Relation to Diseases of the Chest. Joseph M. Patton.
 75 Gastrotomy for the Cure of Stricture of the Esophagus. Hal C. Wyman.
Chicago Clinic, September.
 76 *Subarachnoid Injections of Cocain as a Substitute for General Anesthesia in All Operations below the Diaphragm—with Report of Nine Cases. John B. Murphy.
 77 The Treatment of Sciatia. A. Heym.
 78 Pott's Fracture. J. N. Bartholomew.
 79 Pharmacology and Modern Therapeutics. J. A. Patton.
 80 An Anatomical Lecture. W. T. Eckley.
 81 Intubation and Tracheotomy. (Continued.) Aime P. Hein-
 eck.
Canadian Journal of Medicine and Surgery (Toronto), October.
 82 *Tuberculous Lesions from a Clinical Point of View. Edmund Owen.
 83 *The President's Address. R. W. Powell.
 84 *Address in Gynecology. William Gardner.
Yale Medical Journal (New Haven, Conn.), October.
 85 *Diabetic Coma. John S. Ely.
 86 Mineral Springs; Their Practical Use in Medicine. William S. Barnes.
 87 *A Study of One Hundred and Forty Cases of Measles, with Reference to the Appearance and Value of Koplik's Spots as a Diagnostic Sign. William J. Maroney.
Louisville Monthly Medical Journal, October.
 88 Some Hints on the Diagnosis and Treatment of Chronic Gastritis. Orville A. Kennedy.
 89 A Report of Surgery. (Continued.) H. Horace Grant.
St Louis Medical and Surgical Journal, October.
 90 *Caroid in the Removal of Tattoo Marks. A. H. Ohmann-Dumenseil.
 91 The Japanese Disease "Mitari-Kasa-Yamai" (of 806-809 A. D.)—Was it Syphilis or Leprosy? Albert S. Ashmead.
 92 The Non-Tubercle Lesions of the Posterior Column. M. Bruce.
 93 The Differential Diagnosis of Organic and Hysterical Hemiplegia. David Ferrier.
 94 The Pathologic Anatomy of Idiocy. G. E. Shuttleworth and F. Beach.
 95 Case of Ulcerative Otitis. T. J. Biggs.
 96 Nature of Tendon-Reflexes. C. S. Sherrington.
Buffalo Medical Journal, October.
 97 *The Relation of the Specific Gravity of the Blood to its Percentage of Hemoglobin. F. C. Busch, A. T. Kerr, and F. Flahger.
 98 A Case of Multiple Fracture of the Inferior Maxilla Complicated by Dislocation. William Seaman Balnbridge.
 99 The Physiclan. William Stanton.
 100 Antioxin in Cerebrospinal Meningitis. Francis M. O'Gorman.
Dominion Medical Monthly (Toronto), September.
 101 *President's Address at the Canadian Medical Association. R. W. Powell.
 102 Sewage Purification by Bacteria. Willis Chipman.
St. Paul Medical Journal, October.
 103 Gonococcal Infection: Its Effects, Immediate and Remote. William E. Ground.
 104 *Rabies in Minnesota. F. F. Westbrook.
 105 *The Significance of Blood Count in Surgical Diagnosis. Andrew J. Coey.
 106 *A Problem in Ethica. Charles L. Greene.
 107 *The Superiority of the Suprapubic over the Vaginal Section. A. E. Benjamins.
 108 Neuroaesthesia. H. B. Allen.
 109 Pathology of Chronic Gastritis. Franklin T. Pochler.
Canada Lancet (Toronto), September.
 110 The Prognosis of Drug Habits, with Some Reference to Treatment. Stephen Lett.

111 Occlusion of the Bowels Following Appendectomy: Enterotomy Eighteen Hours after Delivery. Obstruction from Tubercular Peritonitis. Ernest Hall.
 112 The Pathology of Crime and Its Therapeutics. Louis J. Rosenberg.
New Orleans Medical and Surgical Journal, October.
 113 *Tuberculosis. J. A. Stork.
 114 *Prophylaxis of Surgical Shock. W. M. Perkins.
 115 *A Case Illustrative of the Absence of the Ordinary Acute Tympanic Signs in Acute Suppurative Mastoiditis following Abscess of the Middle Ear—Operation—Death. C. J. Landfried.
 116 Typhoid Fever—Treatment. F. P. Henry.
 117 Mitral Stenosis and Chlorosis. F. P. Henry.
Southern Practitioner (Nashville, Tenn.) October.
 118 Face Presentations. Richard Douglas.
 119 Asthma and Its Treatment. A. E. May.
 120 Recovery of a Case of Tetanus under Serum Treatment. J. Moore Soulat.
 121 Large Tract of Chronic Burn Ulceration Healed by Skin Propagation in Blood, from Minute Points of Dermal Tissue. T. J. Biggs.
American Therapist (N. Y.), September.
 122 *Epiga for Eretation. Charles D. Aaron.
 123 General Anesthesia by Cocain. A. L. Benedict.
 124 Orthoform Facts. F. B. Sprague.

AMERICAN.

1. **Internal Secretion of the Ovaries.**—Johnstone combats the rather prevalent idea of there being an internal secretion of importance to the economy from the ovaries and holds that there is no proof that the organism has any other function than the reproductive one. He attributes the troubles of the menopause and menstruation largely to defects of oxidation and excretion and not to any defect of secretion in the ovary. While he believes in reasonable conservative surgery he condemns those dangerous experiments which result in the leaving of a scrap of one ovary, tubes, etc., and the transplantation of the same.

2. **Internal Antisepsis.**—The questions raised by Wilcox are: 1. Is internal antisepsis possible? To which he answers in the affirmative, supporting it by the results of treatment in enteric fever, the examination of the sputum in tuberculosis and the examination of the urine. 2. Can it be detrimental? To this he also says, yes. Instances of fatal poisoning have occurred. 3. Under what conditions may it be employed? In response to this he insists on the importance of knowing all the conditions and avoiding useless attempts when the fact of structural degeneracy have been established. 4. How is it best obtained? Under this head he reviews the antiseptics employed, such as chlorin, silver, bismuth and hexamethylenetetramin which have their special actions. Internal antisepsis he says is possible, may be useless or detrimental under certain conditions or may be absolutely contraindicated because of the patient. How best to attain internal antisepsis is a question to which the answer will vary with each successive year as our knowledge of infectious diseases and the best means of combating them is enlarged.

3. **Home Treatment of Phthisis.**—The importance of pure air and nutritive food are the chief points made by Eichberg, though he mentions others, such as moral treatment and drugs. He especially commends the practice of sleeping in the open air as much as possible as advised by Dr. Millett, of Brockton, Mass., in his recent article.

6. **Eye Strain.**—Ranney insists on the importance of proper attention to errors of refraction, the proper fitting, and the centering of glasses, attention to muscular tests, etc.

8. **Suprarenal Capsule in Heart Disease.**—From an experience of eight months Floersheim has found that suprarenal capsule produces a rapid effect on the heart, often toning it up remarkably and especially benefiting it in cases of dilatation, diminishing the area of the heart dulness and localizing the apex beat. It modifies the murmurs, making them more readily diagnosable and rendering the pulsation more rhythmic. Four cases are reported in which the drug was given. He has employed it in 5 gr. capsules, to be chewed by the patient.

9. **Combined Electrization.**—Rockwell finds the combined method of using the galvanic and the faradaic current together as especially beneficial in many disorders. Its musculo-sedative effect is more marked than that of other electric methods, and, therefore, it is valuable in local spasms. He has also found it beneficial as a stimulant over other methods of electric application in diaphragmatic paralysis and to more rapidly ameliorate the symptoms of Graves' disease.

13. **Obscure Abdominal Tumors.**—The class of tumors here described by Richardson are those of sudden appearance and often mistaken for entirely different conditions from those which they really represent. One of the commonest ones is due to a full bladder, and catheterization is therefore advisable for the diagnosis in a very large proportion of these cases. This should constantly appear in the mind of the surgeon and it should be the invariable rule in pelvic surgery to catheterize just before operation, especially in women. The second variety of rapidly-forming tumors may be idiopathic dilatation of the colon or so-called phantom tumor. It is less properly a suddenly appearing than a suddenly disappearing type. There is the condition in which the colon may be twisted and obstructed and show a well-marked tumor. Cases are here reported as illustrating this possibility, which of course, is a serious one. Another condition is peritonitis. Still other causes are dilated stomach, which can not always be correctly diagnosed, and the ovarian tumor with twisted pedicle is a possibility; the different points between it and hematocele are here discussed. Ectopic pregnancy, of course, is to be considered. Still other remotely possible sources are distended gall-bladder and intermittent hydronephrosis. It would appear from the whole of these facts that a positive diagnosis is not always possible. In most of these cases pain is the most important symptom and this alone demands careful examination of the pelvic viscera. The mistake of opening a full bladder is inexcusable. The diagnosis of distended stomach may be impossible. A large bulging tumor of the dilated colon gives signs which Richardson thinks will suggest the true lesion; if it subsides under anesthesia, has a typical resistance, tenderness; if it is rounded and symmetrical; if the obstruction is acute and there has been no gradual cachexia, the dilated colon is strongly indicated. The suddenness of appearance rules out the dilated coils of a chronic obstruction, such as, for example, that due to cancerous stricture. The diagnosis of extruterine pregnancy is usually easy and of the ovarian tumor with twisted pedicle is easy when such tumor is known to exist, where one has not been previously found it is very difficult. In spite of the difficulty of diagnosis the signs point toward surgical intervention. It is of very little matter whether the case is one of ectopic pregnancy, or twisted pedicle, or extruterine hemorrhage, or intestinal obstruction; in all the operation may be of use. It is, however, of some importance if expecting a serious lesion, he finds a full bladder or normal pregnancy. In all suddenly appearing tumors, however obscure they may be, intervention is demanded if the symptoms are the least urgent.

15. **Serum Therapy in Pneumonia.**—The possibility of serum therapy in pneumonia is here noted by Smith, who reviews the facts and sums up that "as the question stands today it may be stated that, experimentally, animals may be rendered immune, that their serum has protective property, and that continued investigation is doing away with some of the difficulties which previously harassed the early investigators. But the fact still remains that in dealing with the pneumococcus we are dealing with an organism capable of many variations and degrees of virulence, and that the sera obtained under such conditions must of necessity vary both in strength and character. Washbourne's method of cultivation seems to be a distinct advance, inasmuch as he maintains life and virulence in the culture over a longer period than have other observers. His investigations are recent, and it is too early to state what the result will be. Experimentally, antipneumococcus serum seems to be of value. Practically, that it is of any great value does not at present seem to have been demonstrated, as the reported number of cases are too few; the series of any one

observer too small. What the future of the serum therapy in pneumonia will be it is too early to say."

18. **Obstruction of the Common Bile-Ducts.**—Deaver describes the symptoms and conditions of obstruction of the common bile-ducts. His methods of surgical treatment and technique of operation are also briefly mentioned.

19. **Gall Stones and Appendicitis.**—Oehsner analyzes his cases in which appendicitis and gall-stones were present. During four months beginning February 1, 1900, he operated on eighteen patients suffering from gall-stones, of these six, or one-third of the number, suffered from appendicitis at the same time. He notices the principal relations between these two conditions and emphasizes the importance of examining the appendix when operating for gall-stones. The larger part of his paper is given up to reports of cases.

20. **Etiology of Gall-Stones.**—Shattuck sums up the conclusions that seem to him justified in regard to the origin of gall-stones as follows: 1. A sterile foreign body does not lead to gall-stone formation, though a sterilized gall-stone may be penetrated by, at least, the colon bacillus. 2. The contents of the hepatic and cystic ducts, and also of the gall-bladder, are usually sterile. 3. The common duct not infrequently contains bacteria, a fact readily explicable by the relation of the duct to the intestines. 4. Gall-stones have been produced experimentally by a number of observers, with a number of organisms. Mignot failed with virulent cultures, while he succeeded with attenuated cultures, alone, or in connection with a foreign body. 5. The presence of bacteria has been demonstrated in connection with a considerable proportion of cases of gall-stones. 6. The clumping of the typhoid bacillus led Dr. M. W. Richardson to think this peculiarity might play an important rôle, and he produced gall-stones in a rabbit by the introduction of a small amount of a clumped bouillon-culture into the gall-bladder. 7. The colon bacillus and the typhoid bacillus are the most common bacterial agents in gall-stone formation. He infers from this that stasis of the bile is a very important factor in their production.

23. **Diagnosis of Medical and Surgical Diseases of the Liver and Biliary-Passages.**—In this article Musser reviews the condition and symptoms and points out some of the differentiating factors, the specially puzzling conditions of stenosis and obstruction of the gall-ducts and the various symptoms of cholelithiasis. He calls attention to the facts that gall-stones may occur at an earlier age than usually believed, and that pain may be the only symptom and it may be variously located. While jaundice may never be present, in other cases, rigor and fever may be marked and pain insignificant. Persistent localized tenderness of the gall-bladder region often elicited only on deep palpation when the patient takes a full breath is of great importance. The diagnosis of disorders of biliary passages from subdiaphragmatic abscess, appendicitis, intestinal obstruction and acute pancreatitis are particularly noticed.

24. **Lesions of the Pancreas Simulating Gall-Stones.**—Richardson's article is a lengthy one, with the report of a number of cases. He points out the conditions of the pancreas which may lead to a mistake in the diagnosis of gall-stones, and also the possibility of making a serious diagnosis of malignant pancreatitis when such does not exist. The methods of operation for diagnosis of these cases are described, but it is not practicable to reproduce them here.

26. **Medullary Narcosis in Labor.**—Marx reports in detail twenty-three cases in which he has employed the subarachnoid method of producing anesthesia in labor. He gives the usual directions as to technique and mentions the possible dangers of collapse and sepsis. He has never noticed any untoward symptoms. His average dose is about one-quarter of a grain, the smallest, one-sixth. The symptoms which follow the injections he thinks are not due to cocaine, as they follow saline solution injections. Asepsis, of course, is absolutely essential and he insists on quiet during the operation, as apprehension is always present, and psychic pain, if not

physical, may be produced. The patient is constantly being reassured by the surgeon and others are requested to refrain from talking.

27. **Subclavian Deligation.**—Graves' method is to substitute the cord of the brachial plexus of the nerves for the deep-lying scalenus anticus muscle as a guide in ligation of the subclavian artery. He thinks by using this the brachial cord is exposed more easily, and by passing the finger behind it less time will be consumed and fewer important structures endangered.

29. **Appendicitis Larvata.**—This term, introduced by Ewald, indicates appendicitis of a chronic, insidious character, which does not necessarily develop into a really acute attack. The patients complain of intermittent pain, disappearing after a long or shorter period, and are often first treated for intestinal colic, gastritis, etc., and with careful examination pain may be elicited by palpation, sometimes at McBurney's point, sometimes in the neighborhood of the navel, or often in other regions, and occasionally there is slight elevation of temperature. The danger is that it may be followed at any time by an acute attack threatening life. Thienhaus reports three cases which illustrate the possibility of diagnosing this condition. Concerning treatment, he says it must be recognized that only operative measures must be taken into consideration. They are indicated because there is no other means of correcting the existing pathological conditions, and the patient is in constant danger of an attack of appendicitis followed by peritonitis. Barnsby says that when the tip of the appendix is adherent to some abdominal organ with or without vascularization of its peritoneal serosa, there is absolute indication for operations. Furthermore, in young female patients one has to deal with the possibility of a subsequent pregnancy, and, as we all know that appendicitis in combination with pregnancy gives the most serious prognosis both for the fetus (abortion is practically inevitable), and for the mother, it is the physician's duty to explain to the patient the above-mentioned complication and to resort to radical treatment, that is, operation.

30. **Tuberculosis of the Skin.**—Ravogli reviews the different forms of tubercular manifestations of the skin, classifying them as those due directly to the tubercle bacillus, of which lupus and its varieties are a type, and those due to toxins, which he calls non-bacillary eruptions, and certain other eruptions, which have been called by Johnson paratuberculoses. He is inclined to include in this latter class scrofuloderma, lupus erythematosus, and certain kinds of eczema described by Unna and Bazin.

31. **Pathology of Skin Tuberculosis.**—Heidingsfeld reviews the pathologic conditions found in lupus—*circumscriptus*, *diffusus*, *erythematosus*, *verrucosus*, *crustosus*, *phagedenicus* and *resolutivus*.

32. **Treatment of Skin Tuberculosis.**—Internal medication is of little avail in tuberculosis of the skin, and the external treatment is, therefore, the only rational one. The use of caustics is less general than formerly; solid silver nitrate is most in favor. Others which have been recommended are salicylic acid plasters, arsenical paste, chlorid of zinc, pyrogallic acid, etc. The galvano-cautery in the form of punctures is sometimes satisfactory in small nodules, in the cicatrix and in mucous membranes. Excision is effective if the disease is small and circumscribed, though sometimes it may return even then. Thorough scraping of tuberculous areas with a sharp spoon or curette has had exceptionally good results. It is not, however, available where the nodules are deeply imbedded. Caustic potash may be applied later and the dental burr is sometimes used in destroying discrete tubercles. The other method mentioned is linear scarification, consisting of parallel incisions in the diseased parts, going down until resistance is met. Cross-incision is also made and the process is repeated from time to time until new growths are destroyed and cicatrization takes place. The objections to this treatment are its necessarily long duration and the difficulty of getting patients to submit to it.

33. **The Cell Doctrine.**—Fisch combats the idea of the importance of the cell to a certain extent, claiming that the cells do not form the organism, but that the organism forms the cell. He brings to support his view the facts of certain unicellular organisms of high development in the marine growths, the bridges between the cells which are found in the vegetable kingdoms and to some extent in animals. He maintains that the present cell doctrine we are advocating is encouraging a sort of dogmatism that should be deprecated.

40. **Renal Tuberculosis.**—From a careful study of cases personally observed, and others that have been collected in literature, of nephrotomy and nephrectomy for tubercular renal disease, Ramsay deduces the following conclusions: 1. That renal tuberculosis may be classed as a semi-malignant form of inflammation, and that for this reason surgical treatment of some sort is always indicated. 2. That this surgical treatment will have a palliative or a curative end in view depending on the condition of the patient and the duration and extent of the disease. 3. That nephrotomy in renal tuberculosis is to be classed as a palliative operation, and that as a palliative operation for the immediate relief of dangerous symptoms, and as not precluding a later nephrectomy, nephrotomy with drainage of the abscess cavity is most valuable. 4. That resection of the diseased part of the kidney is contraindicated in renal tuberculosis because of the danger of leaving a tubercular focus in the portion left in the body. 5. That nephrectomy or nephro-ureterectomy is indicated in every suitable case, and in suitable cases should be followed by a lasting cure in 55.5 per cent. of the cases. 6. That the indications against nephrectomy are tubercular or other disease of the second kidney, or tubercular foci in other organs. 7. That tuberculosis of the bladder is not to be considered a contraindication to nephrectomy, as it will probably heal later. 8. That a small tubercular focus in the lung, if the patient otherwise is in good condition, may sometimes not be considered a contraindication. 9. That in doubtful cases, when it is questionable whether the patient can stand an immediate nephrectomy, it is better to do a nephrotomy, following it later by nephrectomy. 10. That the clamp method of controlling the pedicle is contraindicated from the danger of hemorrhage after removing the clamp. 11. That it is the safest to remove the ureter with the kidney, as a persistent fistula may give trouble if it be allowed to remain in the body. 12. That a certain proportion of these fistulae will finally disappear, either after the removal of a deep suture or because of the slow disappearance of the tubercular disease in the ureter, which in these cases gradually changes into a fibroid cord. 13. That we may expect a steadily increasing number of final cures as our means of diagnosis improve and as our surgical technique is carried out more carefully and scientifically.

42. **Mesenteric Cysts.**—Dowd reports a case of multilocular cystadenoma in transverse mesocolon containing pseudomucin, and discusses the whole subject of mesenteric cysts. His summary is given as follows: 1. The occurrence in the transverse mesocolon of a multilocular cystadenoma which contained pseudomucin, and which was exactly like a cystadenoma of the ovary, suggests its probable origin as an embryonic ovarian sequestration. 2. The occurrence of dermoid cysts in a similar position suggests a similar origin. 3. The occurrence of chylous cysts in the mesentery, which have the structure and appearance of ovarian and parovarian cysts, and which have in their walls lymph-vessels, suggest embryonic cysts into which there has been an effusion of chyle. 4. The sanguineous cysts appear to be preformed cysts into which hemorrhage has taken place; hematomata in the mesentery should not be described as cysts. 5. The presence of cysts which have the structure of the intestinal wall suggest sequestration from the intestine. 6. Serous cysts are apparently similar in origin and structure to the cysts already considered. They are usually not situated in the path of the lacteal vessels. 7. Hydatid cysts form a class by themselves and are due to the tenia echinococcus. 8. Reports indicate that mesenteric cysts are being removed at least as often as once a month. 9. It is probable that all mesenteric cysts may be included in the

classifications: 1. embryonic cysts; 2. hydatid cysts; 3. cystic malignant disease.

43.—See abstract in *THE JOURNAL* of August 8, p. 449.

44. **Prostatectomy.**—Mynter reports a case of prostatectomy in which he was able to do the whole operation through the perineum by extending the posterior end of the longitudinal incision from the bulbus urethrae to the anus, in a curve around the anterior half of the anus on both sides, when he dissected loose the curved flap containing the anterior wall of the rectum and exposed the prostate to sight. With a grooved stone-sound he made a median incision in the prostate posteriorly without opening the urethra, introduced the finger, entered capsule and enucleated with ease both hypertrophied lateral and middle lobes, meanwhile pushing the prostate down in the perineum with the hand above the symphysis pubis. Unfortunately, the posterior urethra was torn at one place by the finger against the sound and therefore he drained the bladder for seven days. He thinks, however, this accident can be avoided in other cases and that the operation thus performed will be an ideal one.

57. **Pelvic Inflammation.**—After first describing the condition, its symptoms and diagnosis, Ill passes to the treatment, which he thinks has been heretofore too exclusively surgical. In acute cases the cause should be considered, though it does not materially change the treatment, excepting in tuberculous cases. The patient should be kept in bed, bowels moved by salines every second day, diet be unexciting, pain controlled by ice-bags for a short time, hot vaginal douches with permanganate of potash solution (1 to 20000), small blisters over the seat of pain, and in some cases tamponing the vagina with iodiform gauze and applying cantharidal collodion on cotton to cervix if there is great sensitiveness to touch and swelling; the latter produces a very copious purulent discharge and should be removed in four hours and followed by douching several times a day. Then comes the use of a 10 per cent. solution of ichthylol in glycerin, applied in the evening and followed by a large vaginal douche before removing the tampon in the morning. The blisters may be resumed in five to eight days. For rectal tenesmus and discharges of mucus an opium suppository may be given; an opiate is in any case best administered by the rectum. Relapses are common from sexual excitement, cold, menstruation, etc. All these causes can be controlled excepting the menstrual period, and the author has been making a trial of the treatment suggested by Grammatikati for the control of this function and will report the results in the future. The treatment of the chronic form consists in an endeavor to produce absorption of exudate and adhesions and replacing of the displaced organs. He would paint the vaginal roof with tincture of iodine and apply a glycerin-ichthylol tampon, and if the patient is found to tolerate it, add to the tampons until the vagina is firmly packed. They should be retained for forty-eight hours and withdrawn by a string. Two days following the removal the patient should be directed to take a large hot vaginal douche night and morning, preferably in the knee-elbow posture. In these cases he has also found much good from the Brandt method of massage. Pelvic cellulitis is also described and the treatment mentioned. It consists in the use of large hot permanganate of potash or lysol douches or weak mercuric bichlorid. The use of the ice-bag over the affected side, and in less acute cases, after the abrasion or fissure of the cervix is looked for, carefully cleansed and kept clean; thorough swabbing with hydrogen dioxid, followed by an injection of a 5 to 10 per cent. mixture of iodine in glycerin is usually sufficient. In tubercular inflammation, of course, the case is a surgical one from the beginning.

60. **Ureterointestinal Anastomosis.**—Peterson sees no special value in intestinal implantation of the severed ureters. In very few instances do the experimental animals overcome the infection and survive. Maydl's operation, which he prefers to call uretero-trigono-intestinal anastomosis, is favorably spoken of, and he thinks this method as modified by himself has been a perfectly justifiable surgical procedure in vesical extrophy. Uretero-intestinal anastomosis by the formation of permanent

fistule connecting the bladder and rectum is also spoken of as somewhat promising, though he doubts whether it can ever be successfully made in cases of purulent cystitis due to enlarged prostate.

56.—See abstract in *THE JOURNAL* of September 13, [120, p. 976.

63.—Ibid.

65. **Hemorrhage After the Menopause.**—The causes of hemorrhage after the menopause are given by Davis as follows: 1. Granular endometritis, which can usually be relieved by aseptic curetting. 2. Atheroma of uterine blood-vessels, which offers but little prospect of relief, though changes in the diet consisting of an abundance of well-cooked meats and fruit might prove of benefit with tonics and alteratives. 3. Vasomotor relaxation is a possible source of hemorrhage, improvement of general health by the use of tonics, with special attention to the nervous system will cure this disturbance. 4. Uterine polypus should be readily recognized and promptly removed. 5. Uterine myofibroma covers too extensive a subject to be fully treated here. 6. The last cause, malignant disease, is the most important. He thinks that it rarely attacks the nulliparous uterus and generally involves some sore or old laceration, especially of the cervix. Such injuries, therefore, should be attended to promptly. He does not credit the employment of methods to prevent conception with having much to do with the existence of cancer. The earlier the operation is done, the better the chance; it is important to investigate early all cases of hemorrhage after the menopause, especially if there is any suspicion of malignant disease.

69. **The Prophylactic Douche.**—After noticing the change of views of recent years in regard to the use of this method and discussing the literature, Chapman says that he has been in the habit of using the preliminary prophylactic douche, but has been led by his studies to question the advisability of so doing unless there is some suspicion of gonococci. He is almost persuaded that the bacteria will meet with more timely neutralization without the primary douche than with it. After the completion of labor in the ordinary case, the douche is used until the third day, unless there is some indication for the same on account of offensive discharges. His success with the method has been very satisfactory.

76. **Cocain as a General Anesthetic.**—Murphy reviews the history of anesthesia by subarachnoid injections of cocain, giving credit to Corning for its origination, gives full directions as to the technique, and reports nine cases in which he has successfully employed the method. He has seen no serious accidents follow the anesthesia thus produced, though vomiting and headache may appear during the operation or some hours later and last some little time. He has also noticed some perspiration and pupillary dilatation, with temperature and rapid pulse, but they all disappeared within twenty-four hours. The important points are the thorough asepsis, use of aseptic material and the assurance that the needle has entered the spinal canal by seeing the cerebrospinal fluid flow clear before introducing the cocain.

82.—See abstract, vol. xxxv, p. 764.

83.—Ibid., p. 763.

84. Ibid., p. 764.

85. **Diabetic Coma.**—Ely argues in favor of the rather widely accepted theory that diabetic coma is an expression of an acid intoxication due to the presence in the body of B-oxymybutyric acid in large quantities, and while he admits that the result of alkaline treatment has not been very satisfactory in the past, he reports several cases coming under his observation in which they have been very favorable. He is impressed by the difficulty which attends the administration of alkali, especially the risk of favoring intestinal putrefaction, and insists on the importance of careful scrutiny of the condition of the bowels and digestion in these cases. He would warn against the too-rapid withdrawal of carbohydrates in patients suffering from diabetes, as this may favor the development of coma from the readiness of proteid food to yield acid in its decomposition.

The alkali treatment should be instituted prior to the reduction of carbohydrates and they should be carefully withdrawn.

87. **Koplik's Spots.**—From a study of 140 cases of measles, Maroney thinks they prove conclusively that the presence of Koplik's spots is an absolute pathognomonic sign of measles, from which a positive diagnosis can be made at an early stage of the disease. They appear in the great majority of cases before the appearance of any skin eruption and in almost one-half the cases before any coryza or conjunctivitis, and their recognition affords an early means of isolation and offers a means of limiting if not aborting epidemics in hospitals and institutions.

90. **Tattoo Marks.**—Ohmann-Dumesnil describes his method of removing tattoo marks, which is an application of a bland solution of the vegetable ferment caroid especially prepared for use as a physiologic solvent, which is poured over and rubbed into the tattooed surfaces and then the spot is covered with two or three layers of gauze soaked in the solvent. In a few days, when the latter are removed, the tattoo marks appear light and hazy. Very shortly afterward some crusts appear and when they fall off all trace of the tattoo is gone.

97. **The Specific Gravity of the Blood.**—Busch, Kerr and Filsinger, the authors, give the results of their experiments to test the specific gravity of the blood and tabulate some eighty-eight cases in regard to the value of the blood-count, hemoglobin, etc., in connection with the specific gravity. They summarize their conclusions as follows: 1. In most cases the specific gravity and the percentage of hemoglobin of the blood present such a close relationship to one another that the latter may be predicated from the former with sufficient accuracy for clinical purposes. 2. Both v. Fleischl's and Gover's instruments are liable to an error of 10 per cent. or more. 3. There is liable to be very slight, if any, error in the determination of the specific gravity by Hammerschlag's method.

101.—See abstract, p. 763.

104.—See abstract in THE JOURNAL of July 14, p. 117.

105.—Ibid.

106.—Ibid.

107. **Suprapubic vs. Vaginal Section.**—Benjamin insists on the greater advantage of performing abdominal section over the infrapubic operation and quotes a number of authorities in support of his view. The chief advantage is the ability to make a more thorough operation, to discover complicating conditions and to meet the complications. He offers in conclusion the following as his suggestions in regard to the matter: 1. The abdominal operator has the advantage of sight, touch and access to the disease. 2. He is able to explore the whole abdomen for visceral disease. 3. He can do careful, complete and conservative work. 4. There are few diseases of the female pelvis, except certain abscesses, operable from below that are not best treated from above. 5. Surgery of the female pelvis should be the practising of good surgical sense and not fads.

113. **Tuberculosis.**—The usual facts in regard to precautions and prophylaxis are reviewed and the author gives his own treatment somewhat detailed. He thinks the ordinary cases, with no throat complications, are benefited by altitude, but every case should be studied by itself in this regard. Advanced cases should never be sent away from home. Cases with catarrhal complications do best with a climate of a lower elevation. He has had no experience with the pneumatic cabinet, but takes the opinion of others that it is a valuable adjunct. The cool morning bath is often of advantage, and he would shut off the use of tobacco from tuberculous subjects. The diet should be nutritious and digestible. The teeth should be carefully looked after. For tonics he suggests cod-liver oil, arsenic and iron, which last he prefers in the form of ferratin; the creosote derivatives in combination with strychnin sulphate are the drugs with which he has had the best results. He prescribes the following formula:

R. Strychnin sulph. gr. ss.
 Guaiacol carbonate ʒiii

M. Ft. caps. No. xxiv. Sig. One twenty minutes after meals.

He also uses the inhalation of a 40 per cent. aqueous solution of formic aldehyde, using 20 to 40 drops on a piece of cloth twice daily. For night-sweats he finds camphoric acid of advantage when atropin and other drugs failed. For cough he gives codein sulphate in combination with chloroform and wild cherry. For vomiting, cocain and menthol. For intercostal neuralgia, hot-water compresses, counter-irritants, etc. For hemoptysis hydrastis canadensis, morphin, ice, etc. For fever, lactophenin, phenacetin and acetanilid. Nux vomica, cinchona, etc., are often useful. In advanced cases there is little to be done. He believes the disease is curable under certain conditions. If we can encourage the patient to hope for recovery we have done much.

114. **Prophylaxis of Shock.**—Shock consists of central nerve depression due to too severe or too long continued stimulation showing itself in the symptoms referable to three causes: 1. Vasomotor paralysis. 2. Respiratory paralysis. 3. Cardiac paralysis. The distinction between collapse and shock insisted on by Crile is noticed. To prevent shock in severe surgical operations, the first thing is to give the patient rest and the patient should be insured ample sleep for a few days preceding, and the preliminary purgation be completed twenty-four hours prior to the operation. Cardiac stimulation can be used to advantage in patients suffering from functional or organic disease of the heart. All respiratory troubles should be relieved as much as possible and lowered vascular tone be improved by constitutional remedies. Morphin injected is a help in many cases and may be used in ¼ gr. doses twenty minutes before giving the anesthetic in combination with atropin and strychnin. Threatened respiratory failure can often be avoided by stopping the anesthetic and inverting the patient. Ammonia is an efficient stimulant and acts immediately. Inhalations of amyl nitrite are of value when sudden collapse threatens, though contraindicated in profound shock. Saline infusion is the most satisfactory method of avoiding shock and is an efficient prophylactic. Speed is of importance in operation.

115. **Acute Tympanic Abscess.**—Landfried reports a case with the absence of the ordinary acute tympanic signs of suppurative mastoiditis following abscess of the middle ear from which he deduces that we had better depend on the presence of the continuous flow of pus through the perforated drum in determining the possibility of mastoid complications rather than on the intensity of the acute objective signs ordinarily seen with such complications. He also points out the danger of delay in operating on mastoid cases occurring late in the history of otitis media where suppuration has been continuous, and the need of proper equipment of the doctor who has to treat such cases. His own conclusion was to err, if to err is necessary, always on the side of incising the drum. A large incision made early is one of the most conservative things he knows of in surgical practice. It is not safe to chisel only into the mastoid antrum. The complete carving of the mastoid processes, even if the sinus should be exposed, had better be done. The case also illustrates the value of the aseptic aspirating needle in determining whether or not it is imperative to open and flush the lateral sinus or to ligate the jugular vein. Where there is no thrombosis the blood will flow through the needle passed into the sinus. Prognosis in any case of running ear is uncertain as regards complications until the discharge has completely ceased.

122. **Epigea.**—Aaron suggests epigea as a remedy for gastric eructations. Although the plant has not been recognized officially, it has received some attention. Three glucosides have been isolated, namely, arbutin, ericolin and urson, besides other substances. He has had some very happy results from its use, but is not able to say to which one of these principles the therapeutic value is due. The plant is well known, being the common trailing arbutus.

FOREIGN.

The Lancet, September 22 and 29.

The Etiology of Rheumatic Fever. FREDERICK J. POYN-TON AND ALEXANDER PAINE.—The authors first review the his-

tory of the microbic theory of rheumatic fever, showing how complicated and uncertain the present state of the bacterial theory of rheumatic fever still remains. They recognize five different views as held: 1. Allowing that the disease is microbic it is held that there is no specific micro-organism, but that it is a form of septicaemia due to staphylococic and streptococic infection. This they do not find supported sufficiently to be probable, considering the absence of suppuration. The second view is that rheumatism is due to a specific diplococcus; the third, that its cause is a specific bacillus. The fourth raises the question of mixed infection of bacilli and cocci as in diphtheria, but the authors consider this is unsatisfactory. The last view holds that rheumatic fever is not a disease *sui generis*, but a particular reaction of tissues to other infections. To summarize their own view they think it more probable that the micro-organism is always present in rheumatic fever, that it is capable of isolation, and that it may produce similar symptoms in suitable animals, and that it will probably exhibit some definite peculiarities on culture. They also think that it would be a simple and not a mixed infection. Their investigations are given in detail and the diplococci which they found, described, with the experiments on rabbits, in which the symptoms of the disorder were reproduced. The authors are not as yet in a position to state thoroughly all the morphologic characteristics of these micro-organisms, but they ascertained the following details: 1. They are minute cocci associated in pairs varying in size but averaging .5 of a micron in diameter. 2. In liquid media they grow in chains. In solid media they grow in masses that resemble the staphylococci. 3. They are both anaerobic and aerobic. The authors find the best culture-medium to be milk and bouillon slightly acidified with lactic acid, and the organisms grow rather better in the anaerobic than the aerobic tubes. They believe that there is little doubt of their identity with those discovered by Triboulet in 1897 and Wassermann in 1899. They can not say that it is the sole cause of rheumatic fever in view of the statements of Achalmé, Thirloix and others. There is a strong clinical likeness between rheumatic fever and the disease produced by this diplococcus in rabbits. The diplococci are found in the tonsils, in the cardiac valves, pericardium, and in the nodules of fatal cases of rheumatic fever, and Poynton and Paine have also isolated them from the joint exudation, heart blood and kidneys of rabbits as well as from the liver and lungs. The demonstration of these organisms in man is not easy. This they lay to the fact that rheumatic fever is essentially a disease in which there is great resistance; even in fatal cases the reparative processes are often well defined at the site of some of the local lesions and the tissues in which they are found are more difficult in structure to investigate. In concluding their paper they remark that the term "infective endocarditis," which has been for some time under suspicion, can not be used longer in contradistinction to "rheumatic endocarditis" for both are plainly infective. They believe that their investigation has made the relation of malignant endocarditis, as they prefer to call it, to rheumatism much clearer. In simple rheumatism the diplococci are not found at first on the surface of the valves, and the disease tending as it does to recovery, they are destroyed by phagocytosis and possibly in other ways, the valve undergoing sclerosis. In the malignant type they reach the free surface and multiply with great rapidity and if they are detached by force of the blood stream, they may possibly give rise to a condition of rheumatic septicaemia recognized clinically as malignant endocarditis.

British Medical Journal, September 20.

A Discussion on Influenza as It Affects the Nervous System.—The discussion was opened with a paper by Dr. Judson S. Bury, who called attention to the nervous system in influenza, stating that we assume and have proof that in this condition the brain tissues are attacked by bacilli in the first group of cases he considered. The disease develops during and after the febrile stage, sometimes being the sole representative of the effects of the influenza poisoning; meningitis and hemorrhagic encephalitis are the best examples of this type. In the second group are placed nervous diseases which usually

occur after the attack has subsided; neurasthenia and multiple neuritis are examples. Here it is assumed that the toxins produced by the bacilli are more dilute and less virulent than in the first group. The division is not strictly correct, but is convenient from a clinical standpoint. Of the nervous symptoms belonging to the first group he notices first the comatose type. An examination of the brain may reveal nothing abnormal, or there may be congestion and even purulent meningitis with or without an encephalitis. The meningitis may accompany encephalitis or may exist secondary to a purulent otitis. The delirious attack is another manifestation; in contrast to the drowsiness and unconsciousness there is restlessness, irritability and delirium, and even mania. Cases of both kinds were reported. Spinal paralyses have been also noticed, and in rare instances show themselves during the attack. They may constitute, as in the cerebral type, its salient features. Of the second group he notices and reports cases of local and more or less general paralysis involving the spinal cord and nerves, as well as neurasthenias occurring as sequelae to influenza. The discussion on this paper was quite general and was participated in by Drs. Broadbent, Allbutt, Eade and others. Dr. Allbutt agreed with Bury in thinking that the frontal cerebral lobes are preferentially attacked by influenza.

A Discussion on the Problems of Gastric Ulcer.—Payne opened the discussion by giving the statistics of St. Thomas' Hospital, and assuming that the first problem of gastric ulcer is whether it is increasing; he thinks it really no more prevalent than formerly. The second problem refers to diagnosis. He thinks that pain is not often characteristic or typical; in a number of cases it was not even mentioned, and in one fatal case it was positively stated that there was no pain whatever. Hematemesis, the only characteristic symptom, was definitely recorded in but seventeen out of forty-eight fatal cases. As to hyperacidity, which has been made much of lately by some German physicians, he has nothing to say at present, as he has not been willing to wash out the stomach in suspected gastric ulcer. The general conclusions seem to be that while hematemesis is accompanied by other gastric symptoms as the most trustworthy sign, it is not absolute and may be due to many other causes. As to whether we can draw a clear distinction between acute and gastric ulcer, he is inclined to answer in the negative. The etiology of gastric ulcer is discussed, and he holds that there is no evidence in favor of the bacterial origin. The theory that it is due to disturbed innervation seems hardly worth considering. The hypothesis of hyperacidity might account for the continuance of the ulcer, but not for its commencement. Payne therefore concludes that we have not at present a very plausible explanation of the origin of the lesion. The predisposing causes are also questioned by him. He does not find that it is so exclusively met with in the poor and the female sex, among servant girls, etc., as generally held. As regards its prognosis, the acute ulcer tends to recover, so that in the young the prognosis is relatively good, but in chronic ulcer it is not so favorable and the only difference between the acute and the chronic disease is in its duration. During treatment he prefers to have water taken by the mouth, as it is less likely to do harm than in the reverse course, and it certainly assists the patient to go longer with rectal feeding. In conclusion he asks if acetouria is a frequent accompaniment of rectal feeding. In the discussion of Payne's paper Gordon believed that the microbic theory of the origin of gastric ulcer explains the facts better than any other.

The Origin of Gout. WILLIAM RINGROSE GORE.—The author combats the uric-acid theory of the cause of gout, though the blood always contains uric acid, but whether it increases in the acute attack is very doubtful. Its presence is only a symptom and would be produced by the action of the digestive toxins on the liver. His conclusions are that gout is not due to the presence of uric acid in the blood, but these symptoms are due to toxins and this toxin is formed by the action of one of the intestinal bacilli on the intestinal secretion specially altered by diet, and this alteration is assisted by hereditary predisposition.

Subcutaneous Saline Infusions in Pneumonia. WILLIAM EWART and BEAUMONT PERCIVAL.—Cases are reported bearing on the question of the value of saline subcutaneous infusions in pneumonia, especially in connection with the results published by Dr. Clement Penrose, of Baltimore. They classify cases as regards their prognosis into two groups: 1. Those likely to recover. 2. Those almost sure to be fatal. The first group does not lend itself to any profitable therapeutic investigation, but there is still a third class with uncertain and serious, though not hopeless, prognosis, which may test thoroughly the therapeutic methods. The cases here reported were all selected on account of their gravity, and injections in all were administered with strict antiseptic precautions. In one of the six recovery took place, the others died. Briefly stated, the practical conclusions are as follows: 1, in the severe cases treated no unfavorable results were observed from the saline infusions; 2, those seemed to delay rather than to accelerate the fatal termination; 3, they were not resented by the patients, and by some of them they were acknowledged to be comforting; 4, they were powerless to check the fatal course of the pneumonia in the worst type of cases; 5, they do not seem, except in Case 4, where no pus but clear serum exuded from the cut surface of the gray hepatization, to have made any difference in the characteristic appearances of the pulmonary changes. At the same time, while the results have been disappointing, they do not suffice to prove that saline infusions are absolutely useless. A different combination, a larger bulk, or a greater frequency of administration might lead to very different results. The cases reported were exceptionally severe, and may have been incapable of recovery. "The effects noticed were, nevertheless, in our estimation, such as to recommend the method for a more extensive trial in cases with anxious prognosis; for among them cases may occur which are not of the worst type, and in which an installment of relief, such as that observed in some of the cases reported, might be sufficient to save life."

Consanguinity as a Factor in the Etiology of Tuberculosis. CHARLES A. DAVIES.—Davies discusses the subject of consanguinity in its relation to the etiology of tuberculosis from the study of facts as shown in the Isle of Man. This is a small territory where intermarriage has taken place to a great extent, varying, however, in certain localities, which fact aids in this study. Its mortality from tuberculosis is very high, the annual mortality being 25.7 per 10,000; roughly speaking, this is about double the rate prevailing in England and Wales. The climatic conditions are eminently favorable to life. The sunshine is greater than in most parts of the British Islands. The winds are similar to those on the mainland and the combination of mountain and sea air seems to be conducive to health, and Davies thinks that the whole climate is eminently suitable for the treatment of lung disease. The soil is dry and fairly well drained and he has not come across a single case of malnutrition due to poverty. As a rule the natives are well nourished in body, and happy and contented in mind. The two chief occupations are agriculture and fishing, though many of the men follow the calling of mariners, and there is a little lead-mining. There is no excuse for the high amount of tuberculosis other than consanguinity; in one parish where the inhabitants have long been comparatively isolated from the other parts there is a notorious amount of consumption, and a remarkable freedom from it prevails in another region where the condition in this regard is the reverse. After a careful study of the whole question, he has come to conclude that the chief factor in the production of tuberculosis in the Isle of Man is consanguinity.

Archives Gen. de Médecine (Paris), August and September.

Importance of Arterial Pressure in Anesthesia. S. DUPLAY and L. HALLIEN.—Death in chloroform or ether anesthesia is due primarily to the reduction of the arterial pressure caused by the drug. The phenomena noted in the arterial pressure and the pulse are not such as are observed in asphyxia. Extensive experimental research on dogs has shown that the reduction of the arterial pressure to zero and complete suppression of the heart-beat are preceded, it is true, by a

complete syncope of the respiration, but the drop in the arterial pressure has already commenced its downward course before the respiration is suspended. If this reduction has progressed beyond a certain point it is impossible to arrest and restore it, but within this limit it is possible by suspending the administration of the chloroform or ether and by artificial respiration to arrest the drop in the arterial pressure and bring it back to normal. The immediate factor of death, therefore, in chloroform or ether anesthesia is the diminished arterial pressure. Consequently, if we register and watch the condition of the arterial pressure during anesthesia, we will be kept informed as to the effects of the poison in the system and be able to graduate the necessary intoxication and keep it inside the danger limit. "Nothing is easier and more harmless than to administer chloroform to a dog indefinitely if a manometer is applied to an artery and the register watched for the slightest indication of danger." In one of the curves cited the amount of chloroform was graduated to keep the arterial pressure between 10 and 13 cm. mercury. No information derivable from the pulse, the respiration nor the corneal reflexes would have allowed such accurate regulation and such complete absence of danger. The harmless zone is easily established. Once past this zone the reduction in the blood-pressure irremediably continues its downward course. Other points mentioned in this article are that artificial respiration has probably a massaging effect on the intrathoracic vessels, and that direct digital massage of the heart might prove useful in raising the blood-pressure when restoration by all other means has failed.

Spontaneous Rupture of Gall-Bladder. S. MACHARD.—In the 39 cases of rupture of the gall-bladder on record, 22 were caused by lithiasis, 10 by typhoid infection, 3 by infectious icterus and 4 were of unknown origin. Machard describes a fatal case in which the dilatation and rupture of the organ was due to adhesive supra-umbilical peritonitis, associated with perivisceritis, liver and lung affections and interstitial nephritis. If diagnosed in time, cholecystostomy offers the best chances for intoxication. In all cases of dilatation of the gall-bladder with peritonitis, spontaneous improvement should not be awaited, as perforation is liable to occur at any moment.

September

Typhoid Fever in the Course of Active Syphilis. G. ETIENNE.—In the writer's experience of 600 to 700 cases of typhoid fever, five extremely severe cases were observed to occur in patients with concomitant active syphilis. In another case multiple exostoses developed a few months after a typhoid fever in a syphilitic. The evidence seems to show that active syphilis aggravates the course of typhoid fever and is not attenuated by the latter, as some claim.

The Diabetograph. F. COULION.—A graduated glass tube with a stopcock at the lower quarter, below which the tube tapers to a point, is the simple apparatus with which it is possible to estimate the exact amount of sugar in the urine without any calculation. Experience is confirming its mathematical precision and rapid and easy manipulation. The tube is filled with urine to a certain point, and 2 c.c. of Fehling's solution are boiled in another vessel, diluted with five or six times its amount of water. The urine is added to the reagent by turning the stopcock at the bottom of the tube. When the reaction occurs in the solution the figure on the tube to which the urine has fallen indicates the amount of sugar in a liter of urine. The graduation on the tube is calculated according to the fact that when one volume of urine reduces an equal volume of Fehling's solution, there must be 5 gm. of sugar in a liter of the urine.

Echo Medical (Lille), September 6.

Antagonism Between Typhoid Fever and Syphilis. MARIAN.—Among the points discussed at the International Medical Congress was the tendency of typhoid fever to attenuate a pre-existing or simultaneous syphilis. Ducrey stated that it extinguished the syphilitic infection and Julien reported the case of a patient with a typical primary indurated chancre who was taken with typhoid fever. The chancre rapidly healed and during the twenty-five years since he has never had any

further manifestations of specific infection. Marian, on the other hand, has observed a case in which severe primary syphilis was ameliorated to practical recovery by specific treatment. After a year of health the patient contracted typhoid fever with two relapses. During his convalescence a new specific eruption appeared on the trunk, indicating a revival of the syphilitic process. Marian therefore warns that concomitant typhoid fever is no reason for neglecting specific treatment.

Gazette Hebdomadaire (Paris), August 19 and September 13.

Foreible Reduction of Hump in Pott's Disease. A. BROCA.—Fifty-five out of the 83 cases of Pott's disease treated by Broca date from more than a year ago. Foreible reduction during horizontal traction was done in 46, with the immediate application of a plaster cast embracing the thighs and part of the head, during suspension in narcosis. Of the entire method of foreible reduction introduced by Calot, nothing has survived except the application of the cast in suspension. The hump has returned in every one of Broca's cases except in 10 fresh ones, in which the traction alone was sufficient to straighten the spine. He considers two or three months of dorsal decubitus indispensable, with at least a year of immobilization.

September 13.

Immunity of One Twin to Infection. CUCHE.—One twin is apt to be weakly, to bear the entire burden of inherited infection, tuberculous, syphilitic, etc., while the other twin is exempt. Cuche states that this has occurred with such regularity in his experience that he is inclined to suspect some law regulating the phenomenon.

Semaine Medicale (Paris), September 28.

Physiologic Action of Mountain Climate. J. JAQUET.—The effect of altitude on the blood was tested in a series of experiments on rabbits. It was found that reduction of the atmospheric pressure equivalent to 100 mm. of mercury was sufficient alone, apart from any other factor of mountain climate, to change the composition of the blood in the same way as is observed after a trip to the mountains. The total amount of hemoglobin increased 20 per cent. Six rabbits, before the test, averaged 5,530,000 red corpuscles and 12.7 per cent. hemoglobin. The reds increased by the end of four weeks to 5,749,000, and the hemoglobin to 12.97 per cent. Six others under the same conditions in every respect, except that the air was rarefied to correspond with the atmospheric pressure at Davos, showed an increase of red corpuscles from 4,552,000 to 6,091,000, and of the hemoglobin from 11.54 to 14.40 per cent. The total amount of hemoglobin corresponding to one kilogram of the animal's weight was, at the close of the tests, 23.7 per cent. more than in the control animals. The dryness, cold and other features of high altitudes, tested separately, had no appreciable influence on the composition of the blood. Jaquet also experimented on himself and a companion. For four weeks all the food was analyzed and exactly the same quantity taken each day. The first seven days were spent at Basle, then thirteen at Chasseral, in the Jura mountains, at an elevation of 1600 meters, concluding with seven days after the return to Basle, omitting from the calculations the trips to and from the mountains. Each day the urine and feces were weighed and analyzed. The interesting results are tabulated in full. They demonstrate that the modification of the blood and the metabolism of nitrogen closely parallel each other. The increase in the red corpuscles and in the hemoglobin during the stay in the mountains was accompanied by a marked decrease in the nitrogen eliminated. After return to the lower altitude the reds and the hemoglobin gradually diminished, while the elimination of nitrogen increased in inverse proportion. The amount of nitrogen retained by the organism was much more than could have been required for the reformation of the elements of the blood. This suggests that the action of altitude is not restricted solely to the blood-formation, but that it may induce a partial protoplasmic regeneration throughout the organism, conferring new vitality and resistance on other elements besides the blood. He states that this general modification of the tissues affects also the respiratory interchanges, as he will describe in a later communication.

Berliner Klinische Wochenschrift, September 27.

Etiology of Chronic Edema. H. ROSIN.—A woman of 42 presented a typical case of progressive, simple, diffuse edema of the skin without participation of any organ in the morbid process. Abnormal permeability of the vessels is the probable cause, such as Senator accepts as the cause of hydrops-anasarca in renal affections. Magnus has artificially induced edema of the skin by hydremic plethora in experiments on animals with certain toxins.

Polyneuropitis Consecutive to Malaria. C. A. EWALD and BAUMSTARK.—Motor paralysis and atrophy of the muscles were observed in three cases consecutive to malaria contracted in Kameroun. One case developed a rapidly fatal Landry's paralysis. The central nervous system was found intact, confirming the assumption that certain kinds of paralysis are primarily due to an acute polyneuropitis in the peripheral nerves. In another case the polyneuropitis was accompanied by mental confusion.

Centralblatt f. Bakteriologie (Jena), August 22 and September 4.

The Mechanism of Infection. A. RADZIEVSKY.—A fatal infection in animals is not due exclusively to the multiplication of microbes. Large numbers are destroyed by the juices of the organism, sometimes entirely outside the cells. The organism is not passive in infections, but takes an active part, producing substances to destroy the microbes. When they are killed and dissolved their toxins are liberated and to this is due the clinical aspect of the infection. The organism reacts the same to a fatal as to a non-fatal infection. The difference is merely the amount of the final intoxication. The increase in the virulence of microbes after passage through animals is due to the tendency of the juices to destroy them.

To Free a City from Mosquitoes. C. FERMI.—The organized efforts which resulted in freeing the city of Sassari from mosquitoes have already been described in THE JOURNAL, xxxiv, p. 1576. Fermi remarks that it is unnecessary to use more than 5 cc. of petroleum to a square meter of surface in killing the larvae in water, and that, as they require fifteen to twenty days to develop, renewal of the oil is not necessary for fourteen days. He mentions that Mionte, in Ionia, and Pergamo, in Asia, were abandoned by the inhabitants in ancient times on account of the numbers of mosquitoes.

Protection of Man Against Mosquitoes. C. FERMI.—There is very little prospect that any chemical means of warding off mosquitoes will prove effective. Out of the countless substances tested, only the fumes of chlorin and ammonia, and wood and tobacco smoke proved to have any effect.

Prophylaxis of Malaria. E. DI MATTEI.—Four workmen, who had never had malaria, were brought from Catania to Valsavoia every evening at 5:30. They were hurried from the train, a few steps, to a large two-roomed building, where they spent the night, and were taken back to Catania for their day's work next morning at 7:30. The numerous windows and the door were all open, but closely screened. The inside walls were white, to detect any mosquito that might force an entrance when the door was opened to admit the men and then closed until the next morning. Di Mattei accompanied them every night. The experiment lasted thirty-three days and none of the party showed the least trace of malarial infection at any time. No quinin nor medicines of any kind were administered. Valsavoia is one of the most notoriously malarial spots in Sicily.

Centralblatt f. Kr. der Harn u. Sexual-Organ (Leipzig), September 15.

Primary Carcinoma of the Urethra. HOTTINGER and OBERLAENDER.—The first symptom of the lesion was a discharge from the urethra in the four cases reported. They raise the total number of cases of carcinoma of the urethra to twenty. The benefit of operation is evident. The two operated on are in good health now, 3 and 4½ years later. In one case the carcinoma occurred in a diabetic.

Deutsche Medicinische Wochenschrift (Leipzig), September 20.

Morphology of Bacteria an Indication of Their Virulence. H. MARX.—The small, spherical, metachromatic bodies first observed in the bodies of bacteria by Babes and Ernst are not found in all. Research at von Bergmann's clinic, described in this article, has demonstrated that these Babes-Ernst bodies

are the result of the condensation and localization of the euchromatic substance of the bacterial cell, and that this euchromatic substance is the germ-plasma, while the rest of the cell is merely the nutritive plasma. When the bodies occur in many or all of the individuals of a species they indicate that this species is at its highest point of vital and functional activity and living in its natural environment. The further removed the generation from this environment, the fewer bodies are found, but they increase again on return to it. When the vitality is most intense the bodies are the smallest and stain most decidedly, while the rest of the bacterial body stains the least, probably because all the euchromatic substance is included in the bodies. When the species is in a pure culture, apart from injurious influences, such as bactericidal secretions and danger of being overwhelmed by another species, it becomes torpid and loses its energy, its specific virulence. It can be renewed, however, even when half dead, and stimulated to renewed vital and functional vigor by being passed through the body of a living animal or by symbiosis with other bacteria on a plate of agar-agar. The bacterium, as soon as it enters the circle of existence of another organism, has to put forth all its energies to maintain itself in the struggle for existence, and the exertion of all its powers is shown in the formation of the Babes-Ernst bodies in its interior. These discoveries suggest that infection is in its essence the vital expression of the parasitism of a microbe in its highest potency, and that the route from the condition of a saprophyte to that of a parasite leads through morphologic transformation. We can watch a bacterium traveling this route when we pass specimens with rare Babes-Ernst bodies through a living animal which succumbs to them. When they emerge every individual contains one of these bodies. Or, again streptococci and other bacteria may be present in human saliva, with the bodies rare. If erysipelas of the face ensues, the streptococci will be found more numerous in the saliva and every coccus will contain a Babes-Ernst corpuscle. Marx therefore deduces from his extensive research on numerous species of bacteria that a bacterium accomplishes its transition from a non-infecting non-virulent to an infecting virulent micro-organism by the occurrence in its body of the condensation and localization of the euchromatic substance, which leads to the formation of the Babes-Ernst bodies. The number of individuals containing these corpuscles is therefore a measure of the virulence at the time, and the capacity of the cells to form these corpuscles is the criterion of their future virulence. He is now engaged in research to determine the factors involved in the production of this capacity. He begs others to test his assertions with fresh pus, sputa, etc., employing the technique he described in his first communication on the subject in the *Cbl. f. Bakteriologie*, July 11 to August 9, 1900, Nos. 1 to 5: Thickly spread and dried cover-glass preparations mounted in balsam, after having been passed three times slowly through a flame, are treated first with methylene blue—mixed Loeffler's, alcohol-aqueous and acetic—for five to ten seconds, then rinsed briefly with water and stained with bismarck brown—vesuvium—at 2 per thousand, for fifteen seconds. No special heat is applied. The bodies in the bacteria stain from deep blue to bluish red. The rest of the body is brown. As the bodies take the stain more readily and more intensely the greater the virulence of the bacteria, examination of their behavior to the stain is direct evidence of their virulence and of the gravity of the infectious process whence they were derived.

Therapie der Gegenwart (Berlin), September.

Treatment of Cholelithiasis. B. NAUNY.—In this review of the modern consensus of opinion in regard to the treatment of cholelithiasis, Naunay states that he has observed four recurrences after operations for removal of gall-stones. He favors measures to soothe instead of stimulate peristalsis, and believes that Carlbad waters probably owe their effect to the increased supply of blood in the abdominal organs which they induce. Their benefits can be enhanced by the application of heat, cataplasms or the thermophore, to the liver.

Important Relations of Fat Food to Gastric Functions. H. STRAUSS.—Hyperacidity of the stomach and disturbances

in the motility are favorably influenced and to a marked degree by fats, and especially milk fats, cream and butter. Large amounts of milk fats diminish the gastric secretions, but do not prolong the length of time the ingestum remains in the stomach nor interfere with intestinal digestion in hyperacid patients, who always relish these fats better than large amounts of carbohydrates. During the last three years this method of treatment has been almost constantly followed at Senator's clinic in cases of ulcus ventriculi, hyperacidity or motor insufficiency. One patient threw well on two quarts of milk a day and half a pound of butter. A colleague with ulcus promptly gained twenty pounds in weight.

Sanatorial Treatment of Tuberculosis. S. KAMINER.—The most important factor in sanatorial treatment is an early diagnosis, and for this reason Kaminer urges compulsory examination of members of sick-benefit societies four times a year.

Oil in Case of Stenosis of the Pylorus. COHNHEIM.—Oil relieves the contraction, is healing and nourishing and is an invaluable aid in case of stenosis of the pylorus. He gives 200 to 250 gm. of warm olive-oil in three doses, or all at once, one hour before meals, by the mouth or through a sound.

Wiener Klinische Wochenschrift, September 20.

Inhalations as Preventive of Scarlet Fever and Measles. J. ELGART.—The author's experience has convinced him that the throat affection in exanthematous diseases is primary and in reality the essence of the disease. He consequently reasoned that prompt sterilization of the throat would abort or prevent the disease. He is assistant physician at a large children's hospital where epidemics of scarlet fever and measles have been of frequent occurrence, children succumbing who had entered the hospital merely for ear or eye troubles, etc. In 1897 he inaugurated a system of inhalations, requiring every child to stand for five minutes in front of a spray apparatus and inhale the spray for five minutes twice a day. The disinfectant used was a 3 per cent. solution of boric acid or lime-water, or iodine trichlorate in a .05 per cent. solution. The number of children thus treated was 214, and not a single case of either scarlet fever or measles occurred during the year. During a temporary absence the inhalations were suspended and three cases of scarlet fever or varicella developed. On his return the inhalations were resumed and there has not been a case since to date. He observes that it is less expensive to sterilize the nose and throat of the patient than to disinfect a suite of rooms. If the experience of others confirms his results, we can assume that inhalations of a disinfectant fluid will prevent epidemics of scarlet fever and measles, at least when the type of the epidemic in the environment is mild. In 510 cases previously noted in the hospital the presence of an angina is mentioned in every case except eight. In two of these no inquiry was made in regard to the condition of the throat and in the rest not until about the sixth day, when a pre-existing angina might have had time to subside.

Klinichesky Journal (Moscow), August.

Experimental Medicinal Cure of Gall-Stone Affections. N. D. TIROFF.—Tests on nine large dogs are described in which the gall-bladder was incised and one or two human cholesterin calculi inserted. The wound was then closed and efforts made to dissolve the calculi by medicinal measures. They were successful beyond anticipation. If confirmed by future experience the fact is established that gall-stones can be artificially dissolved by way of the intestinal and biliary passages. Three Pravaz syringefuls of a mixture of 1 part ether to 2 parts benzol were injected per rectum. The injections were well retained and no local nor general unfavorable symptoms were observed. Traces of cholesterin crystals could be found in the bile aspirated even as soon as a half hour afterward. The stone had lost 16.5 mg. in weight when the animal died, two weeks after these injections had been inaugurated, in one case. These experiments demonstrate that the medicinal treatment of gall-stones has a solid foundation and that the only problem is to administer the benzol or other dissolvent in the least irritating form, possibly as terpin hydrate with eucinin or turpentin and quinin. In some of the experiments no medicine was

used, but the stone diminished .013 to .01545 mg. The chloroform given during the operation may have been responsible in one case, but in the other no chloroform was used. This result seems to indicate that the natural bile of dogs is able to dissolve cholesterol calculi in certain cases at least.

Anales de Oftalmologia (Mexico), September.

Ocular Affections in the Negro. SANTOS FERNANDEZ.—This number of the *Anales* contains a full report of the ophthalmic section at the International Medical Congress, in which Santos Fernandez took a prominent part. He stated, among other communications, that the negro is comparatively exempt from ocular affections, and especially from disturbances of the lachrymal canals, which are unusually large. In his experience during the last twenty-five years in Cuba he has only had 3003 negro and 2528 mulatto patients out of a total of 28,000 ophthalmic cases. He adds that the negro seems to be comparatively immune to affections of all kinds.

Books and Pamphlets.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

BOOKS.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Robert A. Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, Assisted by Charles Adams Ildor, M.D., Assistant Demonstrator of Therapeutics in the Jefferson Medical College. Volume III, September, 1900. Diseases of the Thorax and Its Viscera, including the Heart, Lungs and Blood-vessels; Diseases of the Skin; Diseases of the Nervous System; Obstetrics. Cloth. Pp. 408. Price \$10.00 per year. Philadelphia and New York: Lea Brothers & Co. 1900.

THE STUDENT'S MEDICAL DICTIONARY, Including All the Words and Phrases Generally Used in Medicine, With Their Proper Pronunciation and Definitions. Based on Recent Medical Literature. By George M. Gould, A.M., M.D., Editor Philadelphia Medical Journal. With Elaborate Tables of the Bacilli, Micrococci, Leucococci, Ptomaines, etc.; of the Arteries, Ganglia, Muscles and Nerves; Weights and Measures, Analyses of the Waters of the Mineral Springs of the United States, etc., and a New Table of Eponymic Terms and Tests. Eleventh Edition, Enlarged with many Illustrations. Cloth. Price, \$2.50. Philadelphia: P. Blakiston's Son & Co. 1900.

YOU AND YOUR DOCTOR. How to Prolong Life. A Practical Book on Health and the Care of It. A Fearless Exposé of All Quacks and Frauds Within and Without the Medical Profession. By William B. Doherty, M.D., Member of the Kentucky State Medical Society. Illustrated. Cloth. Pp. 260. Price, \$1.00. Chicago: Laird & Lee.

A TREATISE ON MENTAL DISEASES. Based upon the Lecture course at the Johns Hopkins University, 1899, and Designed for the Use of Practitioners and Students of Medicine. By Henry J. Berkley, M.D., Clinical Professor of Psychiatry, Johns Hopkins University. With Frontispiece, Lithographic Plates and Illustrations in the Text. Cloth. Pp. 601. Price, \$5.00. New York: D. Appleton & Co. 1900.

A MANUAL OF OTOTOLOGY. By Gorham Bacon, A.B., M.D., Professor of Otology in Cornell University Medical College, New York; with an Introductory Chapter by Clarence John Blake, M.D., Professor of Otology in Harvard University. Second Edition, Revised and Enlarged. With 114 Illustrations and 3 Plates. Cloth. Pp. 422. Price, \$2.25. New York and Philadelphia: Lea Brothers & Co. 1900.

A TREATISE ON DISEASES OF THE NOSE AND THROAT. By Ernest L. Shurly, M.D., Vice-President and Professor of Laryngology and Clinical Medicine, Detroit College of Medicine. Illustrated. Cloth. Pp. 744. Price, \$5.00. New York: D. Appleton & Co. 1900.

THE PHYSICAL SIGNS IN PULMONARY DISEASE. By Graham Steel, M.D., Fellow of the Royal College of Physicians of London. For the Use of Clinical Students. Second Edition. Cloth. Pp. 98. Price, \$1.25. Philadelphia: P. Blakiston's Son & Co. 1900.

THE USE OF THE SPHYMOGRAPH IN CLINICAL MEDICINE. By Graham Steel, M.D., F.R.C.P., Physician to the Manchester Royal Infirmary. Cloth. Pp. 57. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co. 1900.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume xviii. Edited by De Forest Willard, M. D., Ph.D., Recorder of the Association. Cloth. Pp. 468. Printed for the Association. For Sale by William J. Dobnan, Philadelphia. 1900.

TRANSACTIONS OF THE LOUISIANA STATE MEDICAL SOCIETY, at its Twenty-First Annual Session, held at New Orleans, La., April 19, 20, 21, 1900. Cloth. Pp. 427.

WARNER'S NEW THERAPEUTIC REFERENCE BOOK. By William R. Warner. Cloth. Pp. 225. Price, 0.25. W. R. Warner & Co.

TRANSACTIONS OF THE OHIO STATE MEDICAL SOCIETY, at its Fifty-Fifth Annual Meeting, held at Columbus, Ohio, May 9, 10, 11, 1900. Cloth. Pp. 422. Cleveland, Ohio: J. R. Savage.

TRANSACTIONS OF THE NORTH DAKOTA STATE MEDICAL SOCIETY for the year 1899, and List of Members. Paper. Pp. 136. St. Paul, Minn.: Northwestern Lancet. 1899.

MEDICAL DISEASES OF INFANCY AND CHILDHOOD. By Dawson Williams, M.D., Fellow of the Royal College of Physicians of London. Second Edition Revised with Additions by Frank Spooner Churchill, M.D., Instructor in Diseases of Children, Rush Medical College. Illustrated with 72 Engravings and 2 Colored Plates. Cloth. Pp. 542. Price, \$3.50 net. Philadelphia and New York: Lea Brothers & Co., 1900.

MANUAL OF THE DISEASES OF THE EYE. For Students and General Practitioners. With 243 Original Illustrations including 12 Colored Figures. By Charles H. May, M. D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, New York. Cloth. Pp. 406. Price, \$2.00. New York: William Wood & Co. 1900.

TRANSACTIONS OF THE VERMONT MEDICAL SOCIETY, D. C. Hawley, M.D., Secretary. Annual Meeting in 1900, at Rutland, Oct. 11 and 12. Cloth. Pp. 231. Burlington, Vt.: Free Press Association. 1900.

A CHILD OF LIGHT, or Heredity and Prenatal Culture. Considered in the Light of the New Psychology. By Newton N. Riddell. Cloth. Pp. 351. Price, \$2.00. Chicago: Child of Light Publishing Co. 1900.

TWENTY-SIXTH ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF THE STATE OF MICHIGAN for the Fiscal Year Ending June 30, 1898. Cloth. Pp. 395. Lansing, Mich.: Robert Smith Printing Co. 1900.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, for the Year 1900. Cloth. Pp. 522. Published by the Society. 1900.

THE BOOK OF THE RULES OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA. Cloth. Pp. 243. Montgomery, Ala.: Brown Printing Co. 1889.

PAMPHLETS.

A CASE OF MALTA FEVER. AMYLOID DISEASE OF THE LIVER WITH AN ABNORMALLY ENLARGED LEFT LOBE. CANCER OF THE COMMON BILE-DUCT. INDICATIONS FOR THE USE OF ALCOHOLIC STIMULANTS IN TYPHOID FEVER. ON THE USE OF ANTITOXIN IN DIPHTHERIA: With Special Reference to Small and Frequently Repeated Doses. By John H. Musser, M.D., Philadelphia. Reprints.

A CRUSHABLE ABUTON AS AN AID TO SUTURING IN INTESTINAL ANASTOMOSES. By D. C. Coffey, M.D., Portland, Ore. Reprinted from the Med. Sentinel.

A STUDY OF DIABETES—ITS NATURE, CAUSE AND CURE. By S. G. Hubbard, M. D., New Haven, Conn. Reprinted from Proceedings of Conn. Med. Soc.

CEREBRAL LOCALIZATION. HYPNOTISM IN THERAPEUTICS. By Sydney Kuh, M.D., Chicago. Reprints.

SPECIAL HOSPITALS FOR CONSUMPTION AMONG THE POOR IN OUR CITIES. By Edward O. Otis, M.D., Boston, Mass. Reprinted from Phila. Med. Jour.

HOW SHALL BOARDS OF HEALTH PROCEED TO PREVENT THE SPREAD OF COMMUNICABLE DISEASES? THE PATIENT'S SECRET. By Daniel Stroek, M.D., Camden, N. J. Reprints.

OBSERVATIONS ON THE TREATMENT OF EPILEPSY. By A. N. Williamson, M.D., New Haven, Conn. Paper. Pp. 15. New Haven, Conn.: E. E. Darrow. 1900.

PRESENTATION OF THE CODE OF ETHICS. By W. F. Munn, M.D., Denver, Colo. Reprinted from Denver Med. Times.

SOME CASES OF DILATATION OF THE STOMACH. By John H. Musser, M.D., Philadelphia, and J. Dutton Steele, M.D., Philadelphia. Reprinted from Jour. of Med. Sciences.

SOME PROBLEMS CONCERNING NERVOUS DISEASE. By F. W. Longdon, M.D., Cincinnati, Ohio. Reprinted from Brooklyn Med. Jour.

THE DIAGNOSIS OF HYSTERIA. TWO CASES OF GENERAL ANESTHESIA. By Charles W. Burr, M.D., Philadelphia. Reprints.

TOTAL EXCISION OF THE SCAPULA ALONE AND WITH THE ARM (INTERSCAPULO-THORACIC AMPUTATION): PARTIAL EXCISION OF THE SCAPULA FOR TUMOR. By J. J. Buchanan, M.D., Pittsburg, Pa. Reprinted from Phila. Med. Jour.

TRANSACTIONS OF THE OPHTHALMOLOGIC DIVISION OF THE WESTERN OPHTHALMOLOGIC AND OTO-LARYNGOLOGIC ASSOCIATION, at its Fifth Annual Session, held in St. Louis, Mo., April 5, 6 and 7, 1900. Paper. Pp. 64. St. Louis, Mo.: American Journal of Ophthalmology.

ABNORMAL ELECTRICAL STORAGE IN THE HUMAN SYSTEM. James Grant, M.D., F.R.C.P., Ottawa. Reprinted from Montreal Med. Jour.

ABORTION. A. D. Wilkinson, Lincoln, Neb. Reprinted from Western Med. Review.

A CASE OF CATARACTA NIGRA, WITH SPECIMEN, AND A CASE OF PULSING EXOPHTHALMOS, WITH PATIENT. Geo. C. Pardee, Ph. B., A.M., M.D., San Francisco, Cal. Reprinted from Transactions of the Medical Society of State of California.

A CASE OF PARALYSIS AGITANS—CURE. Nathan Herman, M.D., Baltimore. Reprinted from Md. Med. Jour.

CHRONIC LACUNAR TONSILLITIS. Charles E. Clark, M.D., Kansas City, Mo.

ACUTE ENLARGEMENT OF THE THYROID GLAND, WITH REPORT OF CASES. AORTIC REGURGITATION WITH REMARKS UPON FLINT'S MURMUR AND PAROXYSMAL SWEATING. THE IMMEDIATE AND RE-

NOTE EFFECTS OF ATHLETICS UPON THE HEART AND CIRCULATION. THE DIAGNOSIS OF CHLOROSIS AND CHLOROANEMIA. Alfred Stengel, M.D., Philadelphia. Reprints.

AN ESSAY ON THE REDUCTION OF OBESITY: A Reliable and Harmless Way to Diminish and Cure Over-Fatness. By William T. Cathell, A.M., M.D., Baltimore. Reprinted from *Med. Jour.*

ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF LANCASTER, PA., for the Fiscal Year Ending December 31, 1899. Paper. Pp. 149. Lancaster, Pa.: Halbach, Printer.

CHARGES, EVIDENCE AND ARGUMENTS ON WHICH DR. J. F. BALDWIN WAS EXPELLED AS CHANCELLOR AND PROFESSOR OF OPERATIVE GYNECOLOGY BY THE TRUSTEES OF THE OHIO MEDICAL UNIVERSITY. Paper. Pp. 128. Columbus, Ohio: The London Printing and Publishing Co., 1899.

CHARLES FREDERICK WISENTHAL, MEDICINAE PRATICUS, THE FATHER OF THE MEDICAL PROFESSION OF BALTIMORE. Eugene F. Cordell, M.D., Baltimore. Reprinted from *Johns Hopkins Bulletin*.

CONSERVATIVE AND RADICAL SURGERY OF EMPYEMA. O. Thienhaus, M.D., Milwaukee, Wis. Reprinted from *Milwaukee Med. Jour.*

FORMALIN DISINFECTANT OF BAGGAGE WITHOUT APPARATUS. PRELIMINARY NOTE ON THE VIABILITY OF THE BACILLUS PESTIS. M. J. Rosobay, Washington, D. C.

NOTES ON THREE UNIQUE AUTOPSIES. Wm. H. Hancker, M.D., Wilmington, Del. Paper. Pp. 18. Wilmington, Del.: Star Print, 1899.

SIXTH INTERNATIONAL OTOLOGICAL CONGRESS, LONDON, AUG 8 TO 12, 1899. Transactions Edited under the Direction of the Editorial Committee by E. Cresswell Baber, Hon. Secretary-General. Paper. Pp. 477. London: Southern Publishing Co., 1900.

SOME POINTS IN THE MANAGEMENT OF OBSTETRIC CASES IN PRIVATE PRACTICE. Joseph Brown Cooke, M.D., New York. Reprinted from *Medical News*.

THE MEDICAL STUDENT OF THE LAST CENTURY. THE VOICE CRYING IN THE WILDERNESS. S. D. Tobey, M.D., Oakland, Ia. Reprints.

TRADE PAMPHLETS.

ILLUSTRATED CATALOGUE OF BATTERIES AND ELECTRO-THERAPEUTICAL APPLIANCES. Paper. Pp. 96. McIntosh Battery and Optical Co., Chicago.

TALKS ON RUBBER. Paper. Pp. 143. Riker's Drug Store, New York.

New Patents.

Patents of Interest to physicians, etc., Sept. 18 to 25: 658,250. Chemical apparatus. Ferdinand K. K. Erfmann, Rotterdam, Netherlands.

658,111. Shoulder-brace. Louise S. Long, San Francisco, Cal. 658,273. Package for medicines, etc. Luther E. Moore, Marietta, Ga.

658,217. Lifting device for hospital beds. Elbert E. Munger, Spencer, Iowa.

658,027. Therapeutic device. Andrew W. Steiger, Boston, Mass. 33,215. Design, water-bag. George S. Van Pelt, New York City. 33,216. Design, fountain syringe-bag. George S. Van Pelt, New York City.

658,481. Massage apparatus. Oscar C. A. Carlsson, Stockholm, Sweden.

658,436. Insulator. Hans H. Groth, Cincinnati, Ohio.

658,651. Hernal truss. John C. Keil, LaPorte, Ind.

658,918. Speculum. John W. Morrow, Nobility, Texas.

658,467. Device for adjusting truss-pads. Andrew B. C. Sawyer, Albany, N. Y.

658,465. Respiratory mask. Daniel W. Schaeffer, Dayton, Ohio.

658,411. Ionone derivatives and making the same. Johann C. W. F. Tiemann, Berlin, Germany.

658,601. Appliance for imparting heat and electricity to the body. Ignaz Timar, Berlin, Germany.

Change of Address.

Jos. H. And, Cecilian, Ky., to Blackwell, O. T.

H. L. Artz, St. Paul, Minn., to 290 Marshallfield Ave., Chicago.

L. D. Alexander, Jr., New Canaan, Conn., to University of Virginia, Charlottesville, Va.

M. P. Bachman, Waterloo, to Mchaknock, Iowa.

P. T. Conlon, Columbus to Platte Center, Neb.

G. F. Chambers, Fort Mitchell, Ala., to Grady Hospital, Atlanta, Ga.

J. C. Dunn, 759 W. 47th St., to 2529 Indiana Ave., Chicago.

H. E. Dearholt, 560 Maryland Ave., to Camp Bldg., Wisconsin and Water Sts., Milwaukee, Wis.

R. C. Fullenwider, Chicago, to Clinton, Ill.

A. M. Fautleroy, Staunton, to University of Virginia, Charlottesville, Va.

H. D. Gray, Kellogg, to Newton, Iowa.

E. S. Godfrey, Ottawa, O., to 418 S. Broad St., Philadelphia, Pa.

J. H. Holman, Cincinnati, Iowa, to Hartford, Mo.

Geo. L. Hoel, West Liberty, Ill., to Box 823, Ft. Collins, Colo.

E. B. Inlta, Gant, to Mexico, Mo.

S. B. Lyon, 8 Mason St., to 330 Eddy St., San Francisco, Cal.

B. P. Long, McOysville, to Blair's Mills, Pa.

LeRoy Lewis, Chicago, to Bay City, Mich.

J. F. Oechauer, 1229 Elystan Field, to 735 Frenchman St., New Orleans, La.

C. H. McElfresh, Dawson, to 1016 W. Monroe St., Springfield, Ill.

J. Merenn, 1 Charleston St., New York City, to 1365 59th St., Brooklyn, N. Y.

Susanne Orton, Darlington, Wis., to 298 Maxwell St., care Lying-in Dispensary, Chicago.

I. M. Pfouts, Beach City, to Adams Mills, Ohio.

E. B. Steen, Wheatland, Ind., to 216 Sterling Ave., Joliet, Ill.

H. M. Whiteway, 4336 Sansom St., to 1923 Chestnut St., Philadelphia, Pa.

J. Wehrly, Union Trust, to Chemical Bldg., St. Louis, Mo.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Sept. 27 till Oct. 3, 1900, inclusive:

Cosam J. Bartlett, acting asst.-surgeon, from the Department of California to duty at Fort Valdez, Alaska.

Edward C. Carter, major and surgeon, U. S. A., member of a board convened at Washington, D. C., to examine officers of the medical department for promotion.

Edward P. Conegys, major and surgeon, U. S. A., will ship to Manila, P. I., all medical supplies at Taku, China, not required by the troops to remain in China and will report at Manila for duty as medical supply officer at that place.

Joseph J. Curry, acting asst.-surgeon, relieved from duty as a member of the board appointed Jan. 16, 1900, to study tropical diseases in Manila, P. I.

Euclid B. Frick, captain and asst.-surgeon, U. S. A., from Ft. Wadsworth, N. Y., to San Juan, P. R., for duty in the Department of Porto Rico.

Guy C. M. Godfrey, captain and asst.-surgeon, U. S. A., to San Francisco, Cal., to accompany troops to Manila, P. I., and for duty in the Division of the Philippines.

Albert Hartsuff, colonel and assistant surgeon-general, U. S. A., leave of absence granted, with permission to go beyond sea.

John Van R. Hlof, major and surgeon, U. S. A., relieved from further duty with troops in China, to proceed to San Francisco, Cal., and report by telegraph to the surgeon-general at Washington, D. C.

Jefferson R. Kean, major and surgeon, U. S. A., member of a board convened at Columbia Barracks, Quemados, Cuba, to examine officers of the medical department for promotion.

Preston S. Kellogg, acting asst.-surgeon, from Battle Creek, Mich., to Fort Keogh, Mont., for post duty.

Thomas J. Kirkpatrick, lieutenant and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

Muhlenberg K. Knauff, acting asst.-surgeon, from Fort Keogh, Mont., to St. Paul, Minn., for amendment of contract.

Edgar A. Means, captain and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

James C. Merrill, major and surgeon, U. S. A., member of a board at Washington, D. C., to examine officers of the medical department for promotion.

Henry Page, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

Walter Reed, major and surgeon, U. S. A., president of a board convened at Columbia Barracks, Quemados, Cuba, to examine officers of the medical department for promotion.

Alexander N. Stork, captain and asst.-surgeon, U. S. A., leave of absence extended; member of a board at Columbia Barracks, Cuba, to examine officers of the medical department for promotion.

W. J. S. Stewart, acting asst.-surgeon, now on leave of absence, to temporary duty on the transport *Ravlinus*.

John H. Stone, lieutenant and asst.-surgeon, U. S. A., to report at Columbia Barracks, Quemados, Cuba, for examination for promotion.

Nell C. Trew, acting asst.-surgeon, from Fort Valdez, Alaska, to San Francisco, Cal., for duty in the Department of California.

George M. Wells, captain and asst.-surgeon, U. S. A., from San Juan, Porto Rico, to duty at Fort Wadsworth, N. Y.

Alfred A. Woodhill, lieutenant-colonel, deputy surgeon-general, U. S. A., president of a board convened at Washington, D. C., to examine officers of the medical department for promotion.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Oct. 6, 1900:

Surgeon J. C. Byrnes, detached from the *Massachusetts*, Oct. 1, and ordered to the New York naval yard.

Medical Inspector J. R. Waggener, detached from duty at naval hospital, Yokohama, Japan, and ordered to duty in charge of the naval hospital, Cavite, P. I.

Asst.-Surgeon B. L. Wright, detached from the *Isla de Luzon* and ordered to the naval hospital, Cavite, P. I.

P. A. Surgeon L. L. Von Wedekind, detached from the *Richmond* and ordered to the Puget Sound naval station.

P. A. Surgeon R. S. Blakemop, detached from the naval training station, Newport, R. I., and ordered to temporary duty on the *Pensacola*.

P. A. Surgeon J. F. Leys, ordered to the naval hospital, Newport, R. I., for duty.

P. A. Surgeon J. M. Moore, detached from the naval recruiting rendezvous, Chicago, Ill., Oct. 8, and ordered home and to wait orders.

Asst.-Surgeon C. R. Burr, detached from the Puget Sound Naval

Station and ordered to proceed home and to be ready for orders to sea duty.

P. A. Surgeon W. F. Arnold, ordered to the naval recruiting rendezvous, Chicago, Ill., Oct. 8.

Surgeon S. H. Dickson, detached from the Washington navy yard and ordered to duty at the headquarters of the Marine Corps, Washington, D. C.

Surgeon C. G. Herndon, detached from the naval museum of hygiene, Washington, D. C., October 8, and ordered to duty at the Washington navy yard.

Surgeon E. H. Green, detached from duty at the headquarters of the Marine Corps, Washington, D. C., and ordered to wait orders.

Surgeon E. H. Green, ordered to the *Alabama*, Oct. 16.

Asst.-Surgeon T. M. Lippitt, detached from the *Monocacy* and ordered to the naval hospital, Yokohama, Japan, for treatment.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending Sept. 27, 1900:

Surgeon P. W. Mead, granted leave of absence for one day.

Surgeon D. A. Carmichael, granted leave of absence for thirty days from Oct. 15.

P. A. Surgeon C. P. Wertenbaker, granted leave of absence for three days.

Asst.-Surgeon M. H. Foster, to proceed to Port Angeles, Washington, for special temporary duty.

Asst.-Surgeon Dunlop Moore, relieved from duty at Dutch Harbor, Alaska, and directed to proceed to San Francisco, Cal., or Seattle, Wash., and await orders.

Asst.-Surgeon Carroll Fox, relieved from duty at Dutch Harbor, Alaska, and directed to proceed to San Francisco, Cal., or Seattle, Wash., and await orders.

A. A. Surgeon R. S. Primrose, granted leave of absence for seven days from Sept. 24.

A. A. Surgeon W. S. Watkley, granted leave of absence for eleven days from Sept. 24.

A. A. Surgeon W. O. Wetmore, relieved from duty at Cape Charles quarantine, and directed to proceed to Buffalo, N. Y., and report to medical officer in command for duty.

Hospital Steward G. C. Allen, granted leave of absence for five days under paragraph 181, Regulations, M. H. S.

Hospital Steward Myron R. Mason, relieved from duty at Dutch Harbor, Alaska, and directed to proceed to San Francisco, Cal., or Seattle, Wash., and await orders.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Oct. 6, 1900:

SMALLPOX—UNITED STATES.

Colorado: Sept. 18-24—Garfield County, 1 case; Larimer County, reported; Las Animas County, 2 cases; Pueblo County, 11 cases; total, 14 cases, 1 death.

Kansas: Wichita, Sept. 22-29, 1 case.

Louisiana: New Orleans, Sept. 22-29, 1 case, 1 death.

Ohio: Cleveland, Sept. 22-29, 6 cases.

Oregon: Portland, Sept. 5, 3 cases.

Utah: Salt Lake City, Sept. 22-29, 3 cases.

Washington: Tacoma, Sept. 22-29, 1 case.

SMALLPOX—FOREIGN AND INSULAR.

Belgium: Ghent, Sept. 1-15, 2 deaths.

Egypt: Cairo, Aug. 26-Sept. 2, 2 deaths.

England: Liverpool, Sept. 8-15, 1 case, 1 death; London, Sept. 1-15, 6 cases.

France: Paris, Sept. 8-15, 12 deaths.

India: Calcutta, Aug. 25-Sept. 1, 5 deaths; Karachi, Aug. 26-Sept. 2, 2 cases, 1 death; Madras, Aug. 20-31, 3 deaths.

Japan: Formosa, July 1-31, 3 cases.

Mexico: City of Mexico, Sept. 2-16, 13 cases, 7 deaths.

Philippines: Gulmeras, Aug. 20, 20 cases.

Russia: Moscow, Sept. 2-9, 2 cases; Odessa, Sept. 8-15, 6 cases, 3 deaths; St. Petersburg, Sept. 1-8, 22 cases, 12 deaths;

Vladivostok, May 1-July 31, 3 cases; Warsaw, Sept. 1-8, 9 deaths.

Scotland: Glasgow, Sept. 8-22, 26 cases, 1 death.

YELLOW FEVER.

Colombia: Barranquilla, Sept. 8-16, 1 death; Cartagena, Aug. 31-Sept. 14, 3 cases, 3 deaths.

Cuba: Havana, Sept. 15-22, 9 deaths.

CHOLERA.

India: Bombay, Aug. 28-Sept. 4, 177 deaths; Calcutta, Aug. 25-Sept. 1, 4 deaths; Karachi, Aug. 26-Sept. 2, 11 cases, 10 deaths;

Madras, Aug. 25-31, 44 deaths.

Japan: Fukuoka Ken, Aug. 28, 4 cases; Osaka and Hiogo, Aug. 18-25, 1 case.

Straits Settlements: Singapore, July 28-Aug. 1, 1 death.

PLAGUE—FOREIGN AND INSULAR.

Brazil: Rio de Janeiro, Aug. 1-31, 90 cases, 46 deaths.

Egypt: Alexandria, Aug. 20-27, 2 cases, 2 deaths.

India: Bombay, Aug. 28-Sept. 4, 57 deaths; Calcutta, Aug. 25-Sept. 1, 50 deaths.

Japan: Formosa, Taihoku Ken, July 31-Aug. 7, 3 cases, 4 deaths.

Philippines: Cebu, July 25, 1 American boy; Manila, July 28-Aug. 18, 10 cases, 5 deaths.

Scotland: Glasgow, Sept. 18, 7 cases, 1 death.

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No. 17.

Original Articles.

LARYNGEAL STENOSIS DUE TO COMPLICATION OF THE THYROID CARTILAGES.*

EMIL MAYER, M.D.

Surgeon to the New York Eye and Ear Infirmary (Throat Dept.);
Fellow of the American Laryngological Assn., etc.

NEW YORK.

In November, 1898, Private Jacob H. M., Fourth U. S. Infantry, came under my observation. He was entirely aphonic and breathed through a tracheotomy tube. With pencil and paper all queries were intelligently answered and the following history was elicited:

He was in the second year of a second enlistment. While lying down on the fighting line at the battle of El Caney, July 2, 1898, he received a wound over the right frontal bone, from a Mauser bullet. His sensations at that time were such as follow a stunning blow, though there was no loss of consciousness, for he remembered everything that occurred. There was some slight bleeding from the bullet's point of impaction and very profuse bleeding from the mouth and nose. There was a sensation of rasping as though a saw was passing up and down through his head on the right side, and he had difficulty in getting air enough, for it seemed to escape somewhere before it got into his lungs. With it all he had a severe chill.

In about three hours litter-bearers arrived and carried him to a field-hospital, where his wound was dressed. Some water given him produced strangling and he found that he could not swallow; his thirst was assuaged by moistening a piece of gauze and placing it between his teeth, the jaws were quite firmly wedged together by this time. The jaws slowly relaxed and six days later, July 8, he was able to swallow a little at a time. A long string of tissue hung from his mouth; this he pulled away with his fingers. He had been transferred first to the division hospital and then to the ship *Relief*. On board the ship he began to eat, but not without strangling. He was then placed aboard the transport ship *Seneca* for return to this country. There the fare consisted ofhardtack and coffee, and after three days bacon was added; some of this he swallowed. During all this time he had not slept six hours because of constant noises in his head. On July 26, 1898, he landed, and was sent with other wounded soldiers to a general hospital in New York City. He described a terrible choking sensation occurring soon after his admission to the hospital, following an attempt to swallow whisky and oil. His breathing was always difficult at that time; a walk of ten paces exhausted him. His

breathing became more difficult each day, and on August 3 tracheotomy was performed, followed by complete relief. His dysphagia was much better, and he partook of solid food. One night while at stool, after much straining, a metallic substance passed from his rectum; no attempt was made to recover it. His history obtained from this hospital is as follows:

Soldier U. S. A., age 25, admitted July 26, 1898. Father living, good health. Mother died at 57 of typhoid fever, three brothers living aged 34, 30, 19, in good health. Two sisters, 28, 20, good health.

Personal history:—He had typhoid fever in 1894; general health good; on July 1 at El Caney was shot with Mauser bullet above right eye, *glancing wound*; dressed at division hospital and recovered rapidly; was exposed to rain-storm shortly after, and from that time has been very hoarse, expectorated considerably, voice husky; on admission was hoarse and later on inspiration there was a retraction of the supra- and infra-clavicular spaces, with considerable difficulty in breathing. Dyspnea increased and on August 3 tracheotomy was performed under cocaine, followed by relief to dyspnea. Diagnosis: "Stricture larynx."

December 5 he was transferred to New York Eye and Ear Infirmary.

Examination:—Over the frontal bone on the right (Fig. 1) there is a scar 20 mm. in length and 5 mm. in breadth. The lowest point is 3.5 mm. from the external canthus and curves to a point about 4 mm. from the center of the supraorbital notch. In the pharynx there is a notable absence of the greater portion of the posterior fold of the soft palate on the patient's right, some of it near the uvula and again near the tonsil being present. It presents the appearance of being gouged out. Alongside the tonsil is a line of reddened tissue which looks as though this fold had descended and become adherent. The left side is entirely normal.

Laryngoscopic examination:—A mass of mucus lies within the larynx, which is very tenacious and difficult of removal. An infundibulum is seen closed tightly and not even admitting a small probe. No air passes through. The inner walls of the larynx bulged at the center and the lowest portion was on a line with the site of the false vocal cords. There are no voice sounds whatever.

The clean-cut hole in his soft palate and the comminuted appearance of his larynx, together with his history, led to the diagnosis of a stenosis due to gunshot wound, the bullet taking a most remarkable course.

Instead of his having had a glancing wound, as all surgeons heretofore had believed, the bullet entered directly alongside and over the eye. It then went through the superior maxilla downward and backward, cut through the posterior portion of the soft palate and entered the neck. Here it became deflected, probably by the hyoid bone, and entered the thyroid cartilage, thoroughly comminuting it, cutting into the esophageal wall where, being spent, it dropped into the stomach. It probably passed from the intestines some time in August, while at the general hospital. Fluoroscopic examinations and Roentgen-ray photographs failed to reveal the presence of any foreign body in the neck. He was

*Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

admitted to the service of Dr. Morris J. Asch, who agreed with my diagnosis and kindly placed him in my charge. Under cocaine anesthesia attempts were made to pass the hard-rubber fenestrated Schrötter tube of small caliber. These were persistently used, and on January 10 dilatation was followed by an attack of coughing and a mass of lymph was coughed up. A large chink resulted, and some air could be inspired and he was able to speak in a hoarse but strong voice. During February various larger sized Schrötter tubes were introduced, the patient breathing through the fenestration at the lower end of the tube.

On March 7 a large sized O'Dwyer tube was inserted and after a few hours was coughed up.

March 20 he was again intubated under cocaine. After many attempts the tracheotomy opening was packed with gauze. He was unable to swallow with the intuba-



Fig. 1. Centrix shows entrance of bullet

tion tube and he was fed by means of the stomach tube.

March 24, in a severe coughing spell the tube was coughed up, after four days of intubation and the tracheotomy tube reinserted. The next day he was readily intubated, the tube remaining but one day *in situ*, the tracheal tube being again inserted. The Schrötter tubes readily enter.

April 17, an intubation tube was inserted, having a small rectangular piece screwed through the tracheotomy wound, into a hole previously made in the intubation tube. The screw of this was too short and the tube was coughed out four days later.

April 24, an intubation tube had been introduced and a heated iron passed through the tracheal wound to the tube thus marked the point opposite the opening. Following the suggestion of Dr. John Rogers, Jr., of this city, a large threaded opening was made in the intubation tube opposite the tracheal opening and the solid tube was made to screw in—a small plug being inserted to prevent its unscrewing when *in situ*. The final appearance is similar to the arrangement

in glass described by Werner Kummel¹ of Breslau. This tube remained *in situ* for six weeks, the patient being fed every three hours by means of the esophageal tube inserted through the nose. During all this time he was unable to swallow. He breathes well, goes about, and enunciates clearly. A small piece of tissue flaps to and fro low down; some narrowing of the lumen of the larynx still exists. A new O'Dwyer tube with the Roger attachment was readily introduced. He left hospital on June 29, wearing this tube; he had meanwhile learned to feed himself by means of the esophageal tube. He was readmitted July 20, 1899.

The tube was removed and a large space was visible in his larynx. His voice was clear, his respirations free and the tube was not reinserted. The external opening was closed and daily applications were made to the thickened tissue in the larynx. His comfort was extreme, his voice clear and distinct; except for some loose flaps quite low down there was no visible abnormality. This comfort lasted for ten days, when the patient complained of some dyspnea and following an application to his larynx the dyspnea became extreme. This attack of dyspnea became so intense that I hastily operated in my office and introduced a tracheotomy tube.

August 1 he was reintubated, followed by a septic condition, and on August 5 tube was removed. From



Fig. 2. Showing hole made by bullet.

now on Schrötter tubes of increasing caliber were introduced daily until March 1, 1900, in the following manner. A 4 per cent. solution of cocaine was sprayed into the larynx, the tracheotomy tube withdrawn, a Schrötter tube of very large caliber was introduced beyond the tracheal orifice, and the patient breathed through the tube, keeping it in position for twenty minutes. The tracheotomy tube was reinserted on the withdrawal of the Schrötter tube, the opening was corked up and patient breathed easily for fully two hours. The problem here was to find an intubation tube that would not be coughed up, would permit of deglutition when *in situ* and could be introduced with the least discomfort to the patient. It was noticed with regard to the latter point that Schrötter's tubes, being hollow all the way through, were readily introduced and were not at all annoying, while on the other hand the usual intubation tube with its introducer cut off the air to a most disagreeable extent and was difficult to insert. I therefore had made for me a tube whose head was as low as possible, with no retaining swell, and with a threaded opening for a screw piece, and finally a hollow introducer, which I here exhibit (Fig. 3). Intubation was as sim-

¹ Archiv f. Laryngologie, 1896, Vol. IV, p. 72.

ple and easy a problem as one could wish. The new tube was introduced and left *in situ*. In the meantime his general condition was so poor that he began to show some signs of sepsis and the tube was removed. He had been in the hospital, except one month, for a year and a half, and it was deemed advisable to send him to some army hospital where the change of air, combined with a rest from treatment to his larynx, would give him the opportunity to recuperate and enable us to conclude our methods at dilatation eventually. Accordingly he was transferred to Governor's Island in New York Harbor and within a month increased 20 pounds in weight. An examination of his larynx, June 1, shows some diminution of the space about the center of the thyroid cartilages, which appear as if bent in. The vocal cords are plainly visible and perform their function. Some narrowing of the space on a line with the cricoid still exists. His condition is materially improved and I see no reason why, with an intubation tube that permits deglutition, we may not eventually anticipate a perfect cure.

The points of interest in the case are the acceptance of a glancing wound of the frontal bone as a correct

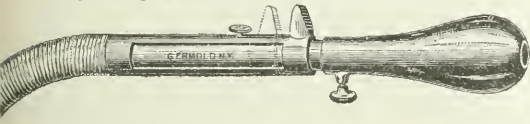


Figure 3.

diagnosis by all surgeons until I saw him, the remarkable course of the bullet, which failed to injure his eye, important nerves or blood-vessels, the early restoration of his voice and the tolerance of his larynx to dilatation, and finally to the use of an entirely new method of intubation, which the writer hopes will render subsequent attempts at intubation, in chronic stenoses at any rate, much more agreeable to both the patient and to the physician.

DISCUSSION.

DR. W. H. DALY, Pittsburg—These cases are very rare. Several years ago, I do not know how many, but some of the old members of the American Laryngological Association may remember, I collated all the cases I could find of gunshot wounds of the larynx, and they were very few in number. I made a very careful search in the Army Medical Museum and other places and could find only very few cases.

Dr. Cohen saw a case with me which was very interesting. A ball, I think a 22 caliber, had pierced the thyroid bone and had severed both true vocal cords. I saw the case about two weeks after the wound was sustained. At that time the young man was lying in a very critical condition. The ball had not been discovered, and with the attending surgeon we made a very careful search for the bullet. The ball had entered somewhere near the angle of the jaw in a downward direction. The boy was not able to speak. After a careful search we found a spot behind the collar bone of the opposite side, over which there was great tenderness. I suggested that we cut down on the parts, making a careful dissection, and while there was some objection, we finally prevailed, and we found the ball resting on the subclavian artery. Part of the coats of the artery was absorbed by the pressure. Certainly, in a very short time, the bullet would have caused ulcerative absorption and hemorrhage. Afterward I asked our eminent colleague, Dr. Cohen, to examine the patient. With the use of the laryngoscope he made a very careful examination, and I think we agreed that the boy would never have an audible

voice. We did not see how it was possible with the amount of ulceration and traumatic damage done to the larynx. However, I brought the patient to Pittsburg, and after prolonged care he recovered, without much traumatic stricture of the larynx, and in about a year or a year and a half, he had an audible voice and afterward he became able to shout. He entered on the study of medicine, and is now a graduate, and can use his voice very well. The case shows the tremendous amount of damage that may be done to the larynx and pretty good results follow.

DR. J. HOLINGER, Chicago—About five years ago a new tracheotomy tube was devised by Dr. Thilo, of Chicago. The instrument consists of two pieces on the principle of a duck bill. It would fully comply with all the requirements necessary for an intubation tube in this case. The instrument is very easy to be inserted, and deglutition is possible with the tube *in situ*. It is self-retaining. So far, this instrument has been buried in the reports of the Chicago Medical Society, and no instrument-maker is willing to take it up because there are so many varieties of the O'Dwyer tubes. But I know it is a good thing.

DR. EMIL MAYER, closing the discussion—I am desirous of knowing something about that tube, as it would be of advantage to procure one that will remain in the larynx.

PAPILLOMATA OF LARYNX IN CHILDREN.*

EDWARD T. DICKERMAN, M.D.

CHICAGO.

Papillomata of the larynx is undoubtedly the most frequent neoplasm found in the larynx of children, where fortunately pathologic growths are not of frequent occurrence.

In an article by Rosenberg,¹ of Berlin, he states that out of 5808 children under 13 years of age, 16 cases of papillomata were found, that is, 1 in 363 cases examined.

Schrötter found the ratio about 1 in 700, Baumgarten states the condition was rare in his clinic.

In my own clinic I find the disease occurring once in about every 1200 cases. It has been my fortune to see 5 of these cases, 3 in private and 2 in clinical practice, the histories of which I shall briefly relate:

CASE 1.—In March, 1896, a little girl, aged 6 years, was brought from Montana to consult Dr. M. R. Brown, of this city. At the time, Dr. Brown was unable to take care of the child and he referred her to me. She gave the history of diphtheria two years before, since which time she has been gradually growing hoarse, and during the last six months breathing has become difficult. The general condition of the child was below par and it was with the greatest difficulty that a glimpse of the larynx was obtained, revealing nearly the entire cavity filled with a cauliflower growth of a pale greyish-white color. After consulting with Dr. Brown, I decided to first do a tracheotomy for the relief of the dyspnea. Five days later thyrotomy was done and the growth was found attached to the false and true cords and extending up on the inner side of the aryepiglottic fold. It was removed with scissors and curette; the base was cauterized with chromic acid. At the end of four weeks the mother insisted on taking the child home, and as no recurrence had taken place the tube was removed. The growth recurred five months later and tracheotomy was again done by the local physician.

CASE 2.—In January, 1897, a boy, 9 years old, was sent to me from an interior town, with the following history: One year before, the boy had a sore throat and

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¹ Archiv f. Laryngologie.

was hoarse. He belonged to a church choir and during this time had tried to sing, but his voice failed him. Since then he has been gradually growing worse. On examination a lobulated growth was found springing from the under side and free edge of the left cords and at the angle extending across to the right cord. The boy had a good control of his larynx and by means of a snare the growth was removed, only to recur. During seven months, I operated five times, and then followed up my last operation with a 5 per cent. solution of salicylic acid in alcohol, to which was added 3 per cent. of resorcin applied daily. For two years the larynx has been free and the voice good.

CASE 3.—A girl, 5 years old, was brought to my clinic at the Chicago Polyclinic, in June, 1898, with the history of scarlet fever eighteen months before, since that time cough, hoarse crying, and later dyspnea. With great difficulty a glance into the larynx was obtained, revealing a warty growth filling in the anterior two-thirds of the glottis. Tracheotomy was done at once on account of the dyspnea. At repeated sittings, by means of a snare and sponge as devised by Voltolini, pieces of the growth were removed. I lost track of the child for six months and when she returned I found much to my surprise that the growth had disappeared. She wore the tube for six months and at the end of that time, no recurrence taking place, it was removed. I saw the little patient the other day. The larynx is free and the voice normal.

CASE 4.—A boy, 2 years of age, was brought to my clinic last December with history of cough, laryngeal spasm, rough hoarse cry and for two weeks dyspnea. Only by means of the autoscope was I able to see the posterior part of the larynx, the surface of which was covered with a papillomatous growth. Tracheotomy was done at once, and from my last examination, made two weeks ago, I think the growth is growing smaller. No endolaryngeal treatment was employed.

CASE 5.—A girl, 4 years old, was brought to my office last March with history of hoarseness, cough, choking at night, and increasing dyspnea. The examination was difficult, but I succeeded in seeing the larynx apparently filled with a cauliflower-like growth. I sent her to the hospital, expecting to do tracheotomy at once. On arriving at the hospital the child began to cry, became cyanotic, stopped breathing, and before the tracheotomy, done by an interne, was completed the child was dead. [The larynx removed from the tracheal wound was passed around.] The growth springs from the true and false cords, and nearly fills the glottis opening. A deep inspiratory effort wedged the growth in the chink of the glottis, asphyxiating the child.

In 1897, Rosenberg collected and published 231 cases. Since that time I have been able to collect 16 cases, thus with my own making a total of 252. Of these, 114 were boys, 100 girls, and in 38 the sex is not mentioned. Fourteen of the cases were under two years of age; 57 between two and four years; 38 between four and six; 19 between six and eight; 39 between eight and thirteen. In 15 cases the age was not stated.

Papilloma of the larynx may be congenital, although I consider this a rare form. It may develop early in life, following an attack of one of the acute exanthemata. In one of my cases it appears to have been caused by an acute laryngitis. Lennox Browne thinks that adenoids and enlarged tonsils may act as etiologic factors, although in none of my cases were they present.

When occurring in the first few years of child life, the growth is generally multiple, pale grey-white in

appearance, and springs especially from the true and false cords, although the whole laryngeal surface may be involved. Later, it may be single or lobulated, and generally makes its appearance in the anterior half of the larynx, developing on the true cords.

The clinical picture in a well-developed case is characteristic: a rough hoarse voice, or loss of voice, cough harsh and annoying, a distressing inspiratory dyspnea with retracted chest walls and shallow breathing. Laryngeal spasm is not an infrequent symptom, and a rather free mucous expectoration is generally present. The diagnosis can be made almost from the clinical history and the general appearance of the child: a positive diagnosis by means of the laryngeal mirror will often try the patience of the most expert laryngologist.

Autopsy I found of great value in one of my cases. Frequent examination of the sputa will disclose particles of the growth which have become detached and are expectorated.

Treatment of this class of cases may be divided into two forms: 1. Where the dyspnea is not marked, rest in bed, absolute rest of the larynx and a general tonic may be tried. Various local applications may be used. In my hands a 5 per cent. solution of salicylic acid in alcohol, with the addition of 3 per cent. of resorcin, has proved of benefit. 2. Operative treatment may be of three kinds: laryngotomy, tracheotomy with or without intralaryngeal procedures, and intralaryngeal operations.

In order to compare the value of these various methods I have, as Rosenberg did in his article on this subject, divided the operative cases in three groups according as they were treated by laryngotomy, tracheotomy or intralaryngeal means. Some of the cases are difficult to classify, as two or more of the above methods were tried. Rosenberg reports 88 cases treated by laryngotomy with the following results: 17 cases died from various causes; diphtheria, bronchitis, pneumonia, or suffocation from recurrence; in 5 cases the result is not reported; 34 cases recurred, in 6 with voice affected, in 1 with breathing disturbed, 1 with necrosis of the thyroid cartilage, 2 with fistula, and in 3 the cure was only temporary.

Bruns, in a paper published in 1878, comes to about the same conclusion. In 21 cases collected by me since Rosenberg's paper was published, 5 were treated by laryngotomy, 1 died, 2 cases were cured, 1 recurred, and 1 is in doubt. Roughly speaking, of all these cases 40 per cent. were cured, 20 per cent. died, and recurrence occurred in about 40 per cent. Of the total 252 cases collected, 43 cases were treated by tracheotomy with the following results: 21 cases, or 49 per cent., were cured, 3 cases, or 7 per cent., recurred, 12 cases, or 28 per cent., died, and 6 cases, or 14 per cent., were in doubt.

In the third class I have placed only those cases actually treated by intralaryngeal methods. Of the 21 cases collected by me, 6 cases were handled by this method, 4 were cured, 1 recurred, and 1 case is doubtful. Rosenberg's table shows the following results: Out of 48 cases, 3 died; in 7 the result was doubtful, 6 improved, in 4 temporary cure and in 27 cure absolute.

Of the methods employed in the removal of these growths, I shall have little to say. Personally I used Krouse's small pincet-forceps and the snare, and I think I have had good results from following up the intralaryngeal operations with the daily application of

a 5 per cent. solution of salicylic acid in alcohol. I should like to offer the following deductions:

1. That papilloma of the larynx is, especially in this country, a rare disease.
2. In a number of cases they undergo spontaneous cure.
3. Intralaryngeal methods should always be tried first, unless dyspnea is pronounced, when tracheotomy should be done at once.
4. After tracheotomy, intralaryngeal methods should be tried.
5. Patient should wear a tube for six months after the growth has disappeared.
6. Thyrotomy should be considered only as a last resort.

103 State Street.

UNUSUAL PAPILLOMATOUS GROWTH IN THE LARYNX.*

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The case which it is my privilege to present to the Section at this meeting was one of such unusual character as, in my judgment, to merit publication. While many of the features of the case are common to laryngeal growths, there is one characteristic, viz., its color, which makes it almost unique.

The opportunity afforded to study this case from an early period of its existence to the close was most fortunate, and I trust not unproductive of results, if not of immediate value to the patient, at least an addition to our store of knowledge in the field of laryngeal growths. The history as taken from the records is as follows:

John D., aged 52 years, a laboring man, always enjoyed good health until present illness; family history is good. No tuberculosis or cancer existed in family so far as he knows. He had a chance when a young man, but has no recollection of secondary manifestations.

The first symptoms of the present illness began in the winter of 1896, and consisted of a slight hoarseness and tire after talking. Soon a slight cough appeared and he began to experience some impediment to free respiration, at first only manifest on exertion, e.g., ascending a flight of stairs. These were the symptoms of which he complained when he first presented himself. Examination revealed the following conditions: Pharynx injected and exceedingly sensitive, requiring the use of a local anesthetic to tolerate the presence of a mirror. The mucous membrane of the larynx is red and the cords injected; approximation of the cords perfect. A pearly-white deposit extends from the base of the left arytenoid body on the lateral wall of the larynx down to, but not involving, the true cord of this side. This whitish deposit seemed to consist of an innumerable number of fine filaments closely packed together, in mass presenting an appearance not unlike that of mycosis in the pharynx. During the examination a peculiarly unpleasant odor is noticed. This deposit or exudate is firmly fixed to the membrane from which it springs, and resists all attempts to brush it away. There is a slight edema of the tissues immediately surround-

ing the deposit, but there is very little encroachment upon the lumen of the laryngeal cavity.

Acting on the suspicion that the peculiar condition was syphilitic in its nature, increasing doses of a sat. sol. of iodid of potash were given until gr. xl. t.i.d. were tolerated, and this was continued for a month or more. The only effect of this treatment was to improve both the quality of the voice and the dyspneic symptoms. The only change noticeable in the larynx was a diminution in the edema. So far as the exudate was concerned, three months from the time the iodids were commenced, in which time they had been taken almost continuously, there was absolutely no change, either in character or extent.

During the summer of 1897 I saw very little of the patient, and at these occasional visits no change could be detected in the laryngologic appearance. Early in the fall of this year the iodids were discontinued and simple tonics were prescribed. During the winter of 1897 and 1898 the patient was seen regularly, at least once, and sometimes twice, weekly. Very slight changes were noticeable in the larynx and the general symptoms varied. At times he seemed weak and nervous; at others he would grow stronger, even taking up work at the navy yard during the recent war with Spain. The only symptom of note to record during the period from October till May was a slowly increasing dyspnea, especially manifest on exertion or after an examination by the laryngeal mirror, a slight cough, very harsh and smothering in character and increasing hoarseness.

During the summer, from June till September, I saw very little of the patient. The early part of this period he was, as above stated, engaged at the navy yard and had no time for treatment; the latter portion I was out of the city. I again saw him the early part of September, 1898, and noted a very marked change in him, both as to his general condition and the appearances of his larynx. The breathing had become noticeably oppressed and noisy; there were frequent, short, sharp, smothered coughs and he seemed much distressed. He stated that he had not been able to sleep for weeks, because of the great difficulty in breathing; appetite had failed and he had become somewhat emaciated. In the larynx it was seen the growth had increased, both in extent and bulk; the entire left side of the larynx was covered and a portion of the right. The lumen of the larynx was encroached upon to such an extent that only a very small section of the anterior edge of the right cord could be seen. The general appearance of the deposit remained the same, viz., the glistening, pearly-white color: the odor had increased and was distinctly fetid. His condition at this time was so serious he was urged upon to come into the hospital so that he might be watched and prompt relief given. However, he remained away for three weeks, and when he again presented himself his symptoms were so urgent as to require no persuasion to obtain his consent to enter the hospital. Indeed, so eager was he to obtain relief from his great distress that he was perfectly willing to submit to anything.

He was admitted to the Episcopal Hospital the evening of October 7. So alarming were his symptoms that I felt at first his trachea should be opened at once; but, recognizing the disadvantage of doing the low operation by artificial light and also during the distressing paroxysms of dyspnea, I decided to wait a short time. The urgency of the symptoms passed over in a little while and the operation was fixed for the next afternoon.

The low tracheotomy was done the afternoon of Octo-

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ber 8. No general anesthetics were permissible, hence a 4 per cent. solution of eucain was injected into the skin along the line of the proposed incision; this controlled the pain perfectly. The trachea was unusually short and deeply situated, so that some little time was consumed in reaching it. In cleansing the trachea of loose connective tissue previous to incising, some of the deep veins were torn and considerable bleeding resulted. Unfortunately, at this time the patient was seized with an unusually severe paroxysm of dyspnea, and for a few moments it looked rather hopeless. Happily, time was allowed to catch up and tie the bleeding vessels and rapidly open the trachea. This at once relieved all the urgency of the symptoms.

The ordinary tracheal tubes were all too long in the curved portion, so that great difficulty was experienced in having them retained. After using two, a third was found which seemed to hold in position. In consequence of the difficulty with the tubes, it was deemed expedient to take a stitch on either side of the incision in the trachea with a short silk ligature, so that the trachea could be separated and breathing sustained in the event of the tube slipping out. The following afternoon, on my visit to the hospital, the tube was in the wound and the patient was breathing through the slit in the trachea. After some difficulty the tube was replaced and gave no further trouble. On the third day the patient developed a purulent discharge from tube, with high temperature, and died suddenly at noon on the fourth day.

Post-mortem.—The tongue, larynx and trachea down to the bifurcation with adjacent tissues were removed for examination. The length of the larynx and trachea from the top of the thyroid cartilage to the bifurcations is a trifle over 5 inches. From the top of the thyroid to the tracheal wound is 3 inches. At the position of the incision in the trachea, which when the parts were *in situ* was a little above the suprasternal notch, the trachea bends to a right-angle; this angular portion is about $1\frac{1}{2}$ inches in length before its ultimate division. The wound in the trachea is ragged and irregular.

The larynx and trachea were split open in the median line, commencing above the suprathyroid notch and extending downward to and joining the incision in the trachea. The cartilages were completely ossified, requiring the use of the saw for their division.

Looking into the larynx from above, both arytenoid cartilages are thickened and indurated, the right to a greater degree than the left. The new growth almost entirely covers and extends above the left arytenoid; on the right the growth extends to nearly the top of the arytenoid, leaving about $\frac{1}{4}$ inch of the cartilage free though much indurated. The lumen of the larynx is encroached upon to such an extent as to barely admit of a crow's quill. The epiglottis and all the extralaryngeal tissues are entirely free from the new growth. After separating the divided thyroid cartilages and trachea, the entire larynx seems to be filled with the new growth, which almost entirely obliterates all landmarks. It extends from the apex of the arytenoid cartilage above and down to the lower border of the cricoid cartilage below. It is much more extensive on the left side and posterior wall of the larynx, absolutely obliterating all the normal tissues of the larynx. The right side is greatly infiltrated, the only recognizable tissues being the anterior third of the true and false cords and the lateral wall of the larynx lying between them. The growth is whitish in color, exceedingly soft and friable, breaking down upon the slightest touch of

the probe. The trachea below the cricoid seems normal in appearance and presents nothing of interest.

The notes of the autopsy as to the other organs have been omitted, because they threw no light on the cause of death and were in most respects normal. In the light of a subsequent experience and from the symptoms presented just prior to death, I believe that cultures taken from the blood and internal organs would have shown the presence of streptococci in pure culture, and that the case was another instance of sepsis following operation in which intralaryngeal surgical work had been previously done. I am indebted to Dr. H. L. Williams for the following careful report of the microscopic appearance of the growth:

A small piece of tissue about the size of a pea has been removed from a typical part of the surface of the growth, hardened in formalin, mounted and cut in celloidin and stained with hematoxylin eosin. On microscopic examination we note that the surface is exceedingly irregular and can be followed with difficulty, on account of the foldings and reduplications. Superficially we note a granular debris of necrotic tissue, mostly amorphous, with occasional leucocytes, small round cells and a few squamous epithelial cells caught in various portions. Beneath this we find an irregular horny zone of variable width, taking the diffuse eosin stain faintly, containing no nuclei and showing slight striation in lines parallel with the surface. As we pass beyond the horny zone the striations become more marked; flattened and spindle nuclei begin to appear between the striae, and the outline of cells that have been flattened by pressure can be discerned. Proceeding still a little more deeply we come upon large, well-developed, typical stratified squamous epithelium with round, or oval, slightly granular nuclei, which take the hematoxylin stain very deeply. The cells at the bottom of this stratified epithelium are more compact and form a band from three to six cells deep. The outline of these cells is more regular and oval, while the nuclei are a trifle larger. The cells in the innermost layer are regular, closely packed, with dark granular nuclei, and come in immediate contact with the loose connective tissue beneath, which is seen extending in among the epithelial masses in long, slender finger-like processes. These finger-like processes appear to be the extension of slender papillae from the underlying tissue, and are made up of a loose connective-tissue reticulum, and contain numerous small, thin-walled capillaries. They appear entirely normal. There is no apparent extension of epithelium into the connective tissue, and where the epithelium and connective tissue come in contact the epithelial cells are arranged with great regularity. In the outer horny zone there are many twists and curls, somewhat necrotic, which appear like epithelial pearls.

Summary: There has been a tremendous proliferation of stratified squamous epithelium, with a transformation of the superficial layer into keratin, and a tendency to the formation of epithelial pearls, while many slender connective-tissue papillae project up among the epithelial layers from the underlying tissue. In giving a diagnosis we incline to consider it a benign papilloma, though the tremendous proliferation of squamous epithelium and the tendency to the formation of twists, which resemble epithelial pearls, is suspicious. Should malignancy be present, however, we should not hesitate to say that we believe it to be exceedingly slight and with no tendency to metastasis.

There are two features of this interesting case to which I wish to direct attention. The first is that of diagnosis. The symptoms presented at once direct attention to the larynx and indicate an obstructive lesion. Inspection of the larynx confirmed this suspicion and revealed a neoplasm. The peculiarities of this neoplasm is what attracts our attention, viz., a whitish, glistening excrescence limited to one side of the larynx, not materially interfering with the respiration—we are now considering the case in the early stages—not yet producing

serious alteration in the voice, and unaccompanied by pain or cough.

By the process of exclusion we are enabled to determine what it is not, but the same process was not successful in revealing its true nature. Syphilis was first thought of, only to be rejected after a full trial of the therapeutic test. The location and many features of the case suggested the most common laryngeal growth, *viz.*, papilloma, but it by no means answered to the usual appearance of growths of this nature. On several occasions pieces the size of a pea were removed and submitted to the pathologist for examination. Reports were received from two pathologists; while there is a difference in the phraseology of the two reports, they are as one in regarding it as of an essentially papillomatous character, though differing materially from the ordinary forms of growth in the larynx; this difference is manifest in the large number of horny epithelial cells in the outer layers. Mackenzie, in his early works on laryngeal growths, intimates that papillomatous growths may be of a whitish color, but lays no particular stress on growths of this character; I believe such an acute observer surely would have done so had he met with one. Lennox Browne also speaks of papillomatous growths as of whitish appearance, but with no separate mention. Bosworth says papillomata may be grayish-white in appearance.

It has been my privilege from time to time to present this patient to the section on Otolaryngology of the College of Physicians. There was much difference in the views of the Fellows as to the probable nature of the case, but there was unanimity as to its uniqueness. In a rather hasty review of the literature of laryngeal growths little has been gleaned to throw light on the present case. Gleitsmann's case, presented at the meeting of the American Laryngological Association in May, 1896, is similar to it in many particulars; unfortunately, he was not able to follow the case to its termination. The pathological examination of the growth in this case is strikingly similar to the case here presented: the diagnosis of the pathologist was papilloma durum, probably malignant and perhaps carcinomatous. The history of our case points strongly to malignancy, and yet the microscope at no time, either ante-mortem or post-mortem, shows positive evidence of its existence. Clinically it would seem that originally the growth was of a papillomatous character and had suddenly taken on malignancy, possibly because of intralaryngeal manipulations.

Note the apparent quiescence for a period of nearly two years, and then a sudden and remarkable activity and extension within a few months. Is not this the history of a benign growth taking on malignancy?

The second feature of the case to which I wish to direct attention may interest the anatomist rather than the laryngologist. The anomalous position of the trachea constitutes an unlooked for difficulty and seriously complicates tracheotomy. The trachea is found to bend abruptly backward at about the fourth ring; this leaves a space in which to open the trachea, between the lower border of the thyroid cartilage and the fourth tracheal ring, a distance in the present case of a trifle over 1 inch. The greater portion of this space is occupied by the isthmus of the thyroid gland, which, under the disturbing circulatory changes of the laryngeal stenosis, is inordinately vascular and, hence, enlarged. Now, if one considers the undesirability of the high operation, in cases of laryngeal obstruction, which practically rules this operation out, we are struck with

the difficulty such an anomalous condition offers to the operator.

The peculiar anatomical position of the trachea clears up the difficulty encountered with the tube. At the fourth tracheal ring the trachea bends almost abruptly backward. The incision into the trachea is between the third and fourth rings, so that less than 1 inch of trachea is left between the incision and the abrupt bend. As the length of the segment in most tracheal tubes is a trifle over 1 inch, it is readily seen that the lower end of the tube impinged against the horizontal portion of the trachea and was thus forced out of the wound.

It is not the object of this paper to discuss the treatment, but the history of the case would scarcely be complete without some reference to the plan followed and to others that were contemplated. As an aid to diagnosis, pieces of the growth were removed; after having the pathologist report, an effort was made to clear the larynx. Much difficulty was experienced from the toughness of the base of the growth, which permitted us to remove only very small pieces at a sitting, and those were quickly reproduced, though always at the original site.

Intralaryngeal operations were abandoned after a thorough trial. The intention then was to do a preliminary tracheotomy and later split the thyroid cartilage and thoroughly clear the larynx. Months before the trachea was opened the advisability of thoroughly clearing the larynx by the extralaryngeal method was determined on. The patient, however, was very irregular in his attendance at this time and could not be made to appreciate the gravity of his situation.

At no time was the subject of laryngectomy considered, for the reason that clinically or microscopically there was no reason to suspect malignancy.

DISCUSSION ON PAPERS OF DRs. DICKERMAN AND GIBB.

Dr. J. WRIGHT, New York City.—I have been much interested in the last case because it helps to clear up in my mind one or two other cases that I have seen. The case of Dr. Gleitsmann, which was referred to by the last speaker, I had the pleasure of examining, and it presented a most singular appearance. It was nearly white with a papilliform appearance. The diagnosis was uncertain and is uncertain to this day. With the report made by Dr. Gibb in connection with the case I saw this winter, it seems to me that the three cases when put together clear up the nature of the trouble pretty well. The case I saw this winter, in connection with Dr. Dudley, was a case in which the growth appeared on the soft palate, and was the size of a quarter of a dollar, just back of a false plate the gentleman wore in his mouth. The patient was 72 years of age. The smoke passed directly from the end of the cigar, across the false plate and struck the soft palate without any interposition of the tissue in front. There this growth appeared. It was somewhat like a smoker's patch, and yet the extreme thickness of it seemed to rule that out. It was probably an eighth of an inch thick, with the edges sharp out. At one side, dipping down into the tonsillar tissue were one or two islands. A piece was taken off and submitted to a pathologist for examination and an unhesitating diagnosis of carcinoma was made, which, from the age of the patient, and I confess somewhat from the appearance of the growth, made me agree with the diagnosis. The history extended over several years and there was no infiltration of the glands around it. The man was in too feeble a condition to justify the removal of the growth. On a later examination of the case I could not make out any malignant tissue. The cells which were rapidly proliferating were dropping into the lymph spaces, and these cells were not showing any evidence of malignancy. After consultation the growth was snared off with a cold wire snare, and in spite of our apprehensions the whole thing healed over and the patient inside of five days was relieved of all his symptoms and

has remained well until this day. The condition is not a true papilloma, but a local hyperplasia of the tissue.

DR. E. FLETCHER INGALS, Chicago—Some ten or twelve years ago I saw a patient once or twice in consultation on account of a growth very much like that described in the paper. It was pearly white, firm to the sense of touch and had an appearance as if it were made up of columnar tissue, the ends of the columns having been cut off at the surface of the growth. This growth extended across one side of the larynx, above the cord, occupying the whole of the opening of the ventricle, and the lower part of the ventricular band. A portion of it was cut off and submitted to a skilled microscopist, who reported to me that it was a small-celled sarcoma. Within a few weeks tracheotomy became necessary, but the patient lived.

I was much interested in the excellent paper referring to laryngeal papillomata in young children. I recall a couple of cases of especial interest because of the treatment. One of these, a child ten or twelve years old, I saw before I was very adept in the use of instruments, and I had great difficulty getting hold of the growth, but finally I succeeded in pinching it hard. This growth was immediately below the cords and as large as a good-sized pea. I did not succeed in removing it that time, and the child did not return for a week or two, and then I found the growth had entirely disappeared. When I saw the patient some years afterward there had been no recurrence. In a little boy four or five years of age whom I treated about three years ago, I succeeded in examining the larynx very readily, but could not use the forceps. However, after rubbing the growth vigorously two or three times with a sponge, it entirely disappeared and there is no recurrence. I have tried the autoscope in children with laryngeal tumors two or three times and have been able to see the growth fairly well, but I have not had good results with it in operative measures. I had hoped we would get considerable assistance from it, especially with the children under an anesthetic, but I have not succeeded. I should like to know the experience of others with this instrument.

DR. NORVAL H. PIERCE, Chicago—In reference to Dr. Gibb's paper I wish to say that in my experience the laryngoscopic picture is not infrequently of only negative value in the diagnosis of laryngeal carcinoma. The appearance of the neoplasm, as well as its location and consistency, is often inconclusive. This is especially true of the first stage of its development. Later, we are oftener more or less able to positively identify the nature of the neoplasm by means of the laryngoscope alone. But the microscope will ever be the court of last resort, in this matter, as it is in so many others, for it is only by means of a structural examination of the tissue composing the growth that we may arrive at final conclusions, and even after such microscopic examination only positive results may be regarded as conclusive. It is generally admitted that the whitish-gray color, or refractive whitish surface, of a growth in the larynx is not by any means characteristic of malignancy; but it may be said on the other hand that many ulcerated carcinomata do possess this pearly-white color, which in a way is peculiar. In my opinion this coloring is due to a secretion which is derived from the juices of the malignant neoplasm. I have found that this coating is readily decomposed by peroxid of hydrogen. The surface of the tumor is then quite changed, being, instead of smooth, more or less granular, and, instead of pearly white, is pink or red or mottled. It has occurred to me that by means of this simple procedure we might differentiate in some cases between a malignant growth and benign hard papilloma, such, for instance, as Jurasz has reported, in which a vocal band was the seat of a diffuse chalk-colored, conical mass which was pronounced by several of his colleagues to be carcinomatous, but on careful microscopic examination after the death of the patient proved to be an absolutely benign hard papilloma. I repeat that if the peculiar juices of the carcinoma produce a somewhat characteristic coating on the surface of the growth as it occurs in the larynx, then the decomposing action of peroxid of hydrogen may be of diagnostic worth in aiding in the differentiation of laryngeal cancer from tumors which do not possess such juices.

DR. W. B. JOHNSON, Paterson, N. J.—I think these cases of papilloma are of an interesting character, because so little seems to be accomplished by any form of treatment that is employed. Most of the cases that have been reported seem to have resulted in spontaneous cure without any definite knowledge of just what the cause was. I wish to say that I have used in such cases the application of formaldehyde, working on the theory that if absolute alcohol was good and was supposed to abstract water from the tissues, formaldehyde would be a better remedy. I am sorry to say that I can not report that the application of formaldehyde was successful. I have used intubation a number of times in preference to the tracheal canula. I have understood from others who under similar circumstances have used intubation, that it is a common occurrence for the papillomatous growth to grow over the top of the tube. Such has not been my experience. I am now treating a case with absolute alcohol spray used frequently, and am waiting patiently to see the result. One thing has suggested itself in the nature of an inquiry, and that is whether or not it is desirable to perform tracheotomy in cases of this character before dyspnea becomes very troublesome, for the purpose of allowing the parts complete rest.

DR. OTTO JOACHIM, New Orleans—I wish to bring to your notice a case in which the clinical history is very much the same as given by the Doctor. The symptom of recurrence was especially pronounced. The patient was a girl about six years old. The removal of the growth was not difficult, but recurrence was persistent, and it seemed the more I interfered with the tumor the more rapidly it grew. I finally made a laryngotomy, curetted the growth, and thoroughly cauterized it in the hope that this would terminate the condition. But this hope was fallacious. The treatment had extended over the greater part of the winter and spring, and when vacation time came on I left the patient in the hands of my assistant with instructions to use absolute alcohol locally. During my vacation this was used solely and continuously. I would not say that the use of absolute alcohol cured the patient, but at all events in the fall the growth had disappeared. I have seen the child frequently since, for a period of two years, and there has been no recurrence. There was some trouble in extubation and curing the fistula, which, however, was readily overcome.

Of the class of papilloma reported by Dr. Gibb, I have in mind three cases. The first one was not a case of my own. I had, however, an opportunity to make some microscopic sections of the growth and the report thereof was published in the *Archives of Otolaryngology* in 1887 or 1888. The second case was my own in which a diagnosis of horny papilloma was made, and it resembled the Doctor's case very closely. For two years the condition seemed to be in a quiescent state, but after that it became fulminant and rapidly fatal. In the third case the lesion was at the base of the tongue, very large and characteristic, about the size and shape of half an egg. The pathological condition agreed with the appearance of the case demonstrated by Dr. Gibb.

DR. H. STILLSON, Seattle—There seem to be papillomas and papillomata, and I have no doubt each member present says to himself, when the gentleman before him has finished speaking, "there are others." It seems to me our diagnosis of papilloma should go further into differentiation. I recall a case, which I suppose belongs to the classification given by Dr. Gibb and which has been mentioned as a hyperplasia by Dr. Wright, in an infant 12 months old. The growth was located on the frenum of the tongue, and was about three-quarters of an inch in diameter and somewhat pedunculated. I did not know what it was, nor do I know now. Its color was white, thoroughly ivory-white, and it was firm. Not knowing what to do with it and not knowing whether it would recur on removal, I gave a placebo, I think it was borax or perhaps boric acid as a mouth wash, and let it go home, with instructions to return in a few days, intending in the meantime to read up on the subject. In a few months I saw the case and found the growth had almost entirely disappeared, and when I saw it casually a few months later it had entirely disappeared.

DR. N. L. WILSON, Elizabeth, N. J.—In regard to the application of alcohol, I had a child 6 years of age whom I kept under my observation three years. After trying almost everything, after scraping the growth out twice, tracheotomizing, intubating, and having the intubation tube fall down into the trachea, I finally made up my mind to leave the child alone and find out what nature would do, and the result is that the child is well. I had made applications of alcohol by spraying it into the larynx. The growth sprang from beneath the right true cord. That made me think our friend had possibly overdrawn it when he said that alcohol would cure these cases. I have had cases, however, where the growth sprang from the larynx above the cord, and by making these topical applications, preferably with the canula, I have seen the growth shrink. One case now under treatment is much better than three months ago, although as yet the patient is not cured of her papilloma.

DR. TAUT—It appears to me the latest treatment of papilloma has been entirely overlooked. Two years ago I intubated with this difficulty and finally did a tracheotomy, and then the child drifted out of my hands and is now under the care of the "Christian Scientists," and if the gentlemen will visit the Pan-American Congress I shall be very glad to report the results.

DR. MACKENZIE—I have nothing to add to what is already known on the subject. I will simply say in connection with the dissolution of these growths by topical applications, that I believe one of the best of all topical applications, alcohol included, is sulphate of zinc. I have used for a great number of years a combination of sulphate of zinc and other things, but the chief ingredient is the sulphate in the proportion of two or three grains to the ounce. Years ago, when I was in Bellevue Hospital, I used a preparation consisting of 16 or 17 grains of sulphate of zinc, about 2 ounces of compound spirits of lavender and about 6 ounces of water, which acted very satisfactorily in shriveling up venereal warts on the genital organ. Since then I have used a modification of the solution on the throat in shriveling up small remnants left after operation on the larynx and also after operations for adenoid growths. I think in most of these cases it will be necessary to do a preliminary tracheotomy or laryngotomy. Much time is lost in the futile attempt to remove such growths through the natural passage. Especially in small children no time should be lost in performing preliminary tracheotomy, splitting the thyroid and removing the disease in its entirety. We can accomplish much more in that way than in picking away at the larynx over a considerable length of time. My experience agrees with that of others, that the growths often disappear spontaneously after preliminary tracheotomy. But that requires time, and if time is an element I think the best plan is to split the larynx and remove the growth at once in its entirety.

DR. EMIL MAYER—The case presented by Dr. Gleitsmann has been mentioned and I can add a little to the subsequent history. Dr. Gleitsmann said the last he understood was that the man was dead. A year after he made that statement the patient walked into my clinic and I inquired why he had given the impression that he was dead. He said the Professor was so interested as to come all the way out to one of the adjoining townships from New York City that he thought something dreadful was going to happen and he hid himself and his people reported that he was dead. I tried all manner of persuasion to get a portion of the growth for examination, but the patient disappeared and I do not know where he is. So, gentlemen, the statement that he was presumed to be dead may be refuted; at least he was living one year after the paper was read.

DR. GIBB, closing the discussion—I am very glad to hear the report of so eminent a pathologist as Dr. Wright; it certainly adds weight to the opinion we had already given. I was likewise very much interested in Dr. Mayer's description of the termination of Dr. Gleitsmann's case. Anybody who reads how Dr. Gleitsmann chased this patient all over Brooklyn can appreciate the Doctor's remarks. I had hoped the discussion would take up, besides the pathological side of the

question, the anatomical feature. At the meeting in Washington one of the members said tracheotomy sometimes is a formidable operation, and in this it was a very formidable operation because of the position of the trachea. The position of the trachea was an unforeseen difficulty, which one would not think of had he not seen a similar case.

THE RECIPROCAL RELATIONS BETWEEN CONSUMPTIVES AND SOCIETY.

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No medical or economic problem at the present time can assume such a degree of importance on account of its almost universal application, and the degree of individual and state responsibility involved, as the prevention of pulmonary tuberculosis. This disease is known to affect approximately one-third of our population, and to constitute one-seventh of our annual deaths. Several millions of people in this country are now afflicted with a tubercular process, known to be communicable rather than hereditary. Practically, its transmission occurs, not so much from infected food-supply as from the existence of an almost ubiquitous agent disseminated by means of the sputa of infected individuals.

That the disease is thus communicable should not be understood to be so much the result of direct infection from one person to another, after the manner of certain contagious diseases, but more because of the neglect to observe necessary precautions. There is thus permitted a wider distribution of the bacilli, whose continued presence in the home and in public places constitutes a source of danger to those rendered susceptible by occupation, manner of life, previous disease, inheritance and environment. Only to those especially predisposed is the disease communicable, and even to these, scarcely ever from a single exposure. Not only is the infection incremental in character, but rarely is the first infecting process known to exist after it is once acquired. More frequently is it the repeated infection which the individual resistance is finally unable to overcome without the recognized manifestations of the disease.

Despite these established truths, together with an actual diminution of the mortality-rate in recent years, wherever reliable statistics have been obtained, the fact remains that the welfare of the commonwealth is seriously threatened. The dark shadow of consumption still hovers over countless homes. There exists a foe in our very midst more dangerous than an invading host, and for whose complete subjection and the consequent safety of the people, there is required only a small fractional part of the energy and means that are expended in prosecuting a war of conquest, or in an imaginary effort to uphold national honor. To one whose sympathetic attention with reference to tuberculosis is constantly forced to the contemplation of the direful results of apathetic indifference and ignorance from some sources, and an immoderate professional attitude, with popular intolerance from others, there certainly remains much to be desired toward the practical solution of the tuberculosis problem.

Consumption is now recognized to be a distinctly preventable and largely curable disease, and hence should be prevented and cured when possible. Does there not exist, therefore, an imperative obligation upon the state to secure adequate protection for the com-

munity, and suitable provision for the care of those afflicted? This responsibility rests indirectly with the medical profession in its advisory capacity on matters pertaining to public health. The physician should be confronted with his obligation to consumptives no less than to society. Fortunately a wise and conservative regard for the needs of each class need inflict no hardship upon the other. Their interests are actually identical, and their relations should be reciprocal. That they are not so regarded at present is a reproach to the profession and should serve as an incentive to more active measures pertaining to the inspection and control of the disease, and to more duly considered methods of popular education. It is to be regretted that the advocacy of such extreme procedures as the isolation and segregation of consumptives, the placarding of houses, the necessary cremation of the dead, the enactment of laws governing marriage, and similar considerations have served only to inspire exaggerated feelings of alarm. It has been my observation that the public generally entertains no just conception of the manner in which the infection may be conveyed, and hence no appreciation of the comparatively slight danger of contagion under ordinary precautions. In like manner, it is quite unusual to meet consumptives who have received any competent instructions pertaining to the protection of the community. An unreasoning fear with a general prejudice on the one hand, is opposed on the other by a certain disregard for the rights of society, together with a natural resentment due to the humiliation imposed, and lack of moral support. It is apparent that the safety of the public must be exalted above the pride and sensitiveness of individuals, even though they constitute a large portion of the population. It is equally true that the burden of the consumptive should not be made harder to bear, and his chances to recover from a curable disease made less by reason of erroneous popular impressions and an inflamed public sentiment. Each class has its inviolable rights, and they should be made incontestable. It is incumbent upon the medical profession to recognize the claims each has upon the other, and in the capacity of arbiter to adjust apparent differences without injustice to either, and with broad sympathy for both.

What claims can be presented by each, and what measures can be instituted to satisfy them?

If pulmonary tuberculosis is preventable, the consumptive has a claim upon society by virtue of the very fact that he has become an innocent victim of the disease. He has been permitted to suffer a continued exposure to infection after having been subjected to such conditions of ventilation and hygiene as to bring about an increased susceptibility. Both the exposure and the lessened resistance have been to a great extent preventable. Who has jurisdiction to prevent, if not society? And if so, why is not the state morally responsible for its failure to do so?

It must be admitted that the consumptives of to-day, previous to the inception of the disease, had not been warned sufficiently of the practical dangers of infection, and instructed concerning intelligent measures of prophylaxis.

While this obligation on the part of society is now being fulfilled to some extent, it can not be said to apply to the great majority of those already afflicted.

Another claim of the consumptive upon society, and one reflecting directly upon the medical profession, is the distressing delay in securing accurate diagnosis.

It is only with reference to early cases that consumption can be said to be a curable disease in the sense of its permanent arrest. Mistaken or delayed diagnosis at this time almost invariably associated with results of a most disastrous nature. The failure on the part of the medical profession to adequately appreciate the significance of rational symptoms, to recognize and interpret accurately the physical signs, has occasioned an annual sacrifice of thousands of human lives. The responsibility is more apparent when it is understood that too frequently the available data have been amply sufficient to warrant an early provisional diagnosis.

Referring to my observations previously published¹ on a series of 546 selected cases in private work, it is stated "that 388, or 71 per cent., arrive in Colorado with distinct evidence of tubercular infection in each lung." With reference to the duration of the disease before arrival, the total average period of delay from the time of definite onset of the disease, was a little over eighteen months, affording abundant opportunity for advanced pulmonary and constitutional impairment. "Is not the character of the cases sent to Colorado a striking commentary on the necessity of a more thorough appreciation of the principles capable of every-day application upon which to base early diagnosis?"

Has not the unfortunate victim of such delayed diagnosis a just claim upon the profession, and through it upon society, which in many states places no restrictions upon and enforces no qualifications for medical practice?

Another consideration to which the consumptive is entitled, is that of humanity. The pulmonary invalid is a human being and is not subjected to the same ultra-scientific principles that would be accorded the lower animals. He is above all entitled at the hands of the state to every energetic provision that may save or prolong life, and to every sympathetic attention that may help to alleviate suffering. Especially is this true of those who have not the means to subsist without work, independently of their more fortunate but often no more worthy fellows.

If the state is called on to provide institutions for her non-consumptive poor, who are frequently reduced to poverty through their own responsibility, and who are never to resume their functions as citizens, but are destined to forever remain as a burden to society, how much more should the state be obligated to provide similar institutions for those who have suffered, usually through no individual liability, who represent an entirely different class of citizenship, and who in many instances, with such a provision, can resume their duties and former positions in the community.

This claim of the consumptive poor is re-enforced by the added protection to accrue to society itself, through the control thus offered of those unable in their ordinary environment to observe sanitary precautions.

What are the claims of society with reference to the consumptive?

Inasmuch as the invalid, in the absence of certain precautions incident to his daily life, is a direct source of contagion, and therefore a menace to his family and the public, and whereas, a strict conformity to prescribed instructions actually prevents him from becoming an element of danger, it becomes incontrovertible that society has the right to expect and demand of the consumptive the most rigid observance of sanitary rules, the most hearty co-operation and willing sub-

¹ Medical News, Sept. 30, 1899.

mission in the way of conservative municipal control. Popular prejudice and drastic legislative measures may inflict added burdens upon the consumptive, but the one purpose to be attained, public protection, will have failed of accomplishment if there is not secured his individual desire to faithfully perform his part. It is the invalid himself to whom our efforts must be addressed, and these in the form of instructive and persuasive appeals. With the acknowledgment of its own obligations, society justly will receive a recognition of its claim upon the consumptive. Through an active educational propaganda, these claims will meet with a ready response, the exception being only with those who are very ignorant or vicious, and for whom special detention institutions may be erected for the public weal.

As to the various means that may be employed to satisfy the joint claims of consumptives and society, it is primarily essential that there should be a uniformity of method in the several parts of the country. A concerted plan of action under national authority would be most effective.

A distinct bureau of public health, elaborating upon the excellent work now done by the Marine-Hospital Corps, having an advisory jurisdiction over state and county societies, and exercising immediate authority over all officers of public health, would do much along the lines of preventive medicine, if such could be made practicable without infringement upon the rights of states, and without the taint of national politics. It is to be feared that in some instances personal political ambition has biased the health authorities to an undue enthusiasm in the administration of public office. For such responsible positions men should not be selected as a result of political preference, but should be chosen by their fellows on account of their peculiar adaptability to faithfully execute such labors, for which greater compensation should be rendered, commensurate with the arduous responsibilities involved.

The campaign of education and municipal control should include at once the compulsory notification and registration of all cases of pulmonary tuberculosis. This does not imply placarding of houses or apartments, isolation, or other personal humiliation, but furnishes an opportunity for more thorough inspection and supervision. Interference with social aspects and business pursuits is uncalled for. Quarantine and segregation are altogether impracticable. The family ties of several millions of people are not easily disrupted. Segregation is alone feasible and desirable in the case of the consumptive poor. It should be made clear that notification and registration does not carry with it the contemplation of interference with personal rights, unless rendered necessary by the repeated and intentional infractions of prescribed regulations. Notification should be made obligatory upon patient, physician and householder, and failure to comply should be punishable by fine. Periodical disinfection of apartments should be made under the supervision of the health departments, and always done following the death of the patient. It should be no hardship for the consumptive to be in a position to receive competent instruction from some responsible source, either directly or through the attending physician. By this means, added protection is accorded to himself and family as well as to the community.

The methods of instruction directed to the consumptive with his family, and to the general public should be to impart an appreciation of his obligations

to society, and to secure his active, unremitting co-operation. He should be supplied with carefully prepared circular information explaining the dangers of infection and re-infection, describing in detail all necessary preventive measures, with an emphatic demand for their observance. It is of vital importance that all official information afforded the general public through any channel whatever should be essentially of a reassuring nature, although not minimizing the possible dangers resulting from the presence of the careless consumptive. Through the medium of public documents for general free distribution, the newspapers and public addresses, the public should be informed concerning the comparatively few methods of possible infection. It should be made clear that the infection can be thus conveyed only through gross violation of the simplest precautionary measures, and that a due regard for such sanitary rules afford protection from direct infection despite intimate and protracted association. It should be explained that the infection is exceedingly slow and rarely results from a single exposure. It should be emphasized that unless the soil is rendered receptive to the bacillus by lessened individual resistance, infection is unlikely, despite more or less exposure. Apropos of this, attention should be called to the necessity of greater individual care concerning mode of life, occupation and environment. The hygiene of the home should be discussed at some length, with especial reference to ventilation and sunlight.

In addition to these more direct methods of instruction through the medium of the profession, there should also be instituted a degree of governmental, or municipal supervision of the construction of public buildings, tenement houses, factories, commercial establishments and conveyances. Ordinances should be enacted and enforced prohibiting expectoration on the sidewalks, crossings, or in any public place where people walk. Offenders should be punished for repeated violation of this. The objection to the occasional expectoration upon the street or in the gutter, disgusting though it be, does not appear of great practical significance, as far as actual danger is concerned, in view of the more direct exposure to sunlight, the frequent sprinkling and the fact of the bacilli not being kept in circulation and carried to the home by the sweeping skirt.

The spectacle of the use of the expectoration flask is revolting and hardly necessary. Small napkins of cheese-cloth held over the mouth in the act of coughing, to serve as a receptacle for sputum, and subsequently deposited in bags made of oil-silk, oil-muslin, or rubber, capable of disinfection, are infinitely more satisfactory from every standpoint.

Of surpassing importance is the matter of sanatorium provision for the various classes in appropriate climates. I can but take vigorous issue with those who fain would regard the influence of climate upon pulmonary tuberculosis as a "fetish of the past," now replaced by sanatorium régime. It is a matter of record that the satisfactory results obtained in the few institutions of this kind, without the most favorable climatic attributes, is largely due to the fact that only incipient cases are admitted. Disclaiming any desire to detract from the intrinsic worth of such institutions, I am forced nevertheless to make the query, "Have we evidence to substantiate the claim that the improvement in each case has been invariably due to the sanatorium itself?" Would not the same régime observed outside the institution have been attended with results almost, if not quite, as good? It is well known that a consid-

erable number of incipient cases get well in the less favorable climates even despite unfortunate conditions and environment, in the absence of rational measures, and often without the knowledge of the tubercular character of the affection.

It has been my experience in Colorado to observe patients presenting a history such as would be applicable to these cases, and showing after the lapse of several years, a record of a fresh infection. Upon arrival, in addition to the recent tubercular process, evidence is occasionally found, upon physical examination, to justify the theory of a previous infection, subsequently arrested.

I feel warranted, therefore, in asking if the heralded results of sanatorium treatment in unfavorable climates in incipient cases are not due in some measure to the simple relief from work, changed surroundings and detailed instructions, at least a portion of which could have been secured in many cases by the same competent medical adviser outside his institution. I have chanced to meet several such sanatorium cases that have experienced a return of their trouble, and have sought climatic improvement as more advanced cases after a disastrous period of delay. I am impressed that the sanatorium life for consumptives is of value largely by virtue of the enforced regimen, which appears to be practicable without the aid of the institution, especially among the better classes. There can be no question, however, of the improved facilities for the management of the consumptive poor, and even those less embarrassed financially, in properly conducted sanatoria in any climate. This, however, should not be construed as constituting an argument against the greatly increased benefits to be derived from appropriate climatic influences. While local sanatorium accommodation should be made for the consumptive poor in every state, I would strongly advocate the construction of special institutions in various regions applicable to the several stages and complications of the disease. Such sanatoria should be adapted to the special needs of the particular class for which they are erected, opportunity for outdoor employment being offered in some to those whose physical condition will permit, as a means of defraying expense. A number of these institutions could be under the control of one or several states jointly, some under federal supervision, and still others directed and maintained by the several benevolent orders and societies. It is for those in more or less financial distress that sanatoria are specially demanded. There is at present no provision for the enormous class of consumptive poor, who, unable to work, and rejected in turn by all the charitable hospitals, appeal despairingly for relief. For these there is now no alternative but death.

In these times of unexampled prosperity, have not our impoverished consumptives, with this preventable and curable disease, a claim upon society that can no longer be ignored. It is not a time for pedantic assertions concerning marriage laws for the pulmonary invalid, the undesirability of tuberculous offspring and the care of the consumptive dead, etc., but a practical application for the benefit of the living of those humanitarian instincts ever ready to respond to the call for help. A determined public effort toward the arrest and amelioration of the disease in those unable to help themselves would also be attended by prophylactic results of a most satisfactory nature.

THE PRESENT secretary of the navy of Portugal, Dr. TIEXADA de Souza, is a physician.

THE SERUMS IN TUBERCULOSIS.*

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TOXINS IN THE TREATMENT OF TUBERCULOSIS.

The remedial use of these poisons has practically been abandoned. Inaugurated by Koch, who saw good results in the use of tuberculin in certain cases of lupus, his incomplete investigations were pushed into publicity prematurely by over-sanguine officialism in Germany, and great was the general disappointment and the damage to Koch's well-earned reputation when our hopes vanished.

Later, Klebs preconized another form of tuberculin called "antithesine." Much was claimed for this so-called modified form of Koch's original tuberculin, and it was used for a while as a remedy for tuberculosis. It did not add luster to the already high reputation of this scientist, and to-day it is not in general use.

Then came Dr. Von Ruck's antithesin. Von Ruck has for a few years published great promises about this agent, which he has named "watery extract" of the products of the bacillus of tuberculosis, and of which different varieties are offered. It is urged that this preparation is free from certain poisonous elements existing in other tuberculins, by virtue of which, irritation and fever are produced.

These toxins are each one form or another of tuberculin, the poisonous products of the germs and their culture, and all are modifications of Koch's original agent, repudiated by himself and his followers as a therapeutic measure. Finally, in the last three or four years, Koch recommended still another tuberculin which he termed "tuberculin residuum," T. R. for abbreviation. It consisted of a product including the natural poisonous liquid of a broth culture of the germ of tuberculosis and the toxins of the structure of these parasites, extracted by a process of pulverization, mashing (?), centrifugalization, filtering, etc. The revived hopes it created by the magic of Koch's name passed into oblivion within a few months of the first report.

Such are the toxins of the tubercle bacillus of which we have records as medicinal treatments for the "white plague." Only one remains in evidence, namely, Von Ruck's watery extract, for which he and some of his followers have established seemingly reliable, but in fact dangerously misleading, records, for their chief reports were made at the health resorts of North Carolina and Colorado, where equally good results have been obtained by numerous physicians by good management and climate alone.

The merit of all these products, if indeed they have any, which I do not deny to a certain degree and under proper circumstances, depends wholly on the poisons which they contain. If all the poisons are abstracted or neutralized, the product becomes bland, it becomes water. If only certain kinds of poisons are abstracted it becomes modified in its toxic properties to that extent; and to that extent also it is depreciated in the power to produce reaction. Now, the toxin of an infectious disease is utilizable as a therapeutic measure only to the degree that it may, by reaction of the system, produce a measure of immunity more or less complete. That means vaccination. Vaccination is not a curative, but a preventive measure, and consequently should be applied before the existence

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of the disease against which it is desired to vaccinate. We do not vaccinate against smallpox after but before the disease has invaded the system. Hence, the claims of the tuberculin adepts, that any kind of tuberculin is specifically curative, is not sustained by any scientific fact from disinterested sources. Its application must be limited to the very early cases in which the lesions are slight and the activity of the germs localized. Then it may be possible for tuberculin to establish a certain degree of immunity before the localized infection has taken on too serious activity.

The peculiarly effective action attributed to watery extract can be of no other character save that depending on a graded degree of blandness, or virulence if you please, affording a gradual exhalation of effects with less irritation, than by the administration of strong toxins at once.

We see from these data that none of the tuberculins have any general established merits as remedial agents against tuberculosis. Nor have we any reliable indications whatever that they may be used safely to advantage as vaccinating agents in human beings in the sense underlying anti-smallpox vaccination. In my judgment their only meritorious sphere so far is the field of diagnosis in cattle, which you kill if you find infected. I must differ from the views that it should be used as a means of diagnosis in human beings suspected of being afflicted with tuberculosis, but showing no sure sign of it. With the light before us, we are not justified in provoking in a human body a fever which may ignite the tubercular spark which nature was in her own way smothering, with 50 per cent. of chances in her favor of success without the physician's interference. It would be better to treat such cases as pretuberculous, and not arouse any inflammatory conditions anywhere, far less in the infectious foci.

SERUM IN TUBERCULOSIS.

The idea of serotherapy in general may be traced back to Maurice Reynaud's observation prior to 1888, when he discovered that the serum of vaccinated heifers at the seventh or eighth day conferred immunity to vaccinia in susceptible subjects. Next came Richet and Hericourt, in 1888, who by their experiments with a pyoseptic germ in animals, pointed to the probability of certain virtues in serum. Afterward, Behring established that serum was not an inert matter, but rather, in some sense, a vehicle carrying a vital principle, to which it was but natural to at once attribute an important rôle in the resistance of individuals to infections. This staggered the Metchnikoff theory of phagocytosis, and for a time lent ammunition to its adversaries. But far from annihilating it, it explained its philosophy much more clearly than its founder and his followers had succeeded in doing before. It pointed to the means by which the leucocytes destroy germs and their poisons in the system. Afterward Behring and Kitasato clearly demonstrated the effect of the immunized blood-serum against tetanus on one hand and diphtheria on the other. These investigations were sustained by Roux, of Paris, and others. Every one is familiar with these discoveries. I only need allude to them as a historical step in serotherapy in general.

Not very long after Koch's failure with tuberculin, Maragliano, of Italy, doubtless stimulated by others in France, notably Richet, who had experimented with serum of the dog and goat in consumption, recommended the natural serum of the ass in the treatment

of consumption, on the ground that that animal is comparatively immune to this disease.

All these sera failed to produce permanent or even semi-constant beneficial results. In 1894, the writer experimented, in St. Louis, with horses, which he immunized against tuberculosis by graded and persistent injections of tuberculin, germ structure poisons (long before Koch preconized his tuberculin T. R., which is practically the substance here given), desiccated germs, and finally by the injection of pure virulent cultures of the bacilli administered both into the circulation and connective tissue. This was the first effort made in any country to produce immunized serum to use against consumption. The product was used in 1894 and 1895 in the St. Louis City Hospital in a series of tubercular patients of various kinds and degrees of involvement. The first report about them was made in the spring of 1895.

To comprehend the limits and possibilities and fallacies of serotherapy in tuberculosis, permit me to specify the properties of serum and then to explain them briefly.

1. Serum contains toward some microbes a positive bacterial power, which is destroyed at less than 60 C., whilst against others it does not.

2. It may be rendered capable of acting as a preventive, that is, immunizing agent, by a different element than that responsible for bacterial power, because the immunizing virtue resists a temperature of 70 C., i. e., less than the bactericidal power does.

3. It contains an antitoxic property which was long confounded, and is still in a measure, with the other properties of serum by many, particularly the superficial investigators and biased speculators, and the practitioners who have financial interests in confusing the professional mind by maintaining an error to sell their wares, which are not wanting in variety and incongruity in the therapeutics of tuberculosis. It is here that the advocates of the tuberculin or extracts of tuberculin under any name find a motive for their pleas.

4. Finally, as a therapeutic agent, not of serum itself, but of the figured elements of the blood from which it is obtained, there exists in serum the action of the leucocytes on soluble poisons. Let us understand these properties.

Bactericidal Power of Serum.—It is natural, not acquired. This influence is exerted on the micro-organisms themselves, and not on the system in which they live. This was demonstrated, in 1888, by Behring in white rat-serum with regard to the anthrax bacillus. Speaking of serum pure and simple, twenty-four hours of contact prevents cultures of mixtures of serum and certain germs. But it is not a preponderant influence. It is not constant. In the white rat, refractory to anthrax, the bactericidal power of the serum may be only coincidental; on the other hand, while we find cases in which immunity exists in connection with a germicidal power of the serum, we find the contrary in other animals. For instance, the serum of rabbit's blood is bactericidal for the germ of anthrax, yet this animal is remarkably susceptible to that disease.

Again, the dog's blood is not germicidal to the anthrax germ, and yet that animal is comparatively immune to anthrax. So we conclude that the germicidal power of serum is not a preponderant factor in producing immunity, nor is it generally to be counted on as a constant or general therapeutic agent. Nor is

this virtue of great importance as a resisting power against disease.

Note that this power is destroyed at 55 to 60 C. without injury to the other properties. Consequently this faculty is a biologic one, the nature of which remains undetermined. The theories of Hankin and others that they are alexins, globulins, etc., have not been proved. But it does not resemble the globulicidal power.

Preventive and Curative Faculty of Serum.—First it is produced by the early action of disease elements. However, it may have a natural existence to a certain degree. As stated, this property was and is confounded with the antitoxin effect. Yet it is altogether different. Definite reliable antitoxic powers have been established satisfactorily only in the serum for tetanus and diphtheria. The preventive power is much more general than the antitoxic and far less specific, but it is comprehensive, valuable, and therefore useful in therapeutics. Researches on cholera, pneumonia, typhoid fever, etc., have demonstrated experimentally that in all these afflictions the serum of animals vaccinated against them protects a new organism, but remains without effect on the culture products of the causative germ. Thus, animals become immune, temporarily at least, to these maladies, without the action of antitoxins. How is it done? By cell stimulation, increasing phagocytic power and cellular nutrition. Metchnikoff demonstrated that, in hog cholera for instance, and others have done just the same with pneumonia, vaccinated animals resist the disease; that sick animals are cured by serum and yet no antitoxic power measurable by Behring's law exists. It is here, in this virtue, that we find assistance in the treatment of tuberculosis. It is a strong stimulation of the organic resistance. Metchnikoff and others have seen a stimulation by the preventive faculty sufficient to produce a large increase of leucocytes in the blood or about the locality of local lesions. I have observed this phenomenon locally in tuberculosis in man and beast. Diphtheria antitoxin, on the contrary, may reduce the leucocytes. It is also stated by Sraibrichensky that the zymotic action of the leucocytes is augmented.

The Antitoxic Property.—It is artificial, not natural. Büchner thought this faculty the same as the preventive faculty. It is not, for it is not destroyed by heat in twenty-five minutes at say 65 C., which kills the immunizing faculty mentioned before, for pneumonia, cholera, typhoid fever, etc. By experiments, Behring and Kitasato arrived at a means of calculating the ratio of antitoxin necessary per weight of animals injected with diphtheria or tetanus toxins, thus measuring precisely the quantity of antitoxin necessary to neutralize the power of a given quantity of toxins which, without the antitoxin would prove fatal. Hence the idea that the antitoxic power is due to a chemical agent acting directly on the toxin of the germ, which it does not kill. This task remains for other phenomena, chiefly phagocytes. The recent theory of Behring that the antitoxins are due to the so-called "side-chain" atoms of the proteids which are necessary to functional activity, and which are increased by the action of bacterial poisons and then circulate in the blood as antitoxin, is most fascinating and supports the opinion of chemical antagonism. Thus we see that the germicidal, defensive and the antitoxic powers are different faculties. The first is natural and inconstant, but kills some germs; the next influences the organism in which the germs develop and

may arrest microbial growth that way; the last or antitoxin power exerts itself on the toxic products only.

Action of Leucocytes on Soluble Poisons.—This tentative theory is not so well established as those first mentioned. It is reasoned from the experiments of Chatendy and Metchnikoff. These show that the poisonous action of germ poisons, vegetable toxalbumins or a serpent venom, are absolutely comparable to the action of infections, i. e., they produce hypoleucocytosis if the animal is sensitive or gravely ill; hyperleucocytosis in cases of resistance. The theory is that the phagocytes by selective affinity absorb the poisons, as the cells absorb stains for instance, and that in those cells these poisons are destroyed by a cellular diastase on the principle that pepsin and trypsin can destroy the toxin of diphtheria and tetanus. Such are the biologic properties of serum.

The physiologic properties consist of influences apart from the infections, and are of utmost importance, though meagerly considered or ignored by the practitioner.

1. There is the globulicidal power of the serum, which consists of the faculty of the blood-serum of one animal to destroy the red blood-cells of another. This occurs as well out of the organism as in the circulation. This property, however dangerous in therapeutics, can be destroyed by the proper laboratory processes too often neglected, but which should be insisted on. It also suggests that we should not introduce therapeutic sera directly into the circulation.

2. The coagulating power of the serum means that the animal-serum introduced in the blood of another may produce coagulation by the precipitation of fibrin. Richt pointed out this danger, and I have seen it realized. But this property also may be destroyed by laboratory processes.

3. The toxic power of the serum may produce symptoms of intoxication, with myosis, temperature, dyspnea and eventually convulsions. This property is attributed by Mr. Bosc to albuminoid substances. I am convinced, however, that this is not the only source of this unfortunate faculty. It may come from numerous causes dependent on ill health of, on digestive troubles in, the animal supplying the blood, thus creating soluble poisons which circulate in the plasma. It may come from the poisonous waste of metabolism, when an animal is bled and the blood is loaded with unknown quantities of toxic substances in process of transformation or on their way to excretory channels.

All of these are important questions, which the practitioners should insist must have been properly respected by the producer of the sera of any kind that he uses—a condition that I know some producers wholly neglect.

Is the applicability of serum in tuberculosis warranted by the general facts established of the serum properties? If so, when, how and in what cases? What serum should we use? What may we expect?

To the first question I answer, yes. Serum is applicable as a remedial measure. It has, by virtue of some of the effects mentioned above, curative properties. I point with gratification to the recovery of 29 cases of pulmonary, throat, bone, joint, kidney and testicle tuberculosis that recovered under my observation and with serum treatment exclusively in most of them, from the states of Missouri, Louisiana, Indiana, Illinois, Ohio, Pennsylvania and Iowa. These patients were treated, with few exceptions, in the city of St. Louis, and all of them under climatic influences fatal

to consumptives. I have kept track of most of them and they are in the enjoyment of sufficiently good health to-day, four or five years after their treatment, to keep at their various occupations.

When and how to use serum are questions that belong to practice.

What sera should be used? That is a very important point, as I have just stated. As you have seen, serum naturally possesses dangerous properties that must be eliminated. Some sera for various diseases are not thus purified. I have tested many in which the poisonous properties are thus retained.

Can serum be depended on as an agent to produce lasting immunity against tuberculosis? In the first place I believe that immunity against this disease is probably always relative and limited as to degree and duration. But it is measurable to a degree, and to that extent serum may be useful. But, although I have long experimented with, used and tried to perfect serum, I am still of the opinion from which I have never departed, assertions to the contrary notwithstanding, that serum is not yet to be depended on as an infallible immunizing agent in the sense attributed to diphtheria serum. Being in the line of natural law, and having preventive and curative properties, it is often a useful remedial measure in a great many cases. It has its sphere of good influence in the hands of the discriminating practitioner. But in a disease as complex and complicated as tuberculosis usually is, we can not, in justice to our patients or ourselves, afford to neglect any and every other means possible to arrest the disease where it exists, and to prevent the occurrence where it is not. Management, climate, nourishment, serum, everything useful should be resorted to, taking care always, in every single case, to treat the patient according to the conditions existing, according to their merits, in other words, individualizing instead of generalizing.

HOW SHALL WE INDUCE IMMUNITY IN TUBERCULOSIS?*

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When an organism has been infected with pathogenic germs to such a degree as to produce a disease, and spontaneous recovery occurs, a change has taken place, so that the specific germ which produced that disease can find no longer suitable soil for multiplication and growth, and hence its deleterious effects on the tissue-elements cease to exist. This changed condition we call immunity. Some individuals possess this immunity naturally to a marked degree, while others exhibit only a very feeble resistance to bacterial organisms. It is relative also in degree in different races. For instance, tuberculosis is comparatively rare in the Hebrew race, while in the American Indian we find great susceptibility. Immunity is never general, conferring protection against all contagious or infectious disease, but always special, according to the disease, rendering a person perfectly invulnerable to one and not to another.

Some infectious diseases differ, as diphtheria, while others, like tuberculosis, retain their local character for long periods of time.

Statistics show that in from 25 to 50 per cent. of autopsies made on the bodies of those who have died of other

diseases, evidences of former tuberculosis are apparent either in the healed or latent form, and in which nature appears to have accomplished the occurrence of immunity against further advance of the disease. That this is a physiologic process there can be no doubt. It has been proven by experiments on animals that artificial immunity can occur by the use of the tubercle bacillus substance in the form of some one of the pure culture products, as that of Koch's tuberculin or of Von Ruck's Watery Extract. If natural immunity is possible in the human subject and artificial immunity can be produced in animal experiments, may we not inquire why natural recovery so often fails to take place?

"Immunity depending on the products of the specific germs, why do the products formed by the tubercle bacilli, in the infected tissues of tuberculous patients, so often fail to induce it, not only in the local and chronic cases, but also in those in which the disease is disseminated?" On a correct answer to this question depends the basic principle of successful therapeutic measures for the real cure of this disease.

In tuberculosis we have no such intoxication as occurs in diphtheria, and formation of tubercles may occur without any acute symptoms. This points to the absence of specific toxins which Von Ruck claims,¹ and with much apparent reason, to be accounted for by the circumscribed localization of the primary lesion, by its slow extension, by its non-vascularity of tubercle, by its rapid degeneration, but above all, by the resistance of the tubercle bacillus to disintegration, and to giving up its contained proteids to the blood, owing to the presence of large quantities of fat in the non-soluble cell-wall composed largely, if not entirely, of cellulose. As a proof that none, or but extremely small quantities, of specific toxins are liberated, he points to the great similarity of tuberculous patients, especially in the early stages, to the artificial introduction of specific toxins, to which they react with general symptoms to a degree that the toxins are used as means for diagnosis. On the other hand, he points to the fact, that beginning with very minute doses, the specific toxins can be introduced in constantly increasing quantities without any general disturbance or toxic symptoms. If he is right, we can readily see why this immunizing substance is not available at a time most needed by the system.

Victor Vaughan, whose views coincide with Von Ruck's, asserts that: 1, marked artificial immunity to an infectious disease has not been obtained except by the introduction into the animal of the germ substance, either inclosed in the cell-wall or in solution; 2, sterilized cultures contain the germ substance in one of these forms; 3, the same immunizing substances exist in the bodies of the bacteria grown on solid media and killed by chloroform; 4, the same immunizing effects, varying, however, in degree, are obtained with bodies of dead bacteria morphologically intact, or in solution, with the living bacteria modified or reduced in virulency." Analyzing these propositions, we infer that acquired (artificial) immunity may be induced in two ways, 1, by an attack of the diseases ending in recovery, and 2, by inoculation with the specific toxin.

The immunity that results from an attack of the disease is caused by the entrance into the organism of living germs more or less virulent, and to whose stimulating qualities the organism is yet able to respond with sufficient energy in causing the obscure change in its tissues by which they become antagonistic to the germ. That which comes from vaccination in variola

* Read before the Tri-State Medical Society, Charleston, S. C., Feb. 21, 1900.

is due to the introduction of germs, living, but modified more or less in virulence. That which is secured by the artificial introduction of specific toxins is produced in like manner, but without the presence of virulent germs, the toxins having been separated outside of the body.

With these facts before us, the conclusion is inevitable that the immunizing substance is contained in the bacterial cell, that each kind of pathogenic germ has its own peculiar toxin, which in small doses confers immunity, and it is that part which gives to the germ its distinctive qualities.

The practical methods of inducing immunity reduce themselves to one and the same principle, that is, the introduction of germ toxins into the body.

The immunizing function which has been induced in an individual organism can, however, not be transmitted to another organism. Leaving, therefore, those principles upon which immunity rests, and viewing the question from a practical standpoint, may we not inquire whether we can, in the treatment of tuberculosis, imitate nature in her method of cure, by supplying artificially the toxin of the tubercle bacillus, and introduce it into the human organism in such a manner that it will safely and effectually arouse the latent energy of the tissue-elements, which will in turn produce immunity? The solution of this question rests on the etiologic principles enunciated, and must lead to the conclusions which are eminently scientific and logical.

Are we actually in possession of the required substance, and what is its nature? Is it a toxin or an antitoxin? Can we safely administer it without undue reaction which would be dangerous to the patient, and at a time when immunity would be of no avail, and before the patient is hopelessly doomed?

Is the blood serum from an animal previously treated with specific toxins such a substance?

A horse is rendered immune to diphtheria by the use of specific products of the Klebs-Loeffer bacillus. As a result, an antitoxin is generated in some organ or organs of the horse and circulates in the blood. When the blood clots, the antitoxin is found in the serum. If this serum is injected into a diphtheric patient, in a sufficient quantity and at the right time, the patient will become immune to the diphtheria poison for the time being. But this immunity does not actually belong to the patient. It is stolen property. It still belongs to the horse. The cells of the horse and not the human cells manufacture the toxin. The horse can not transmit any of its antitoxic functions to the sick person.

In tuberculosis we may find a parallel in this illustration. If it be true that immunity consists in the capacity of the organism to protect itself from the deleterious effects of pathogenic micro-organisms, and the tubercle bacillus substance itself is the essence of the bacterial germ which immunizes the system, there can be no reasonable basis for the claim of the production of immunity by antitoxin serum. The adoption of this theory would abrogate the principles of cellular activity. It contradicts a general biologic law that the necessity for a function creates a function, or, stated conversely, the disuse of a function destroys it (Peavy).

Carl Fisch, an exponent of serotherapy, admits that "the amount of toxin present at any one time in a tubercular organism is not great, and it would be absolutely absurd to think that by neutralizing it the disease could be stopped." "Owing to the slow production of the toxin it is impracticable to charge the organism with a great amount of antitoxin, since it would have disappeared long before being called to act." He says

further, that the amount of antitoxin in his serum is comparatively small and that there is no present means of increasing its potency, and that beside the toxin immunization, it is the only treatment which rests on a scientific base, and that the imperfections in serotherapy should not be a contraindication for its employment.

From these views we make the deduction that continued protection from tubercular invasion would necessitate the continued introduction of antitoxin, which is impracticable. If an artificially introduced antitoxin is an intimation of nature's method of cure, it would seem reasonable to suppose that, if in a disease as essentially chronic and local as is tuberculosis, immunity is conferred, it would be necessary to supply the system continuously and indefinitely in order to preserve the immunity and prevent a relapse.

Trudeau and Von Ruck in reporting their experiments for the purpose of proving the value of serum preparations for tuberculosis made by themselves and by others, found that in no instance could they discover any germicidal or immunizing properties in the different serum preparations, and seem to accept the plausible theory of Professor Koch, that a serum that would neutralize the toxic effect of a tuberculin product might not prevent the growth of tubercle bacilli in the tissues, nor their destructive action in the organs of the body.

On the other hand, turning to the direct toxin method of cure, we see greater hopes for success. If the immunizing substance is contained in the specific germ only, and the successful immunization with Tuberculin R and Watery Extract of tubercle bacilli has been obtained in the animal experiments, which facts are attested by various collaborators in all parts of the world, why should we hesitate to adopt this method of treatment? Its safety, especially with the Watery Extract, having been observed by myself in patients of Dr. Von Ruck and my own, in all stages of the disease, leaves in my mind no doubt that the immunization of tubercular patients by the direct or toxin method is about to pass beyond the experimental stage, and become one of the fixed and recognized therapeutic modes of procedure in our battle against this formidable enemy of mankind.

The superiority of the Watery Extract over all prior tuberculin preparations consists in the fact that this is a pure solution of the tubercle bacillus substance, repeatedly filtered through porcelain, and therefore containing no fragments of isolated virulent germs, removing the apprehension that through the use of tuberculin preparations the tubercle bacilli might become transplanted to other healthy portions of the body.

Of course, the earlier the disease is discovered and treated the greater will be the benefits from such specific treatment. Its use can not be expected to heal and repair the destructive lesions caused by the softening and liquefaction of degenerated tubercles. All it can do for such is to fortify the remaining healthy tissues against the primary disease, and prevent the eruption of a new crop of tubercles, and the further such cases have progressed in the degeneration and destructive processes the more will it be necessary to bring to our aid the additional resources of diet, hygiene and climate.

New Method of Vaccination Against Anthrax in Cattle.—Arling states that the successive or simultaneous injection of anthrax virus and serum from an immunized heifer will successfully vaccinate animals. He has succeeded, by using attenuated cultures, in conferring preventive immunity on cattle with a mixture of virus and serum requiring only .5 c.c. of the latter for one animal.

CASE OF FATAL FETAL ICHTHYOSIS.*

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Maternal History.—Strong, healthy peasant woman, native of Sicily, 30 years old, has never been ill according to the statement of herself and mother. Neither she nor any member of her family has had any eruption of the skin, and no trace of syphilis, alcoholism or tuberculosis in this woman or her family could be elicited. Menstruation began at 14 years and has been regular and normal. There has been no uterine disease. She has had 6 pregnancies: the first 10 years ago; the second 8 years ago; the third 4 years ago; the fourth an abortion at 40 days, the cause of which is unknown; the fifth pregnancy was 2 years ago, and the sixth the present fetus. All of the pregnancies, except the fourth one and the present, were normal in every respect. In January, 1899, the woman was much distressed over the illness and death of her child, which she was nursing. She menstruated in February, 1899, the exact date of which she has forgotten.

History of the Pregnancy.—The woman was much pleased to find herself pregnant. Nothing unusual was noticed until the last two months, when she seemed larger than in former pregnancies and found it difficult to lean forward; for twenty days before the birth of the child she had had much pain in the back. She had worked, as usual, at her occupation of finishing trousers during her entire pregnancy, working from 6 a. m. to 11 p. m. Although closely questioned no history of a maternal impression could be obtained, even after a suggestion that there might have occurred some impression during the pregnancy. Nothing could be ascertained except her grief for the child which had died. The pregnancy terminated October 17, 1899, about two weeks before the woman had anticipated. In the evening of October 15 the woman was seized with pain in the back and a discharge of water. A midwife, who was called, declared that labor had not begun. During the 16th there was some pain and continual discharge of water. After midnight on the 17th, acute pain began and the child was easily delivered by the midwife at 7 a. m. October 17, the head presenting. The mother's recovery was without incident. On the seventh day she was at work again on the trousers.

Paternal and Family History.—Father, 40 years old, is a day laborer, and a strong, apparently healthy man. He is not alcoholic, has had no eruptive disease of any kind, and was never syphilitic. Of the four children born to the couple, two were boys and two were girls. Two are now living. The first died of an unknown disease in Sicily, the last of bronchopneumonia in January, 1899. One of the two living children is markedly rachitic, as was the child which died in January. The family presents the usual features of east-side, overcrowded, under-fed, ignorant people, and with another family occupies three small rooms, only one of which is light, a total of eleven persons in the apartment.

History of the Child.—It was seen first at 11 a. m., five hours after birth, during which time it had been lying in a dirty bread-pan, wrapped in a single layer of

cloth. It had passed both urine and meconium. The child was admitted at once to the New York Infirmary for Women and Children. It was wrapped in cotton, after having been anointed with oil. The child cried continuously, rather a penetrating cry of distress. Sleep was almost impossible. The child was disturbed only to keep it clean, as any jar of the crib or exposure to the air increased the crying. Respiration was irregular. The whole surface of the body was cold, and it seemed almost impossible even with hot-water bags to make it warm. Urine and meconium were passed at intervals. It was utterly unable to suckle, and swallowed milk from a dropper very imperfectly, with great difficulty, and only when the dropper was placed far back in the open mouth. The child died quite suddenly twenty-seven hours after birth. The temperature taken immediately after death was 103 F. The apparently increased distress, at the slightest movement during life, prohibited the making of any ante-mortem examination. The body during life, was at all times rigid and cold, and the extremities remained in the fetal position. The most marked symptoms were the incessant crying and the limited ability to sleep or swallow. So distressing were the symptoms that it was a great relief to the attendants when the child died.

Description of the Child.—The most striking feature is the absence of any resemblance between the child and a human being or any other living thing. The only part of the body that seemed capable of motion was the tongue. The body presents the appearance of having been incased in an integument much too small for the skeleton, and nature in an attempt to make it fit had so stretched the skin that it had been torn in some places completely through, and in others partly through. Where it was torn through, a purple-colored slit appeared; when torn partly through, a yellowish-colored fissure remained. There is no uniformity of arrangement of the fissures. Fewer are found on the back, and those on the extremities are more shallow. Neither is there any uniformity in their length or depth. The color of the fissure, a purplish-red, is in marked contrast to the color of the skin. In a few places bright blood is found, as if the break were of recent origin. The integument gives the same sensation as sole leather, namely, inelastic. The whole body is cold and rigid.

The scalp is divided into fissures and very numerous irregular conical projections, varying in size. A few thin hairs are found on the lateral surface of the scalp. The external ears are replaced by a collection of the conical projections. The external auditory meatus is found with difficulty.

The palpebral fissures are filled with purplish-red masses; deep down in the sockets eye-balls can be distinguished. Neither eyebrows nor eyelashes are numerous, only a few of each being present. The nose is flattened and is identified by the widely-opened nostrils.

The mouth is widely open, showing a non-hypertrophied tongue. The lips are of a purplish-red color and everted. Fissures and conical projections are present on the face. The mouth measures 5 cm. in length and 3 cm. in breadth; circumference of head, 31.5 cm.; labella to occiput, 18.5 cm.; ear to ear, 15.5 cm.

The neck is short. Anteriorly a fissure extends from the neck to the umbilicus, 2 cm. in width. From this fissure ridges of yellow skin and purple fissures extend toward the axillæ; they are of irregular size and depth. There are eleven distinct fissures on the right side, and thirteen on the left. The circumference of the chest is 28 cm.; of the abdomen at the umbilicus, 28 cm.

*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The extremities are rigid and in the fetal position. The arms can be raised only at right angles with the body. They can not be extended at the elbow. The hands are thickened and the fingers are rudimentary. The legs are crossed, the right one over the left. The motion at the hip and knee joints is very imperfect. The toes are rudimentary.

The median raphe in the scrotum is faintly marked; testicles are not descended. The penis is $\frac{1}{2}$ cm. in length, and the anus open. The length of the fetus is 42 cm., and its weight is 4 pounds 13 ounces. The placenta was destroyed immediately after birth by the midwife.

Dr. J. W. Ballantyne, of Edinburgh, collected and published in 1895 an exhaustive summary of the cases at that time known. The first case published was by Richter, in 1792. Ballantyne found 42 reported cases. Since then I have found 3 cases, one by Drs. Manning and Southworth, of New York, one by Dr. A. Wassmuth, and one by Dr. Gaetano Fimizio, Naples, in *La Pediatria*.



Fatal Fetal Ichthyosis.

Of the cause of fetal ichthyosis practically nothing is known. That it is not a fatal disease *in utero* is demonstrated by the fact that only one case has been still-born. In my case it was impossible to find any clinical cause for the disease.

An autopsy was performed on October 18, three and a half hours' post-mortem, the body having been kept on ice. A description of the general appearance of this eight-months' fetus has been given by Dr. Daniel.

The upper and lower eyelids are strongly everted, presenting two pouting masses of mucous membrane, which are firmly united throughout their entire extent. Eyeballs are found lying deep in the orbits. Over the right parietal region the scalp is boggy and is raised from the bone by a large amount of blood, which escapes on incision. A hemorrhage covers the superior surface of the cerebellum and medulla, the posterior two-thirds of the left temporosphenoidal lobe, as well as the lower half of the left parietal and occipital regions.

On incision, the skin of the thorax is found to be of leathery consistency and firmly adherent to the muscles beneath; a panniculus adiposus is absent.

The apex of the heart is found in the fifth interspace between the midclavicular and anterior axillary lines. The left ven-

tricle and both auricles contain soft, dark-red clot. The heart muscle is apparently normal. The valves are normal, the foramen ovale showing a slit-like opening.

No pleurisy is present. Both lungs are mottled, bluish-red and pink, showing on section areas of atelectasis together with small areas of well-aerated tissue. Anteriorly there are small areas of emphysema. The middle lobe shows anteriorly a spot of emphysema about three-fourth of an inch in diameter; the remainder of the lobe is well aerated.

The bronchial lymph nodes, thymus and thyroid bodies, spleen, pancreas and adrenals are normal. The liver is congested.

In the stomach the blood-vessels of the mucosa are congested; the organ contains curds and a considerable amount of mucus. The rectum and lower colon are filled with meconium; the mucous membrane and walls of both are normal. The vermiform appendix is normal, containing meconium. The small intestine is normal throughout, the upper portion containing yellow pasty material. The mesenteric lymph nodes are darkened and normal in size. The kidneys are lobulated and grayish-red; the capsule strips readily and the surface is smooth. On section the cortex is not thickened; the pyramids are pale;

the markings are blurred. The bladder is contracted and normal.

Anatomical diagnosis: Fetal ichthyosis, cephalhematoma, meningeal hemorrhage, and atelectasis, with congestion of all the organs.

Material was taken from all the organs and preserved in formalin solution followed by alcohol. Cultures were made on glycerine-agar from the skin, lungs, heart's blood, thymus and thyroid bodies, liver, spleen, and kidneys. A bacillus in pure culture was found in all these organs. This bacillus was grown on the following media: Lactose-litmus-agar, glucose-agar, glycerin-agar, plain-agar, gelatin, potato, glucose, saccharose, lactose and neutral bouillon, litmus-milk and dextrose-free broth.

It was also tested by animal experiment, and showed morphologically and biologically all the characteristics of the colon group.

Bacteriological diagnosis: general infection with a member of the colon group.

Microscopic examination: In the skin of an imperfectly developed finger the layers of the epidermis are found less broad than normal. The corium is edematous, but the sweat-glands are normal. Intense congestion of the blood-vessels exists, the capillaries in the papillae of the corium being widely dis-

tended with blood. A few small lobules of fat are found in the subcutaneous tissue.

The layers of the palmar epidermis, with the exception of the stratum granulosum, which consists of three layers of cells, show thickening, which is less marked however than in the skin of the back and chest. The papillæ of the corium are hypertrophied. The sweat-glands are very much increased in number resembling test-tubes in a rack, but are apparently normal in structure.

Sections were made through a portion of the skin of the chest, showing a deep fissure in the epidermis. Considerable hypertrophy of the papillæ of the corium exists. The elastic tissue is diminished in amount, and there is an edematous condition of the corium. The stratum Malpighii is thicker than normal; the stratum granulosum does not appear to be thickened. Both the stratum lucidum and the stratum corneum are much broader than normal, especially the latter, which is enormously increased in thickness. The rupture of the epidermis is in places seen to involve all the layers. The deepest cells of the stratum Malpighii are intact in places, but here and there the fissure extends beyond these, extensive hemorrhage due to rupture of the capillaries in the papillæ having resulted. The skin of the chest contains numerous hairs, whose

The liver cells show cloudy swelling; the epithelium lining the gall-duets is normal. The pancreas and adrenals are normal. Kidneys: general connective tissue normal; the epithelium of the secreting tubes shows granular degeneration, groups of tubules containing exudate; the epithelial lining of the loops is normal and the latter contain no exudate; the same may be said of the collecting tubes. All the blood-vessels are congested. The epithelium lining Bowman's capsules is slightly swollen in places; the Malpighian tufts do not all fill their capsules, the space between tuft and capsule occasionally containing exudate.

The intestine is normal but the peritoneum is edematous.

The mesenteric lymph nodes are normal, save for marked congestion of the blood-vessels.

Sections from the cerebral motor cortex, ascending frontal and occipital convolutions, as well as from the paracentral lobule, show edema of the pia and hemorrhage into its tissues. The brain substance appears to be normal.

The blood-vessels and nerves studied in numerous sections from the different organs are quite normal.

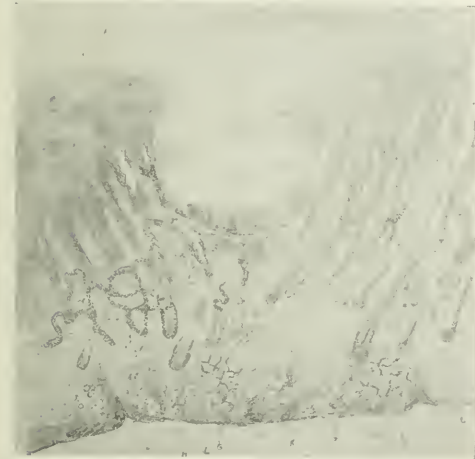
Sections stained for bacteria show rods scattered and in groups in the blood-vessels as well as between the tissue elements. In the skin, bacilli are found between the cells of the epidermis, having penetrated as far as the cells of the stratum corneum. The organism found was probably the result of a terminal infection, and not an etiological factor in the production of the disease.

Microscopic diagnosis: Ichthyosis, atelectasis, acute exudative nephritis and congestion of all the organs.

SUMMARY.

1. All the layers of the epidermis, save the stratum granulosum, are thickened, notably the stratum lucidum and the stratum corneum; the latter is enormously hypertrophied.
2. The corium is edematous and contains less elastic tissue than normal. The papillæ of the corium are hypertrophied and their blood-vessels are widely distended with blood.
3. The sweat glands are in some places markedly increased in number, but are normal in structure.
4. The sebaceous glands are normal in number, but their ducts in some cases, and occasionally their secreting portions, show degenerative changes. The arrectores pilorum muscles are well developed.
5. The panniculus adiposus is everywhere poorly developed, being almost absent in places.
6. The kidneys show the lesion of acute exudative nephritis. In the liver there is granular degeneration of the hepatic cells and the meninges of the brain show extensive hemorrhage. The other organs present no pathological changes save intense congestion.

Congenital ichthyosis has been studied by numerous observers. Ballantyne¹ made a very thorough study of the disease. He regards the descriptions of the microscopical appearances of the integument given by Kyber² and Carbone³ as the best. The latter considered that the thickening of the epidermis was due entirely to hypertrophy of the stratum corneum. The rete Malpighii, with the exception of the interpapillary prolongations, he described as not only not thickened but in places actually diminished in breadth. He denies the existence of a stratum lucidum. The external root sheath of the hairs he finds greatly thickened and the hairs abnormally thin. According to Carbone's description, the sebaceous glands are usually atrophic. Occasionally the horny layer extends into the sebaceous ducts, the entire gland being at times converted into a cavity surrounded by horny walls. He finds no hypertrophy of the sudoriparous glands, noting only that that they are well developed. Kyber differed from Carbone with regard to the stratum Malpighii, describing it as increased in thickness and possessed of greater proliferating activity. He finds the sudoriparous glands hypertrophied. Ballantyne states that the corium does not show in fetal ichthyosis any marked departure from the normal.



Section of Skin from the Thorax, Showing Fissure.

A. Stratum corneum. B. Stratum lucidum. C. Stratum granulosum. D. Stratum Malpighii. E. Hemorrhage. F. Dilated blood-vessels. G. Sweat-glands. H. Hairs. I. Sebaceous gland. K. Degenerated sebaceous gland. L. Arrectores pilorum. M. Panniculus adiposus. N. Fissure.

structure appears to be normal. The sebaceous glands are normal in number, the nuclei of the epithelial cells within their ducts are markedly degenerated in some cases, and a horny layer is found lining the upper portion of the duct. The arrectores pilorum muscles are normal. The blood-vessels of the corium are markedly congested. The panniculus adiposus is poorly developed.

As in the sections described above, the papillæ of the corium of the scalp and all the layers of its epidermis are thickened, save the stratum granulosum. The hair follicles are very numerous and most of them are empty. Hairs when found are normal. The sweat-glands are increased in number. The sebaceous glands are numerically proportionate to the hair follicles and are normal in structure.

For purposes of comparison sections were made of skin from different portions of the body of a fetus of six and a half months, as well as of an infant at term.

The umbilical cord is normal. The aorta and the heart muscle of both auricles and ventricles are normal. The blood-vessels of the heart, as well as of all the other organs, are much congested. In the lungs large areas of atelectasis are shown. The thymus and thyroid bodies are normal.

1. The Diseases and Deformities of the Fœtus. 1895.

2. Eine Untersuchung über das universale diffuse congenitale Keratom der menschlichen Haut. Med. Jahrbüch., 1880, p. 297.

3. Un Caso di ittirosi congenita. Archivio per le Scienze Medice, 1891, xv, p. 240.

The discrepancies seen in the pathological findings of Carbone and Kyber, Ballantyne explains by assuming that the case of Kyber was a more marked one than that of Carbone.

A. Wassmuth* in 1899 described the microscopic appearances in the skin of a case of congenital ichthyosis born at term. He notes thickening of the layers of the epidermis; in places he finds nucleated cells containing granules of keratohyalin, but he accentuates the fact that a proper stratum granulosum was not demonstrated anywhere save in sections of the scalp. The stratum corneum he found to be thickest in the scalp, palms and soles, and thinnest in the skin of the chest and abdomen.

Wassmuth found that different lamellæ of the stratum corneum respond variously to stains; he employed Gram's stain, recommended by Paul Ernst, for the detection of keratin, staining sections of the skin of fetuses of various ages as a control. He reached the conclusion that a differentiation of a stratum granulosum, stratum lucidum and stratum corneum in the integument in congenital ichthyosis is not possible, the early stages of keratinization occurring throughout the entire epidermis. Wassmuth emphasizes the fact that a fully developed stratum corneum does not exist, explaining in this way the abnormal breadth of the epidermis.

The stratum corneum is relatively thin in embryos as a result of maceration, which causes desquamation of the superficial layers. In cases of fetal ichthyosis exfoliation occurs only in moderate degree or not at all, and Wassmuth believes imperfect keratinization to be the cause.

Thickening of the stratum Malpighii, he thinks, accounts in part for the hyperplasia of the horny layer; furthermore the enlarged and numerically increased papillæ with their proportionately more complex capillary networks aid the increased development of the epidermis. He describes the papillæ of the corium as very high and numerous, "enormously increased in all parts of the body" and containing rich networks of distended capillaries. The sweat glands are described as everywhere increased in number and normal in structure. The sebaceous glands are increased in number everywhere save in the scalp; they are frequently somewhat enlarged and their ducts are at times distorted, being dilated and lined with a horny layer. The elastic tissue of the corium is diminished in amount and the panniculus adiposus he describes as well developed in skin removal from the back of the neck.

Recently G. Finizio[†] reported a case of fatal fetal ichthyosis.

A microscopic examination of the skin of this fetus showed the stratum Malpighii to be of variable depth; in some places thicker, in others, especially on the plantar surfaces, thinner than normal. Mitotic figures are not more numerous than in the skin of a normal fetus of the same age.

Finizio questions the presence of a true stratum granulosum, but finds numerous cells with protoplasm containing deeply staining basophilic granules.

A well-defined stratum lucidum was not found; the layers of the stratum corneum are wavy in outline and have a reticular appearance. The connective tissue of the corium is infiltrated with lymphoid cells, the elastic tissue being normal.

The papillæ are numerous, large and richly vascular.

The sebaceous glands are well developed, some acini showing dilatation and degenerative changes. The sudoriparous glands and the arrectores pilorum muscles are well developed, the former especially on the plantar and palmar surfaces.

It will be seen that the microscopic appearances of the case described in this paper resemble in many respects those noted by Kyber and Wassmuth.

As a result of some influence not understood, the epithelial elements of the skin in this disease are apparently stimulated to active growth, the rete Malpighii sharing the general tendency to cell proliferation. Consequent upon this proliferation, the glands which are offshoots from the stratum Malpighii are increased in number. To meet the increased nutritional needs of the rapidly-growing epidermis the papillæ of the corium enlarge and multiply.

Discussion will appear next week.

4 Beitrag zur Lehre von der Hyperkeratosis diffusa congenita. Beiträge zur path. Anat. und Allg. Path., 1899, p. 19.

5. Su di un caso di ittiosi fetale grave. La Pediatra, Anno VIII, N. 3, Marzo, 1900.

GASTROINTESTINAL HEMORRHAGE IN THE NEW-BORN.*

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On Sept. 18, 1899, a fine, plump baby girl, eight pounds in weight, was born. The mother was a primipara, and her period of gestation 290 days. The family history on both sides was good.

Labor pains came on strong at 12 a. m., and as they continued, but with little advance of the child, forceps were applied at 5 p. m., delivery being quite difficult. The cord was cut in about five minutes after birth. The child was somewhat asphyxiated, but in a few minutes was breathing nicely. She was put to the breast in about one-half hour, when she sucked finely. All the next day she nursed well, as all healthy babies should do. Her bowels were moved and she passed water freely.

On September 20, at midnight, when the baby was 31 hours old, she vomited and passed by the rectum some material which looked much like meconium. I saw the child in twenty minutes, when she seemed all right, but the nurse said that she had been cold and somewhat collapsed just after the hemorrhage. The material she had passed both by the mouth and rectum, looked like meconium mixed with blood. At 2:15 a. m. she passed some more material by the rectum, but none by the mouth. This was almost pure blood and quite profuse. It looked like the hemorrhage of typhoid fever. At 4 a. m. she had another hemorrhage per rectum. This was of pure blood, very profuse, saturating the napkin. She was in a state of great collapse, extremities cold, pulse scarcely perceptible, and I gave her 1/150 gr. of the sulphate of morphia and 1/5000 gr. of atropia hypodermically, applying warmth to the extremities. Albumin water and brandy were given by the mouth, and the child was enveloped in absorbent cotton, especially about the pelvis.

At 8 a. m. still another abdominal hemorrhage of pure blood occurred, and saturated the cotton; this left the baby practically bloodless, and the pulse imperceptible. She seemed to have lost all her fat, was all shriveled up, and looked like a child after an attack of cholera infantum. At 2 p. m. she passed a few dark clots. Her condition was now desperate, and she was very restless and irritable, with temperature 104 F. An ice-cap was put to the abdomen, hot-water bottles to the extremities, and albumin water and brandy given as before. One minim of aseptic ergot was given hypodermically. At 7:30 p. m. she was quieter, her pulse perceptible, temperature 99 F., and at 11 p. m. she was resting fairly well.

On September 21 she was crying, had slept some during the night, and had passed a normal stool. At 8 a. m. her temperature was 99 F., and pulse stronger. At noon it was still stronger, and she took nourishment better. At 5 p. m. I ordered milk from the Walker-Gordon laboratory, as she would not nurse.

September 22, at 8 a. m., reports showed she did not rest well during the night, and refused all nourishment. At 4 p. m. she nursed for the first time since she had the hemorrhage.

On September 23 reports showed that she slept well during the night and was nursing well.

From this time on the baby continued to improve, though very weak and thin for several weeks. In about one month she was doing as well as though nothing had happened, and is now healthy. The umbilical cord did not separate until October 6, eighteen days after birth.

A great many causes have been given for this affection: infection; sepsis; hereditary syphilis; tuberculosis; hemophilia; purpura hemorrhagica; fatty degeneration of the fetus; plethora; general feeble state; atelectasis; cyanosis; asphyxia; tardy establishment of the respiratory and circulatory functions; congenital malformations of the heart; enlargement of liver and spleen; acute infectious disease, as smallpox, measles, etc.; change in the blood or blood-vessels; too speedy

*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

ligature of the cord; slow and difficult labor; external violence; irritant matter in the gastrointestinal canal, as worms or retained meconium; ulcers on the gastrointestinal surface, and hyperemia of the mucous membrane of the alimentary tract. Of all these causes but few were present in my case: asphyxia, tardy establishment of the respiratory and circulatory functions, and slow and difficult labor.

It is probable that one or more of the above etiologic factors are present in most of the cases and may possibly act as exciting causes, but these are so often present in thousands of births, in which no hemorrhage is seen, that it is difficult to assign one cause for many cases.

The fact that so many more of these cases occur in institutions than in private practice would point to an infectious nature. Drs. Kilham and Marcellis¹ report ten cases of hemorrhagic disease in the new-born as occurring in 54 births between Feb. 19 and May 11, 1897, in a New York Maternity, or 18 per cent., of which 5 had hemorrhage from the bowels and 2 from the mouth. The ward was entirely free from sepsis, there was no apparent cause for the hemorrhage, and the cases followed one another in quick succession, often overlapping, and ceased when proper measures were taken for isolation. Dr. Townsend² reports, in 6700 births in the Boston Lying-in-Hospital, 45 cases, or .67 per cent.; while in the out-patient department there were but 4 cases, or .1 per cent. This comparative prevalence in the hospital has no connection with septicemia, as the disease is practically eradicated from that institution, but occurs independently of it, just as thrush may get a foothold and flourish in a hospital, although it is not common in private practice.

Drs. Kilham and Marcellis made bacteriologic examinations in two of their cases and found an organism suggesting the diplococcus of pneumonia and probably belonging to the pneumococcus group. Gaertner found, in two cases, a short bacillus much like the bacterium coli commune. This bacillus, injected into the peritoneal cavity of young animals, chiefly dogs a few days old, produced a disease accompanied by hemorrhages resembling that seen in the newly born. (Holt.) Other observers have found various organisms: the streptococcus alone or associated with an organism having all the characters of the diplococcus of pneumonia; bacillus pyocyanus alone or associated with the staphylococcus; bacillus lactis aerogenes; an organism with the characters of Friedlaender's bacillus. At present the results of bacteriologic examinations are very much confused, but they all seem to point to a specific cause.

The very definite course of this disease, soon ending in death or complete recovery; its self-limited nature; its greater prevalence in institutions; the elevated temperature, as in my case; the fact that it is in most cases a general and not a local disease, not limited to one spot, and the bacteriologic findings, all point to its infectious nature and suggest its relationship to the acute infectious diseases.

Hereditary syphilis is present in a small proportion of cases. Sepsis seems to be associated with a large number. Hemophilia is a different disease from this. It is an inherited one whose hemorrhagic tendency continues as long as the patient lives. Bleeding in hemophilia rarely occurs before the end of the first year of life. In hemorrhagic disease the sexes are about equally represented; while in hemophilia the proportion of females is 13 to 1. Circumcision has been done within

a few days after recovery from the bleeding of gastrointestinal disease without any unusual hemorrhage.

Holt says that there is a class of cases in which the hemorrhages are not associated with any known process. These are characterized by the fact that they are spontaneous in origin, having no connection with delivery. They are most often from the umbilicus, the mucous membrane of the stomach and intestines, or beneath the skin, but they may be from almost any mucous surface or into any organ of the body. These hemorrhages probably arise from changes in the blood or in the blood-vessels, or in both, whereby the vessels are no longer able to hold their contents. The predisposing causes of bleeding in early life must be emphasized, viz: the fragile condition of the blood-vessels and the great changes taking place soon after birth in the circulation and in the blood itself.

Jacobi³ says that the round perforating ulcer in children is more frequently met with in the newly-born and quite young than in advanced childhood. The causes of gastric and duodenal ulcers are very numerous. Some enumerate among these arterial anemia, others venous hyperemia or stasis in the hepatic vessels; or circumscribed hemorrhages into the tissue. Others assign thrombosis as the cause; others emboli, or lessened alkalinity of the blood, or hemoglobinuria. In this way hemorrhages and ulcers frequently go hand in hand, and often are the cause of each other. In the newly born, hemorrhages from the digestive tract are known by the name of melena. In the majority of cases melena occurs from localized and circumscribed ulcers, or from rupture of blood-vessels between the first and third day of life, rarely after the first week. It is caused by the sudden changes in the circulation occurring at and after birth. At that time, and from the same causes, is hyperemia of the mucous membrane found extensively, even in healthy babies. Hyperemia results in hemorrhage very much more frequently in the newly-born and in infants, because of the thinness and permeability of the walls of the blood-vessels.

This is a very serious disease. Probably one-half of the patients die. The mortality, according to a number of writers, varies from 35 to 79 per cent. Townsend collected 709 cases showing a mortality of the latter figure. The prognosis in an individual case depends on the physical condition of the child, on its ability to take nourishment, and on the amount of blood lost. That the most desperate cases may recover is shown by mine, seen by several medical friends, none of whom would venture a favorable prognosis.

Townsend says: As regards treatment, if we have in mind that the disease is self-limited, we will not give up the case as hopeless, but will do everything to tide it over the critical period. Perfect quiet, most careful and persistent feeding from spoon or dropper, with milk drawn from the mother or wet-nurse, or careful artificial diet, may be all that is necessary to prevent a fatal issue. Warmth in the stage of collapse and alcoholic stimulants even in the stage of bleeding seem to be beneficial.

Holt says that the administration of drugs internally for the control of hemorrhage is entirely without influence on the disease.

Others recommend cold drinks, ice, ergotin, gallic acid, perchlorid of iron. If collapse is present, inhalations of oxygen, counterirritation, hypodermoclysis of normal salt solution are of use. Some recommend large rectal

¹ Arch. Ped., March, 1899.² *Ibid.*, August, 1894.³ Intestinal Diseases of Infancy and Childhood, pp. 151-2.

injections of astringent solutions, with the idea of reaching the site of the bleeding. This, however, is scarcely practicable.

The most recent mode of treatment is the use of a solution of gelatin, both by the mouth and by the rectum, with a favorable result in one case. My use of morphia hypodermically seemed to do more good than anything else. I looked upon this case as somewhat akin to the abdominal hemorrhage of typhoid fever, in which I use morphia similarly.

Discussion will appear next week.

CHRONIC INFLAMMATION OF THE TEAR PASSAGES.*

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Lachrymal disease constitutes from 2 to 3 per cent. of all eye cases. Of 95,596 patients treated in the eye department of the Illinois Charitable Eye and Ear Infirmary between the years 1859 and 1898, 2147, or about 2.25 per cent., suffered from disturbance of the tear-conducting apparatus. Females seem more liable to be affected than do males, in the proportion of at least 2 to 1. This statement seems somewhat strange from the fact that the latter suffer much more from atmospheric exposure, undoubtedly an indirect etiological factor of considerable importance. Fuchs explains this predisposition on the part of women to the "zealous use which the female makes of the lachrymal apparatus." We find the disease occurring in all ages. C. W. Hawley¹ has recently reported five cases of mucocele in the new-born, and clinical experience demonstrates that infants are frequently sufferers from lachrymal disease.

Any obstacle to the performance of the physiological function of the ocular drainage apparatus may bring about the condition commonly known as "watery eye." The normal overflow of tears may be impeded by malposition of the lids, stenosis or occlusion of the punctum, canaliculus, or nasal duct.

In order to thoroughly appreciate the pathologic conditions present, some knowledge of the anatomy and physiology of the parts is necessary. The conducting apparatus begins with two minute orifices, the puncta lachrymalia, situated on the free borders of the lids, and lying in contact with the eyeball, about two lines from the inner canthus. These openings lead into minute canals, the canaliculi, which pass inward and empty into a reservoir, ovoid in shape, the lachrymal sac. The dilated lower extremity of this sac forms the upper part of the nasal duct, which extends downward to its exit in the inferior meatus of the nose, the membranous walls forming valve-like folds at close intervals. Anatomically, there exists an intimate relationship between the lining membrane of the nasal duct and that of the turbinate bodies of the nose, this condition being of importance in view of the statement to be made later on concerning the etiology of dacryocystitis.

The normal function of lachrymal conduction is vested in a delicate mechanism in which the act of winking, capillary attraction of the canaliculi, muscular contraction of the sac, and valvular suction of the nasal duct undoubtedly play important parts.

The lachrymal sac is subject to both acute and chronic

inflammatory attacks; the one occurring with all the usual symptoms of suppurative disorganization, the other, a sequel of an acute attack of severe inflammation, or often a quiescent inflammatory condition without previous subjective manifestations. The patient complains of a flowing of tears over the cheek. The eye is said to be "watery," and at the least exposure to wind or dust, fairly "swims" in tears. The vision is more or less interfered with, a frequent wiping of the eye is necessary to bring about a clear image. There may be present a blepharitis or an eczematous excoriation on the cheek in the region of the inner canthus, the result of irritation from the continuous overflow. There is generally present a distension of the tissue over the lachrymal sac, which may or may not have received the notice of the patient. The more observant will have discovered that pressure in this locality has caused a flow of viscid matter to enter the eye, or in exceptional cases to flow into the nostril. In a minority of cases, where there has not been sufficient retention of fluid in the lachrymal sac to distend the walls, mucocele may not be present.

The question often arises in a case presenting manifestations of epiphora, whether the excess of tears does not arise from some other cause than that of interference with the normal outflow. We all know that exposure, at times, to the elements, offending particles of dust, obnoxious gases, refractive asthenopia, photophobia from inflammatory conditions of the eye, atony of the muscles of the lower lid without noticeable malposition of the punctum, senility, violent outbursts of emotion, sneezing and vomiting, may cause an overflow of lachrymal secretion. In a suspected case, then, we have two methods to aid us in a clear determination of the case: 1. In a case of lachrymal blennorrhoea, on making direct pressure over the lachrymal sac, the swelling will be felt to give way under the manipulation, and in most cases the viscous discharge already spoken of will be seen to exude from one or both the puncta on the margins of the lids. 2. The forcing of fluid through the passages into the nose will be found to be exceedingly difficult in chronic inflammation of the tear sac, the swollen and thickened walls or strictured lumen of the duct preventing free patency. Besides, a careful examination of the lids and eyeball for inflammatory manifestations and a thorough research into the refractive condition of the eye will, in many cases, tend to clear up any doubt concerning this symptom.

Inflammation of the lachrymal sac is, in most cases, undoubtedly an extension of a similar process from the nasal mucous membrane. The similarity of anatomical construction between the lining membrane of the nose and the nasolachrymal duct renders this extension easy of consummation. One would naturally expect, also, an extension of inflammatory process from the other end of the lachrymal tube, from the conjunctival surface as well, but it seems that this source of infection does not play an important part. In proof of this statement, it may be said that we very rarely encounter dacryocystitis as a complication of gonorrhoeal conjunctivitis or other severe ocular inflammation. On the other hand, it must not be forgotten that the conjunctiva and cornea are extremely susceptible to infection from perverse lachrymal discharge, especially if there be present an abrasion of the tissues. This matter is of extreme import to the surgeon, who should undertake no operative procedure on an eye thus exposed without at first removing or modifying the conditions present, and to the patient, whose chief danger from dacryocystitis lies in

* Read before the Illinois State Medical Society, held at Springfield May 15-17, 1900.

¹ THE JOURNAL, 1900, Vol. xxxiv, p. 101.

the extreme susceptibility of the wounded ocular tissues to infection.

Patients suffering from lachrymal disease have been, as a rule, subject to frequent attacks of coryza, and on examination will be found to present abnormal nasal processes. The extension of the inflammation has, by swelling and infiltration, narrowed the normal lumen of the duct, and in this way has formed an obstacle to the normal outflow of the secretion. The tears, conveying the micro-organisms which exist more or less constantly in the conjunctival folds, and which under physiological conditions are carried away to the nasal fossæ, are retained in the lachrymal sac, where exists an excellent chamber for the culture of bacterial organisms. The impediment to the outflow of retained secretion varies, in different cases, from a simple occlusion from swollen membrane and inspissated mucus to a true stricture of cicatricial formation. The latter condition, I contend, exists in not more than one-fourth of all cases, and where it is present is, in many instances, the result of faulty technique on the part of the surgeon in the passing of probes.

Chronic inflammation of the lachrymal sac sometimes occurs as a sequel of smallpox, measles and scarlet fever, exanthemata which present symptoms of nasal inflammation and irritation. Syphilis, by its necrotic inroads of the bony canal, may bring about an attack of dacryocystitis by mechanical obstruction of the passages.

The treatment of chronic inflammation of the lachrymal sac and nasal duct should be directed, 1, toward the removal of pathological processes and malformations of the nasal chamber, instrumental in the causation of the trouble in the vast majority of cases; 2, toward the restoration of the patency of the passages, with as little damage as is possible to the normal anatomical relations; 3, toward the alleviation of all factors conducive to the production of ocular irritation, reflex or otherwise, and 4, toward the proper correction of any existent dyscrasia.

The nasal fossæ should in all cases receive careful attention. Any abnormalities of the turbinate bodies should be remedied, especial consideration being paid to the immediate locality of the nasal duct outlet. The character of the nasal discharge should be modified by the frequent and thorough application of some alkaline spray, of which Dobell's solution is probably as efficacious as any.

The restoration of the normal caliber of the passages is a matter of the greatest importance, and the method in which this may be accomplished and drainage apparatus once more be made to perform its physiological function, is a problem on which ophthalmologists hold widely different opinions. Some surgeons slit one of the canaliculi and pass probes in every case, as soon as the diagnosis of tear-duct inflammation is made. Some incise the lower canaliculus exclusively, others the upper, and some, again, both. Some advise rapid dilatation by probes, others gradual dilatation. Some use probes of the minimum caliber, and increase only to a very moderate size; others use nothing smaller than a No. 8 Bowman, and frequently pass a No. 16 Theobald. Some, after slitting the canaliculus, insert a style; others, a canula. The passage of a probe is supplemented by some by a current of electricity; others have suggested the use of a medicated gelatine bougie as a substitute for the metal probe.

This wide variance of opinion regarding the management of these cases only tends to show with what degree

of nebulousness we recognize the pathological conditions as they exist, and how empirical, to say the least, is our accepted mode of treatment.

In the first place, let us carefully examine and study each case as it presents itself, and determine as to the pathological conditions present. The dilatation of the punctum and the injection of a simple antiseptic, accompanied by scrupulous attention to the nasal chamber as before suggested, will in a certain number of cases suffice to relieve the constricted lumen of the passages and restore physiological patency. In those cases in which pressure on the sac causes a purulent discharge to exude, or the method just mentioned persistently carried out for several weeks, does not bring about an amelioration of the symptoms, one of the canaliculi should be slit up and a probe passed. The probes devised by Bowman are in general use. The question as to which canaliculus, the upper or lower, should be operated on does not seem to me to be a matter of much importance. Two points, however, should be borne in mind in performing this little operation: 1, make the incision entirely on the conjunctival surface of the lid by inclining the cutting edge of the knife slightly toward the eyeball; 2, slit up as little of the canal as is possible to allow of the passage of the probe. One-third of the length of the canaliculus is generally sufficient. By observing these simple rules the normal capillary or suction function of the canal, so necessary to retain, will be maintained.

One of the smallest probes should be immediately passed and repassed daily for two or three days, in order that the edges of the wound may not heal; after this short period, the intervals may be lengthened from two to three times a week to once a week, or even longer. The introduction of probes larger than a No. 8 Bowman in cases where there exists no true stricture of the duct seems to me to be wholly unnecessary in the average case, and to be extremely liable to injure the membranous walls of the passages, produce further thickening and cicatricial formation, and destroy the delicate valve-like folds of the nasal duct, even when exceptional care has been displayed in their use. In this connection it may be well to emphasize the importance of gentleness and precision in the passing of probes. One can not exercise too much care in their manipulation lest he aggravate the conditions already existing. A little patience and perseverance will oftentimes prevent harmful sequelæ. Another point to bear in mind is the importance of passing the probe the entire length of the nasal duct, for, as is well known, a common location of occlusion or stricture is at or near the duct exit in the inferior meatus. It is well, when in doubt, to examine the nasal chamber by reflected light, and with a fine applicator feel for the probe in position. The introduction of a No. 6 Bowman probe—having a caliber of 1.5 millimeters—will often give some idea as to the nature of the constriction present. If such a probe is evenly gripped and the impression conveyed that the walls are smooth, even though considerable steady pressure be required for introduction, we may conclude that there exists no true cicatricial stricture. Where the diagnosis of cicatricial stricture is made, the larger probes, or those of Theobald, may be employed. As before stated, however, true stricture of the nasal duct occurs in but comparatively few cases, consequently the passage of the Bowman series will, in most cases, suffice.

Probes should be left in position for twenty minutes, withdrawn and the passage flushed with some antiseptic

or astringent solution by means of Anel's syringe. The saturated solution of boric acid is commonly used for this purpose. During the past year I have employed a 5 per cent. solution of argonin as an injection, and am led to believe it to be more efficacious than the boric or other solutions formerly used.

The home treatment of these cases forms a valuable adjunct to their successful management. The patient, or preferably an intimate associate, should be instructed in the method suggested by Gould, of alternate pressure and relaxation of the lachrymal sac, the patient reclining, the eye immersed in some antiseptic solution. This manipulation should be performed several times a day, with the end in view of emptying the sac of its effete contents and forcing the solution into the passages.

Refractive errors should be carefully corrected and constitutional disturbances remedied. Exercise in the open air and cold baths are indicated in the majority of cases. In cases unable to undergo a protracted course of treatment, the lachrymal canula or style may be employed. My experience in this connection, though somewhat limited, has been disappointing, and I seldom make use of them.

The instruction of the patient, or some member of his family, in the passing of probes, has been suggested by some surgeons for those unable to continue office treatment. This procedure I cannot approve of, for the reason that the maneuver, as already stated, is an exceedingly delicate one and should not be entrusted to the inexperienced. If the sufferer be unable to carry on the combined office and home treatment for a reasonable length of time—say three or four months—the canula may be made use of until satisfactory arrangements may be made to attend regularly.

The ancient practice of sac extirpation in obstinate cases has recently been revived. It seems to me to be justifiable as a last resort in intractable cases, although one must not overlook the fact that complete obliteration precludes the possibility of natural drainage, which sometimes comes about in seemingly incurable cases when the inflammatory trouble has subsided. Preliminary to operations on the globe in lachrymal cases, obliteration is, of course, justifiable and obligatory.

100 State Street.

A FEW POINTS ON APPENDICITIS.

J. HENRY BARBAT, M.D.

SAN FRANCISCO.

Probably no other disease has brought forth such an array of literature as has been published within the past ten years on appendicitis. All classes of practitioners took a hand, and the result is an indescribable melange, which we are slowly untangling, but we are beginning to get order out of chaos. The medical man is slowly recognizing that appendicitis is a surgical disease, and no longer delays calling in the surgeon until the patient is beyond hope. Surgeons who a few years ago advocated waiting so many days in most cases are now advising operation as soon as the diagnosis is made.

The question of diagnosis is the key to the peculiar statistics which we sometimes see published by men who claim to cure all their cases without operation. All belly-aches are appendicitis; and when a patient dies from a neglected case of the true disease it is laid to the door of inflammation of the bowels, obstruction of the bowels, or idiopathic peritonitis. While we are all liable to err in our diagnoses, it is better to err on the

safe side, and remove an appendix which is not diseased than to leave one in which is going to cause the death of its owner.

As our experience increases we are able to eliminate practically all the conditions which simulate appendicitis, but that is as far as we can go. It is absolutely impossible to differentiate the varieties of this disease by the symptoms present; we can occasionally, under favorable conditions, palpate the appendix with sufficient thoroughness to say positively whether it is distended or contains a calculus; but as a rule either the tenderness is too great or the abdominal wall too thick to determine with any degree of accuracy the condition of the appendix.

What then have we to rely on to make our diagnosis, and how shall we do it? The first and one of the most important diagnostic features, is the suddenness of the attack; the pain coming on with little warning and increasing rapidly, in a person otherwise apparently healthy. The locality of the pain is not diagnostic; it may be, and usually is, near the umbilicus, or it may be in the epigastrium. The next point is the nausea or vomiting; we find either one or the other present in about 90 per cent. of all cases. Constipation is the rule. Localized tenderness is found within the first few hours in practically all cases, and in 90 per cent. it is at or near McBurney's point. The diagnostic tripod consists therefore of sudden pain in the abdomen, nausea or vomiting, and localized tenderness.

The majority of mistakes are made by failing to obtain an exact history of the first few hours of the attack. If the physician is not called in until twenty-four or more hours have elapsed after the onset of the disease, and relies for a diagnosis on the symptoms which are found at that time, he will often be led astray, because it often happens that the pain and tenderness have either subsided or disappeared, and the condition does not look serious. This is very deceptive, as we often find in these cases that either perforation or gangrene has taken place, and nothing but an immediate operation will save life.

We meet with a number of cases in people otherwise healthy, in which deep pressure over the appendix causes pain, indicating either a slight catarrhal condition or the existence of adhesions. The patients will have occasional attacks of increased pain and tenderness, especially if they become constipated. Operation is indicated if the pain and tenderness are sufficient to prevent the individual from working, or prevent him from enjoying life comfortably. We can differentiate these cases from most of the other varieties by the fact that we do not find the exacerbations coming on suddenly, but rather a progressive increase of pain beginning indefinitely.

One very important consideration is the fact that the temperature and pulse at the beginning of an attack must not be taken into consideration in determining the question of operation. I mention this because several have stated that they depended to a certain extent on the temperature and pulse in guiding them. The fallacy of this is shown by the following cases:

CASE 1.—W. B.; history of probable attack six months previously. He was awakened one morning at 3 a. m. with severe pain in abdomen, and vomited. I saw the patient an hour later and found extreme tenderness over McBurney's point, temperature and pulse normal. Operation ten hours later; appendix four inches long, with distal three inches filled with pus and becoming gangrenous; a complete obstruction prevented the pus from getting into the cecum.

CASE 2.—H. B. had attack eight and a half years previously with formation of subphrenic abscess. Sudden pain at 4 p. m. with slight nausea, no increase in pulse or temperature. Pain and tenderness increasing; patient was operated on at 8 p. m. Appendix distended and contained five appendoliths; the tip was imbedded for three-fourth of an inch in tough cicatricial tissue, the result of the previous attack.

CASE 3.—Patient came to office forty-eight hours after the first pain; had had nausea and vomiting and felt very sick. When I saw him the pulse and temperature were normal and the tenderness was not very great; but I was able to find some thickening at the site of the appendix, and advised operation. Next day the patient stated that he was entirely free from pain and tenderness and felt all right, but I still advised operation on account of the initial symptoms and the fact that I could feel something hard at the site of the appendix. Operated seventy-two hours after the beginning of the attack, and found the appendix extremely large and containing a very large appendolith. The mucosa and submucosa were sloughed at the point of the junction of the appendix and cecum, leaving nothing but the peritoneum to hold the appendix in place.

These cases show clearly that we can not in any case determine the pathology by the physical signs, or the subjective symptoms; for we find the most desperate pathologic conditions with the mildest symptoms, and vice versa; the classical symptoms well marked with but slight pathology. This can be easily understood, when we consider the cause of the various manifestations. Pain is produced by pressure on the sensory nerves, and therefore a congestion will produce more pain than a complete gangrene, and the bursting of an appendix will relieve the pain that was caused by its distension. The moment the pressure ceases, or the nerves are destroyed the pain and tenderness disappear.

The nausea is reflex and may be marked in the mildest and almost absent in the worst case. The rise of temperature and increased pulse-rate depend on the absorption of ptomaines by the system, and it is possible to have a complete gangrene of the appendix without having sufficient poison absorbed to cause a rise of temperature; again we may have a slight erosion of the mucosa allowing a free absorption of the products of decomposition of the bowel, running the temperature up as high as 104 F. The pulse varies with the nervous system of the individual and therefore can not be taken as a guide in determining the question of operation.

We are left, therefore, without any reliable means of determining the condition of the appendix in any given case without opening the abdomen, and we consider that the mortality after operations which have been performed within the first forty-eight hours is practically nil. We are certainly justified in advising immediate operation in all cases in which the classical signs were manifested within the first few hours.

Much depends on the method of operating. Except when pus is undoubtedly present, our primary incision should be small, just sufficient to admit one or two fingers, and the conditions ascertained by careful exploration. If recent adhesions are found, the incision had better be enlarged sufficiently to be able to see every step of the operation, as these cases are the ones in which the operation may prove dangerous in inexperienced hands. From a comparatively trivial operation, which is necessary in perfectly clean cases, we come to an operation which taxes the skill of the most expert abdominal surgeon, and which may require the resection of a portion of the bowel.

My conclusions are as follows:

1. That over 90 per cent. of cases of true appendicitis which are not operated on have recurrences.

2. That we should operate on all cases of chronic recurrent appendicitis, if possible between attacks.

3. That in practically all cases which die after operation we find at least forty-eight hours between the onset of the attack and the time of operation, therefore it is reasonable to assume that if these cases had been operated upon inside of the forty-eight hours the patients would have been cured.

4. That as soon as a diagnosis of acute appendicitis is made, operate immediately.

5. Pulse and temperature are not to be taken into consideration in making a diagnosis of appendicitis.

6. In acute cases the diagnosis must be based on the symptoms which were manifested during the first three or four hours.

803 Sutter Street.

Tearing Down Untimely Board of Health Placard.—

In the case of the City of Memphis vs. Smythe, which was commenced by the issuance of a warrant for the arrest of the defendant for a violation of a health ordinance, the Supreme Court of Tennessee holds, to begin with, that a warrant for a fine or penalty imposed for a violation of a town ordinance is civil in character, being in the nature of an action of debt, and that consequently an appeal, after a finding of not guilty, will not be dismissed on the ground that the defendant has been once in jeopardy. The defendant in this case was a physician. The ordinance which he was charged with violating provided, under penalty by fine, that every physician should immediately report any person he might attend within the city limits sick with, or who he had reason to suspect had, diphtheria; that thereupon it should be the duty of the health officer to placard the house, with a card designating the character of the disease, and that such card should not be removed by any other than a health officer or sanitary policeman. The record in the case disclosed that, one Tuesday night, at the defendant's residence, his child was taken ill with what the defendant feared was diphtheria. The next morning he called in another physician, who, upon examination was unable to discover any symptoms of this disease, and so told the family. But notwithstanding this assurance, the defendant, still suspicious or apprehensive, after the departure of that other physician, made a telephone report to the city board of health that the child was sick with what he feared was diphtheria, adding that the other physician, who was attending the patient, did not so regard it. That (Wednesday) afternoon, that other physician called again, and repeated what he said before. Thursday afternoon, he made his last visit, when, finding the child well, or practically so, he dismissed the case. The board took no action until Friday morning, when one of its employes telephoned to the defendant that a report of the case of diphtheria at his house was required. To this the defendant replied that there was not, nor had there been, a case of that disease at his home; that his infant child had been sick, but was then entirely well. Thereafter, by order of the board, the house was placarded for diphtheria, upon discovering which the defendant tore down the placard. Then followed this action. The ordinance itself, the supreme court characterizes as a salutary one, the strict enforcement of which was essential to prevent the spread of contagious diseases. But, on the facts stated, it holds that the action of the defendant was warranted, and that he had not violated the ordinance. It says that if, on the receipt of his report on Wednesday morning, the sanitary authorities had acted by placarding the house, the ordinance would have applied. But, waiting as they did until it had been ascertained that it was not such a disease as the defendant had suspected, and the child was entirely recovered, their action, it holds, came too late. And this being so, there was no reason, the court declares, why the defendant should permit the placard to remain posted on his house, as its natural, if not necessary, effect would be to warn friends and patients alike against entry lest they be exposed to the contagion.

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DIFFERENTIATION IN DIABETES.

There are few diseases that have been more thoroughly studied than diabetes, and, while there has been a gradual and progressive expansion of our knowledge on this subject, the condition is still surrounded with not a little obscurity and the exact mechanism of its occurrence is not yet understood. That it is a morbid perversion of metabolism is generally agreed, as it is also that the most powerful therapeutic influence is dietetic; but we can not for the present go further than the statement that the disorder represents a defect in carbohydrate-assimilation. In a recent thoughtful paper, F. W. Pavy,¹ who has made important contributions to our knowledge on this subject, discusses some phases of differentiation in diabetes. To cases in which the sugar eliminated with the urine is derived solely from the food, he applies the designation alimentary diabetes. The carbohydrate matter of the food fails to be dealt with in the system in such a way as to be placed in a proper position for utilization, so that it appears in the blood as sugar and is thence discharged as waste material with the urine. Under normal circumstances, neither the urine nor the blood is sensibly influenced by the carbohydrate elements of the food, although the blood, like other tissues, uniformly contains a small amount of sugar.

Alimentary diabetes is attended purely and simply with the abnormal presence of dextrose in the urine, and this secretion further does not yield a color-reaction with ferric chlorid. Under other circumstances dextrose may appear in the urine, as a result not alone of defective carbohydrate assimilation, but also of abnormal proteid disintegration. In consequence of faulty metabolism, tissue-disintegration takes place, with the production of sugar, in association with other abnormal degradation products. For this latter condition Pavy proposes the designation composite diabetes. As a result of the faulty metabolism a series of products not normal to the urine appears in it, namely, beta-oxybutyric acid, diacetic acid and acetone, and the amount of these may be looked on as furnishing a measure of the extent of abnormal proteid destruction. Oxybutyric acid is, under these circumstances, found only in association with diacetic acid and acetone; and diacetic acid only in association with acetone. The beta-oxybutyric acid deflects the ray of polarized light

to the left, so that the effect of its presence is to neutralize, in proportion to its amount, the deflection to the right due to dextrose. The difference between the quantitative results obtained by reduction with cupric oxid and those yielded by the polarimeter will therefore indicate the extent to which abnormal proteid disintegration is taking place. If the dextrose be fermented away by means of yeast, the levorotatory deflection noticed in the polarimeter will give the same information. The presence of diacetic acid will be indicated by the appearance of a wine-red color on addition of ferric chlorid to the urine.

The essential condition of alimentary diabetes consists in a faulty power connected with the application of the carbohydrates of the food within the system. Normally these are so utilized that no evidence of their ingestion is found in the blood or in the urine. In the presence of diabetes, however, the carbohydrates are not properly assimilated and find their way into the blood and the urine in the form of sugar. The power of assimilating carbohydrates is limited even in health, and the ingestion of an amount beyond that will be followed by glycosuria, so that the diet must be adjusted accordingly. The characteristics of alimentary diabetes consist in the control of the glycosuria by the exclusion of carbohydrates from the food and the absence of beta-oxybutyric acid and diacetic acid from the urine. To ascertain the degree of severity the assimilative power must be estimated by determining the largest amount of carbohydrates that can be taken without inducing glycosuria. Under favorable conditions it will be found that gradually increasing amounts of carbohydrate will be tolerated, and this will be indicated by continued absence of sugar from the urine, and also by loss in weight; and increase in the amount of carbohydrates to a point yet within the assimilative capacity of the organism will now neutralize the loss of weight. Alimentary diabetes is unattended with any liability to the supervention of the fatal coma that occurs in cases of composite diabetes as a result of the activity of toxic products resulting from tissue-disintegration. The intensity of the symptoms is proportionate to the amount of sugar in the system, as indicated by the quantity appearing in the urine. This will be shown by amelioration and gradual disappearance of the symptoms with the subsidence of the glycosuria when the carbohydrates are diminished or withdrawn.

The case acquires a serious aspect when the alimentary is converted into composite glycosuria. This takes place more readily in early than in late life, and in neurotic individuals, and as the result of hereditary tendencies. Under the morbid influence in operation the tissues melt down into the unexhausted products that escape as waste matter with the urine. The degree of emaciation may become extreme. The coma by which life often is terminated is the result of a true autointoxication. The nature of the intoxicant has

1. *Lancet*, June 16, 23 and 30, 1900.

not yet been determined with certainty, although it has been thought to be beta-amido-butyric acid.

PRIMARY ENDOTHELIAL HYPERPLASIA OF THE SPLEEN—A DEFINITE AND DISTINCT DISEASE.

Many of the diseases of the spleen and of the lymph-glands are exceedingly obscure in their nature. There are leukemia and pseudoleukemia, whose clinical picture and anatomical changes are familiar enough, but of the real nature of these processes we are wholly in the dark. The recent report by Crowder¹ of a peculiar form of chronic hyperplastic glandular tuberculosis simulating pseudoleukemia to perfection, indicates that chronic glandular hyperplasias of a pseudoleukemic type may be of a tubercular character perhaps oftener than now expected. The conditions that determine the peculiarities of this form of glandular tuberculosis, whether connected with the bacillus or with the soil, baffle all explanation at this time. The affection variously described as splenic anemia, Banti's disease or splenic pseudoleukemia is characterized by considerable enlargement of the spleen, the changes being essentially of a chronic interstitial character. That this disease is intimately connected with splenic lesions would seem to be demonstrated by the cures reported by Italian physicians to follow splenectomy; but of the essential nature and the cause of the malady nothing is known.

And now comes Bovaird² with the description of two remarkable instances in children of a primary enlargement of the spleen dependent on an extensive endothelial hyperplasia, judging from the histologic study of the spleen in the fatal case. The patients were sisters, the first signs of the disease appearing at the ages of 2 and 3 years, the latter dying at 13 from splenectomy. Bovaird sums up the symptomatology as follows, based on his own cases and on the reports of similar cases—mostly females—by Gaucher, Collier and others: Slow and progressive enlargement of the spleen, beginning in childhood—3d to 7th year—with a secondary enlargement of the liver and simple anemia. Softening of the gums, with oozing of the blood, epistaxis, cutaneous hemorrhages and icterus have been observed, the first being quite constant. The mechanical effects of the splenic enlargement may be the cause of pain, gastrointestinal disturbances, dyspnea, dysuria and cramps in the legs. In Bovaird's fatal case the spleen weighed 12½ pounds, the total weight of the child being 75 pounds. The form of the spleen in general was that of the normal organ.

The clinical differentiation of cases of the type described by Bovaird from splenic anemia—Banti's disease—seems at present impossible, but the anatomic lesions of the two diseases differ. As already indicated, the splenomegaly of Gaucher and Bovaird is dependent on a marked endothelial hyperplasia which may be associated with like changes in the retroperitoneal and mesenteric lymph-nodes and the connective tissue of the

liver. These alterations are well illustrated in Bovaird's drawings. On the cut surface the spleen and certain parts of the liver showed numerous firm white or yellowish-white areas corresponding to large irregular spaces filled with large cells. The areas in the liver are regarded as developing from the endothelium of the lymph-spaces and not as metastases. Iron pigment was present in large quantities in the lymph nodes and the liver. Bovaird's view that the process is not an endothelioma—Gaucher speaks of his case as an epithelioma—is supported by such authorities as Cornil and Birch-Hirschfeld. The nature of the affection—the entity of which seems established—is beyond our present ken. As yet bacteriologic studies do not seem to have been made. They are indicated whatever the results therefrom might be. The reports of cases like these are inducive to careful study of that enigmatic organ, the spleen.

CHANGES IN THE MOTOR GANGLION-CELLS ASSOCIATED WITH PERIPHERAL NEURITIS.

Whether or not the conception of the neuron as applied to the nervous system can be accepted without qualification in its present form, there is no doubt that it has been a great help in clarifying our physiologic and pathologic notions in this field of observation. Viewing the nerve-cell and its processes as one continuous whole, it can be readily understood how a lesion in any part of it will give rise to similar clinical manifestations. Further, as the nutrition of the cell is dependent on the integrity of the body, through its nucleus, it must be evident that the most remote part will be the most susceptible to degenerative changes. Disease of the cell will necessarily be followed by disease in its processes, but it has not been sufficiently appreciated that disease in the latter may be attended with changes in the former. It has been observed that sometimes perfect recovery takes place, while at other times cells undergo atrophy and disappear.

Evidence in confirmation of this latter fact is afforded by the results of a microscopic study lately made by Hunter¹ of the motor ganglion-cells, in addition to the peripheral nerves, in five cases of peripheral neuritis, four of alcoholic origin. It was found in three of the cases that, although there was but slight loss of power in some of the muscles, there was marked inflammation of the corresponding nerve. This disparity may be explained on the supposition that changes in structure precede alteration in function. In three of the cases also the motor ganglion-cells exhibited chromatolytic changes corresponding more or less closely to those found in animals following injury to peripheral nerves. In a further case the appearances, while presenting a variation from the normal, could not be decided to be either degenerative or regenerative. The changes in the former were situated about the nucleus, while in the latter the periphery itself seemed to be more affected.

1. New York Med. Jour., Sept. 15, 1900.

2. Am. Jour. of Med. Science, October, 1900.

1. Lancet, Aug. 25, 1900, p. 576.

In all the medial group of cells in the anterior horns were practically unaltered. In the dorsal region, where the lateral cells were fused with the medial groups, the former were quite normal, but in the cervical and lumbar enlargements the degenerative changes were most marked in the postero-lateral subgroup. In two cases the number of ganglion-cells appeared diminished. A deposition of yellow pigment was found to some extent in nearly all of the ganglion-cells, as well in those that appeared to be healthy as in those undergoing chromatolytic change, completely filling some and occupying half of the cell-plasma in the majority. This pigmentation takes place at the expense of the Nissl bodies, causing fragmentation of the chromatic granules. It is thus a variety of chromatolysis, and if the chromatin-granules represent the functional potentiality of the cell, either in form of nutrition or as energy, or both, the destruction of the granules must be looked on as a degenerative change. This is attended with a corresponding alteration in the vessels, in the walls of the smaller of which colloid degeneration was found throughout the nervous system in all of the five cases examined.

As a result of the foregoing observations, it may be concluded that the presence in the blood of toxic substances capable of exerting a deleterious influence on the peripheral nerves affects not alone the neuraxon, but all parts of the neuron.

MEDICAL INSPECTION OF SCHOOLS.

Last January the medical inspection of school children was put in operation by the school board of Chicago. While it proved satisfactory, certain politicians conceived the idea that the few thousand dollars annually expended in this direction could be used for a better purpose—better for the politician. Accordingly, a feeling was created against the employment of physicians as inspectors, and for a time it seemed as if the efforts of these would-be economists would succeed. But recently most definite results have been seen, and several instances have occurred wherein timely discovery of contagious disease in the schools and quick isolation prevented an epidemic. Most of the newspapers have favored the work from the first and have defended the medical inspectors in the efforts to prevent epidemics among the school children. The Chicago *Times-Herald* of October 22 editorially says:

The record of the work accomplished by the medical inspectors in preventing the spread of contagious diseases in the Chicago public schools should have greater weight in determining the action of the board with reference to continuance of the system than any arguments that may be advanced along the line of retrenchment or economy. The value of the work to the whole community should also outweigh any objections from parents who may have suffered some personal inconvenience from the inspection. A statement of the work accomplished by the medical inspectors shows that during three and a half months of the last school year 76,000 examinations were made and 1539 cases of contagious disease were discovered and excluded from

the schools. Since September 17 of the present year 7249 examinations have been made and 510 contagious cases have been excluded. The argument of economy can not have much force against such a showing of preventive efficiency as this. If the medical inspection system has kept the schools from spreading epidemics it is worth many hundred times the cost of its maintenance. Indeed it would be difficult to calculate the money value of such a service. The fact is the medical inspection system should not be disturbed under any pretext whatever. Its cost is trifling compared to the benefits that accrue to the community through the inspection. It would be a very short-sighted policy to cut off this safeguard against epidemics in the schools on the score of economy, while large sums are being expended for the non-essentials of a common school education. Medical inspection in the public schools of a city of this size is absolutely essential as a measure of public safety.

There can be no doubt whatever that, as at present managed, the close intelligent watching of the physical condition of children in the crowded school-buildings of a large city will be a power in preventing epidemics. It is shutting the door before, not after, the horse has escaped; the ounce of prevention rather than the pound of cure.

PHYSICIANS NOT LIABLE WHEN THEY ACT IN GOOD FAITH.

The Supreme Court of Massachusetts, in full bench, has given out a decision that is of interest to medical men. It holds that physicians under the Massachusetts statutes are not liable for negligence in erroneously certifying a person insane or inebriate, provided they do so in good faith and without malice. Even if their examination was a careless one their action was not the proximate cause of the commitment, as a judge must, under the statutes, determine that; and, secondly, they should, in accordance with public policy, be like other witnesses, considered privileged and protected against liability as long as they act in good faith and without malice. The opinion was a majority one, but, while not unanimous, it is sufficient to protect Massachusetts physicians from vindictive damage-suits and may be a valuable legal precedent elsewhere.

PHYSICIANS AND THE HALL OF FAME.

In our last issue, notice was taken of the omission of any medical names in the list of those selected for the so-called Hall of Fame. As there are but two medical men on the jury of award, it is quite possible our profession, commanding thus only 2 per cent. of votes, will scarcely have a fair show even in a future election. It has been suggested that an expression of the general consensus of opinion of the medical profession might have some influence, and it appears to be a good one. If for example the AMERICAN MEDICAL ASSOCIATION would pass a resolution naming certain ones, in its opinion, worthy of the honor, its action might have weight, even with the laymen on the jury. The suggestion is a practical one and worthy of consideration. It would be no honor to the Hall of Fame if worthy members of a profession which has done much for humanity, were fully or even ignorantly omitted from its rolls.

JUDICIAL ARROGANCE AND IGNORANCE.

The judge, in a recent noted trial in which the accused was reported ill, is said to have given out, among other remarkable utterances, the following: "I could tell nothing by going to see the defendant as to his condition, but I do not want his physician or any other physician to fill him full of opiates and keep him in that condition, and that is a matter which must be looked after." This is an expression of opinion after an admission of ignorance, and a very injudicial slur as to the integrity of members of our profession. One thing is certain, no honorable and self-respecting physician would let a judge dictate to him in matters altogether out of the judicial sphere; prescriptions and treatment of the sick are not within the jurisdiction of the court. "In the sick room," as the Louisville *Post* remarks, "the physician is supreme," and if not he should be, judges to the contrary notwithstanding. Even a man accused of crime has rights as a patient and a human being beyond the jurisdiction of the court.

DR. JOHN CONTEE FAIRFAX.

In a recent issue we gave a three-line notice of the death of a member of the medical profession whose decease has been made the subject of half-column editorial notices in our two leading British contemporaries. Dr. John Contée Fairfax was in this country simply an American citizen, than which there is no higher rank; though not a British subject, in Great Britain he was officially recognized as sharing alone with Lord Lister the honor of membership both in the medical profession and the British peerage. This fact is noteworthy, as well as that of his descent from the parliamentary General Fairfax of that epoch of English history most familiarly known to us as "Cromwell's times," and from the Lord Fairfax who was Washington's friend and early patron. Dr. Fairfax appears to have been a very estimable gentleman, and while more of a landed proprietor than an active medical practitioner, the only title he cared to go by was that of Doctor, acquired as a graduate of the University of Pennsylvania. It is worth noting also in this connection that the history of the Fairfax family is said to be the foundation on which Thackeray built his celebrated novel of "The Virginians."

OBJECTIONABLE DRUGGISTS' CIRCULARS ABROAD.

The *British Medical Journal* states that English practitioners are seriously annoyed by objectionable pamphlets mailed to them by American drug firms, and that in the case of one particularly disgusting instance the postal authorities of the two countries have been called on to intervene. It very properly requests, however, that any of its readers sending these objectionable pamphlets with their complaints should do so in the original wrappers, as it has a suspicion that some of the pamphlets are really posted in London. It is not pleasant to hear that American druggists send disreputable literature abroad, and we trust that what they send is bad only in a medico-ethical point of view. The American postal laws are rigid as to the transmission of immoral publications through the mail; it would be a simple matter to call the attention of the

authorities to any such emanating from this side of the Atlantic and would speedily put an end to their circulation. It will possibly be found that the majority of such received in Great Britain also originated there; the fact that they contained testimonials from persons holding British qualifications suggests that this probably is the case. We have British-labeled frauds in this country; it is quite likely they have their counterparts there.

AN UNAPPRECIATED JOKE.

Some time ago a Denver daily paper made some comments on what was either an abnormal temporary condition or a gross error of statistics in regard to masculine mortality in the state of Colorado. THE JOURNAL editorially noticed them, in what was intended as a semi-facetious way, remarking on the possibility of the Centennial state becoming in the future an "Adamless Eden" and suggesting as the only possible explanation the contiguity of Utah with its polygamous traditions of the past. It scarcely seemed probable at the time that the tone of the article would permit of its being taken seriously, but such seems to be the case. It has traveled over two continents, and though slightly disfigured is still in the ring. THE JOURNAL has in this repeated the experience of Mark Twain, who found that he could not in the most innocent and transparent way play hob with the probabilities and possibilities without some one accepting it all as gospel truth. The safest course is in all such cases to follow the example of another noted humorist, who early recognized this weakness of human intelligence and often ended his lucubrations with the commentary: "This is a goak." For the benefit of all such literally-minded individuals THE JOURNAL here expresses its opinion that there is no immediate danger of Colorado losing its male population, or reverting to conditions where, as an English contemporary naively remarks, "social conventions may have to be modified." It will endeavor to be more careful in the future, and, if necessary, will label its jokes.

NEW POINTS ON COLOR-BLINDNESS.

It has usually been held that all except about 3 or 4 per cent. of mankind possess normal color perception, that is, that they agree in seeing colors alike in the way we consider them to normally exist. It has been admitted that very slight variations might exist beyond these limits, but that they are too insignificant to require consideration. Unlike other peculiarities of vision, color-vision is esteemed as practically uniform in the mass of mankind. According to recent studies by Prof. Ogden H. Rood, whose former work on colors is well known, there is really no such uniformity, and individuals vary as much in this as they do in the other niceties of visual perception. From an editorial abstract of his work in the *Post-Graduate* for October, we learn that with the use of the Fliker photometer, a new instrument for measuring color-perception, Rood finds that no two agree in this respect, and that the variations are quite striking even in persons ordinarily considered as normal in their color-vision. Taking the average of eleven individuals selected for the experiments as the normal fig-

ure and reckoning it as 100, he found only three of them whose perception reached the average standard for red, three for violet-blue and five for green, and that the defects varied for these respective colors from 1 to nearly 20 per cent. The females varied from the standard as much as the males as regards green perception, though exceeding them as regards the other two colors. The number of cases examined in this study is small, but they were carefully selected and observed, and justify the claim of Professor Rood that no man or woman is thoroughly qualified to do color work until his or her color-vision has been tested, and apparently this will have to be done by such an apparatus as the Flicker photometer, with which he detected these variations. The question of color-blindness is one that calls for considerable study even yet, not merely for its scientific interest, but also on account of the practical points involved. Professor Rood's results will suggest some further investigation of the problems of color defect, with special reference to railway and steamship service, and may possibly lead to more perfect and satisfactory methods and standards than those now in use.

Medical News.

CALIFORNIA.

SACRAMENTO reports a death-rate for September of 16 per 1000 per annum.

LOS ANGELES reports 117 deaths during September, 25 of which were due to tuberculosis.

DR. ASA CLARK has been reappointed medical superintendent of the State Hospital for the Insane at Stockton.

DR. SAMUEL O. L. POTTER has resigned from the board of trustees and from the chair of theory and practice of medicine and clinical medicine in the College of Physicians and Surgeons of San Francisco.

THE MERRITT HOSPITAL, Oakland, will now be built. The Supreme Court of the United States has sustained the decision of the lower court and the \$500,000 devised by Mrs. Catherine M. Garelon for this purpose is thus made available.

THE STUDENT GUILD of Stanford University has funds in hand and will build a hospital for the use of students of the institution. The authorities of the university will provide for the maintenance of the hospital.

DISTRICT OF COLUMBIA.

THE COMMISSIONERS of the District have appointed a commissioner, of which Health Officer Woodward is a member, to consider all proposals for the sale of land for the proposed municipal hospital.

MAJOR JOHN VAN R. HOFF, who was recently ordered to China as chief medical officer of the United States forces there, has been relieved from duty and ordered to San Francisco.

THE FRIEDMEN'S HOSPITAL, during the fiscal year, treated 8744 patients in the wards and dispensary. The percentage of mortality was 6.37. During the year 634 operations were performed, with a death-rate of 1.1 per cent.

THE BOARD OF MEDICAL EXAMINERS of the District reports that during the year ended June 30, 1900, 95 applications for license to practice were received. Of these, 22.92 per cent. failed. Licenses for midwives were applied for in nine cases and a certificate issued in each case. It asks for a suitable compensation for its members, stating that the average amount received by members of the board has been only \$22.84 for the regulars, \$1.76 for the homeopaths and nothing for the eclectics.

ILLINOIS.

THE SPRINGFIELD BOARD OF HEALTH has decided to ask the city council to allow an appropriation sufficient for the erection

of an isolation hospital, for which there is urgent need in the city.

ORGANIZATION IN ILLINOIS.

THE COMMITTEE ON MEDICAL LEGISLATION appointed by the Illinois State Medical Society has issued a circular-letter, from which we quote a part: From our correspondence with similar committees in other states and from action taken at the last meeting of the AMERICAN MEDICAL ASSOCIATION, we believe that there is a general awakening of the profession to the necessity for more active and harmonious work. The New York State Medical Association has been recently entirely reorganized on what is known as the Connecticut plan. This plan, in brief, makes membership in the local society include membership in the state society. The fees are all paid to the local society, thus the local society is made the basis of the whole organization of the state. We believe this to be the correct principle of organization. Your committee is thoroughly convinced that if Illinois is to maintain its place in the first rank we must immediately improve our medical organization. Instead of having a state society which only embraces a part of the local societies of the state and only a few hundred of the many thousand regular practitioners, we must effect an organization which will practically embrace all our regular practitioners. We are now addressing every member of the state society on this point and asking them for suggestions and assistance in changing the present conditions. Why is it that the majority of the regular practitioners in the state have not allied themselves with the state society? The committee sees plainly that they will be unable to secure or maintain the most desirable legislative measures without a more complete organization behind them. Among the questions which are demanding solution in our state we would suggest the following: A thorough organization of city, county and state boards of health with proper relations to each other; more adequate sanitary laws, especially those relating to schools, manufactories and quarantine; to secure legislation to protect against tuberculosis and other preventable diseases; to protect against vicious legislation, for example, antivivisection and antivaccination; to protect from blackmailing, and to protect against unjust malpractice suits; to secure proper recognition of expert testimony; to protect the sick from quacks and charlatans; to protect and improve the medical-practice act and to secure a special board of medical examiners, aside from the board of health; to secure proper regulations for the protection of drinking-waters, and in fact to aid in securing just and impartial legislation whenever and wherever needed; to secure equitable medical laws throughout the United States, with some practical form of reciprocity between states; to secure the appointment of reputable and honorable medical men wherever public services of physicians are required throughout the state. These and many other questions are demanding the attention of the profession. We should be thoroughly alive to their importance and realize that the only way to secure any needed enactments or suitable appointments is through harmonious organization of our profession. We must all be willing to submit to the will of the majority. We have all, no doubt, been chagrined to hear members of the legislature say that the only thing which stands in the way of securing desirable medical legislation is lack of harmony in the profession. We should remove the cause for this now just criticism. . . . We are directed by the state society to organize the profession along these lines, and hope to have your assistance in getting in touch with the public-spirited physicians of your locality. The profession must be organized to protect the interests of the sick as well as its own interests.

Chicago.

DR. S. C. PLUMMER returned, October 23, from his summer in Europe.

THE MEDICAL INSPECTORS, on October 22, closed four rooms at the D. S. Wentworth School on account of diphtheria discovered among the scholars, and one room at the McCosh School on account of scarlet-fever.

THE ILLINOIS HOME FOR EPILEPTICS has moved to its permanent location, 3240 Lake Park avenue. The home is a charita-

ble institution and is open at all times for the reception of emergency cases.

DR. M. N. REGENT, now awaiting sentence for conspiracy to defraud, was refused a new trial by Judge Brentano, October 17.

AN EPIDEMIC of matrimony is raging among Chicago physicians. Dr. A. N. J. Dolan was married to Miss Georgiana Sexton, on October 10; Dr. Charles Heller to Miss Rosie Greenhoot, October 16; Dr. Charles P. Weir to Miss Eleanor Reeves, October 18, and Dr. Lonis A. Mueller to Miss Louise Wilke, October 19.

THE SENN MEMORIAL ROOM at St. Joseph's Hospital, which has been completely furnished by Dr. Nicholas Senn, and in addition endowed for \$10,000, was formally opened October 16. During the life of the donor he will have the privilege of designating patients to occupy the room.

THE BANQUET to be given in honor of Dr. Christian Fenger on Nov. 3, at the Auditorium Hotel, promises to be an interesting affair. Dr. C. A. L. Reed, president of the AMERICAN MEDICAL ASSOCIATION, will be toastmaster; Dr. W. W. Keen, Philadelphia, will make the speech, presenting the loving cup. Speeches are expected from Dr. Charles A. Wheaton, St. Paul; Dr. Charles B. Nancrede, Ann Arbor; Dr. E. S. Ricketts, Cincinnati; Dr. W. H. Earles, Milwaukee; Drs. Nicholas Senn and William E. Quine, Chicago, and others. As the attendance from Milwaukee, St. Paul, Minneapolis and other nearby cities is expected to be large, the committee would like to know as nearly as possible the number that may be present. Dr. W. A. Evans, Chicago, is Chairman.

HEALTH DEPARTMENT.

ONLY 385 deaths were recorded in the bureau of vital statistics during the week ended October 20. This total furnishes an annual death-rate of 11.81 per 1000 of the United States census figures of population, 1,698,575—the lowest October weekly mortality-rate ever recorded in Chicago, and with one exception the lowest mortality of any week of 1900. As compared with the previous week, only deaths from pneumonia show an increase; deaths from convulsions and from violence were stationary; while deaths from the impure-water diseases, including typhoid fever, from bronchitis, heart disease, nervous diseases, cancer, diphtheria and scarlet fever show the greatest numerical reduction in the order given. During the first twenty days of the month the daily deaths averaged 58—a figure which, if maintained during the remainder of the month, would make the total October mortality only 1793, and an annual rate of less than twelve and one-half per 1000. During the twenty-five school days since September 7 the inspectors have examined 9770 ailing children in the public schools, and 694 of these were found to be suffering from diseases liable to spread to other pupils with whom they were in contact. Among these were 16 cases of diphtheria, 17 of scarlet fever, 17 of measles, 30 of whooping-cough, 36 of chicken-pox, 126 of tonsillitis, 13 of purulent sore eyes, 123 of impetigo contagiosa, 145 of pediculosis, 25 of ring-worm, 24 of eczema and 47 of other "catching" diseases. With the lowering temperature of the autumn days—necessitating the closing of doors and windows and consequent exclusion of fresh air—the number of ailing children increases, as will be seen by these figures of examinations and exclusions: Week ended September 21, ailing pupils examined, 801, excluded, 97; September 26, examined, 1939, excluded, 112; October 5, examined, 1998, excluded 168; October 19, examined, 2521, excluded, 184. Another and very potent cause of this increase is the association of the children themselves in the too-often badly ventilated class-rooms and assembly-halls of the average schoolhouse. What is known as the "school diffusion" of contagious diseases, especially diphtheria, scarlet fever, measles and whooping-cough, is now well understood and it is this that makes school inspection of so much importance and utility in the prevention of the spread of the communicable diseases of childhood. The total deaths from all causes were 385; for the corresponding week of 1899, 495. Of males, 196, and of females, 179, died. Under 1 year, 78 died; between 1 and 5 years, 45, and over 60 years, 74. The principal causes of

death were: Consumption, 45; acute intestinal diseases, heart diseases and pneumonia, each 35; nervous diseases, 25; violence, 19; cancer, Bright's disease and diphtheria, each, 16; typhoid fever, 6; scarlet fever, 2, and suicide, 3.

INDIANA.

DR. CHARLES H. ECKERT, Marion, was thrown from his buggy and severely injured October 5.

DR. HENRY A. FINK, South Bend, had a rib broken and was otherwise badly bruised in a runaway October 8.

DR. JAMES W. STEWART, Logansport, was married to Miss Mamie Magee at Benton Harbor, Mich., August 16. Dr. and Mrs. Stewart have gone to Europe and expect to remain for a year.

IOWA.

DR. R. U. CHAPMAN, Des Moines, has returned from a tour of Europe.

DR. HARRY P. ENGLE and Miss Shirley Mann, both of Newton, were married October 3.

WATERLOO business men have organized a hospital association and propose to establish a hospital.

THE SIOUX CITY COLLEGE OF MEDICINE held its opening exercises on October 3. Dr. George Park delivered the opening address.

THE *Austin Flint Medical Journal* of Mason City will be edited and published by Dr. F. G. Murphy, Dr. T. T. Blaise retiring from the journal. The space heretofore occupied by translations will be given to original articles from the Iowa profession.

KANSAS.

DR. A. HUDSON HEPLER, Fort Scott, was married to Miss Martha Jessie Polsgrove, at Fort Worth, Tex., October 10.

DR. RUSSELL PHILLIPS, Leavenworth, was married to Miss Theresa Rossington, Topeka, at her home in Topeka, Oct. 10.

KENTUCKY.

DR. FRANK LAPSLEY, Paris, has returned from a summer tour of Europe.

DR. ARCHIBALD H. BARKLEY and Miss Roberta F. Johnson, both of Lexington, were married, October 17.

DR. REDIN KIRK has returned to Louisville after service in the medical department of the army in Porto Rico and the Philippines.

THE STATE Board of Health has issued a special illustrated circular with reference to the treatment of smallpox and precautions against it. Vaccination and revaccination is urged. It states that "within the past two and a half years this disease has prevailed more or less extensively in 81 of the 119 counties of Kentucky." "It should also be constantly borne in mind that there are no such diseases as 'elephant itch,' 'African itch,' 'army itch,' or 'Cuban itch,' and that in all of the many instances investigated by our experts, where the disease was ignorantly reported under these and other similar misleading names, they were found to be cases of genuine and unmistakable smallpox."

MARYLAND.

THE BOARD OF MEDICAL EXAMINERS of Maryland will hold the semi-annual examinations at the rooms of the Medical and Chirurgical Faculty, November 7, 8, 9 and 10.

THE SEMI-ANNUAL meeting of the Medical and Chirurgical Faculty of Maryland will be held at Towson, Baltimore County, in November. One of the most important subjects to be discussed at this meeting is the proposed amalgamation of all the medical societies in Baltimore into one organization dominated by the Faculty.

Baltimore.

THE DEATHS for the week ending October 20 were 182, an annual death-rate of 17.49 per 1000—whites, 15.61, colored, 28.66. Of these, 79 were under 5 years of age. Typhoid fever caused 3 deaths, diphtheria 5, tuberculosis 26, cancer 7, pneumonia 8, cholera infantum 10, Bright's disease 5. The births reported were 91. Of diphtheria 55 new cases were reported; of scarlet fever, 12; of typhoid fever, 28, and of whooping-cough, 3.

AT THE thirty-third annual Suncoth Festival, held at the Hebrew Hospital, October 14, donations amounting to \$2500

were received. Two hundred and sixty-four patients were admitted during the year. A large number of consumptives were treated in the new wing devoted to that disease; and 6043 patients were treated in the dispensary.

MASSACHUSETTS.

DR. FRANCIS D. DONOCHUE, Boston, was married on October 15 to Miss Marian Fiske, of Malden.

DR. HERBERT S. HAYFORD, Quincy, was married to Miss Clara L. Roe, at her home in Whitesone, L. I., October 18.

DR. JOSHUA F. LEWIS, Malden, has been appointed by the State Board of Charity, superintendent of the adult poor of the state.

THE CITY HOSPITAL is about to erect a relief station in Haymarket Square. This has been made possible by the bequest of the late Thomas T. Wyman, amounting to about \$120,000. The building will be three stories high, with basement, and have an area of 120x60 feet.

MICHIGAN.

DURING SEPTEMBER, 68 cases of scarlet fever and 14 cases of typhoid fever were reported in Grand Rapids.

THE UNION BENEVOLENT HOSPITAL at Grand Rapids reports that during the fiscal year just ended, 504 patients, 253 medical and 251 surgical, were admitted. Operations were performed on 242 patients with 9 deaths.

THE STATE BOARD OF REGISTRATION in Medicine completed its first year on October 10. During this time it has examined 6000 applicants, about one-third of whom were rejected. The board recognizes only 37 colleges in America as coming up to the standard required.

THE RESIGNATION of one house-physician in the Emergency Hospital, Detroit, is said to be due to an unusual curtailment of the authority vested in that office. It is rumored that the other members of the house staff will leave the hospital soon.

THE SECRETARY of the State Board of Health believes that life and treasure might be saved the state, were a law enacted placing the determination, from time to time, of the question of what diseases are to be considered communicable, in the hands of a sanitary body which shall be charged with the duty of publishing each year a list of the diseases then known to sanitarians to be dangerous to public health and therefore required by law to be reported and restricted.

MINNESOTA.

OF THE forty-five who applied to the State Board of Medical Examiners for examination, on October 11, thirty-two were given licenses to practice.

QUINTUPLETS, all boys, weighing in the aggregate 30 pounds, were born to a woman in Marnis Home, October 12. She has been married only seven years, but had had already 11 children, all of whom came in twos or threes, with one exception.

SR. PAUL furnished one, and Minneapolis three, of the physicians cited to appear before the State Board of Medical Examiners to show cause why their licenses should not be revoked. All the cases were continued until January, 1901.

MISSOURI.

A RANQUET was tendered to Dr. J. N. Love, who is leaving St. Louis to settle in New York, on Oct. 15, by his medical friends in St. Louis, at the Southern Hotel, at which a beautiful silver loving-cup, engraved with the names of the donors and a likeness of Dr. Love, was presented to him. The formal presentation was made by Dr. G. Wiley Broome, who, in the name of the medical men of the city, expressed regrets at Dr. Love's departure and wishes for his success in his new venture and his new home. Dr. C. H. Hughes acted as toastmaster, and Dr. Love made a suitable response.

NEW HAMPSHIRE.

DR. HOWARD N. KINGSFORD, Hanover has been appointed director of general athletics at Dartmouth College, and medical director of the college football team.

THE JURY in the case of O'Toole against Dr. John Ferguson, Manchester, for damages on account of permanent injury alleged to be due to the defendant's negligence and lack of skill, has rendered a verdict for the defendant.

THE WOMAN'S HOSPITAL AID ASSOCIATION, Concord, at its annual meeting, elected the following physicians on its board

of officers: Ellen A. Wallace, Manchester, vice-president and consulting physician; Julia Wallace-Russell, Concord, corresponding secretary and physician in charge; Granville P. Com. Ferdinand A. Stillings and Charles P. Bancroft, Concord, consulting physicians and surgeons; Mary A. Danforth, Manchester, and Marion L. Bugbee, White River Junction, Vt., associate physicians, and Dr. Arthur K. Day, Concord, pathologist.

THE NEXT EXAMINATION for licenses to practice medicine in the state of New Hampshire will be held at the state house, Concord, on Dec. 11 and 12, beginning at 8 a. m. All unlicensed physicians not in practice in the state on and before March 16, 1897, must pass the examinations in order to receive a license to practice legally their profession. All information regarding the examination will be cheerfully given by the Department of Public Instruction, or by the regent of the State Boards of Medical Examiners, State Library, Concord.

NEW JERSEY.

DR. HOWARD V. MERRELL, Plainfield, was married to Miss Elizabeth Huntington Bridge, of Brooklyn, Oct. 3. Dr. and Mrs. Merrell will reside in Meadville, Pa.

IN THE SUIT brought by Peter Jones against Drs. Thomas A. Skillman and Thomas V. Meacham, New Brunswick, for wrongful commitment to Trenton insane asylum, the jury brought in a verdict against Dr. Skillman, awarding the plaintiff \$50 damages, but non-suited him in the suit against Dr. Meacham.

THE CAMDEN physicians are seconding the board of health's efforts to induce the city council to establish a municipal hospital for contagious diseases. Dr. Paul N. Litefield has presented a petition signed by fifty-six members of the profession, praying for the establishment of such an institution. Dr. Henry H. Davis, president of the board, inaugurated the movement several months ago and says the city is certainly in need of one.

NEW YORK.

THE COMMITTEE of arrangements for the 1901 meeting of the American Electro-Therapeutic Association, at Buffalo, consists of Drs. Henry R. Hopkins, William W. Potter and Julius Ullman.

THE CHILD'S HOSPITAL, Albany, has made the following changes in its visiting staff: Drs. Alvah H. Traver, Charles E. Davis and Arthur W. Elting were made attending surgeons, and Drs. Andrew MacFarlane and Henry L. K. Shaw, attending physicians.

DR. SIMON BARUCH, New York City, has been awarded a silver medal at the Paris Exposition for his efforts in behalf of the establishment of public baths.

THE CRAIG COLONY FOR EPILEPTICS.

The Board of Managers of the Craig Colony for Epileptics, at Sonyea, held its seventh annual meeting Oct. 9, and organized for the following year by re-electing Dr. Frederick Peterson, New York, president, and Mr. H. E. Brown, Mt. Morris, secretary. The medical superintendent, Dr. Wm. P. Sprattling, reported 612 patients in the Colony on October 1. A gain of 234 was made during the year. The total capacity of the Colony is 840, and it is expected that it will have that number by July 1, 1901. It was decided to ask the legislature for \$169,000 for new buildings and other improvements, and for \$125,000 for maintenance. The superintendent called attention to the fact that 36 out of 612 of the inmates are suffering from tuberculosis, and recommended that suitable wooden barracks be constructed so that these patients might be isolated. He also called attention to the great necessity for providing better means of transportation on the Colony and advocated the construction of a trolley system, the power for which already exists at the Colony. The per capita cost for maintenance in 1898 was 300; in 1899, 216, and in 1900, \$172. A resident pathologist, at \$2,500 a year with maintenance, will soon be appointed, for whose use a laboratory has been built and equipped.

OHIO.

DR. EDWARD R. HENNING, West Liberty, has returned from a two years' tour of Europe.

DR. MARTIN STAMM, Fremont, has been appointed chief surgeon of the T. E. & N. Electric Railroad Company.

DR. W. W. SEELEY and family, Cincinnati, sail for Europe in November. They expect to spend the winter in Egypt.

LICENSES to practice were granted on October 8 to 12 persons who took the examination of the State Board of Medical Examination and Registration at Columbus.

TWO WOMEN, one a "cancer doctor," of Cincinnati, the other a specialist in "female diseases," of Sardinia, who had neglected to register, in accordance with the law of the state, were arrested at Blanchester, October 4.

DR. HARRY L. GILCHRIST, Cleveland, who has been serving as an acting assistant-surgeon in the army in the Philippines, has passed the examination for admission to the medical department of the army.

THE HOUSE PHYSICIAN of St. Vincent's Charity Hospital, Cleveland, the Sisters of Charity, Mother Superior and Ignatius F. Horstmann are defendants in a suit for \$10,000 damages entered September 29 by a patient who claims that she was burned by hot-water bags while in narcosis after operation.

PENNSYLVANIA.

MERCY HOSPITAL, Wilkesbarre, has elected Drs. Samuel M. Wolfe and Edward C. O. Wagner, members of the surgical staff.

THE LANCASTER GENERAL HOSPITAL, has been offered \$5000, provided the institution raises a similar amount.

THE QUARTERLY changes in the attending staff of the Johnstown Memorial Hospital are Dr. George W. Wagoner, attending surgeon, vice Dr. Alfred N. Wakefield, term expired, and Dr. William E. Matthews, attending physician, vice Dr. John C. Sheridan, term expired.

SEVEN CASES of typhoid fever are reported from Amblor and more than 200 cases from Bolivar and the surrounding country, attributed to polluted drinking water.

E. P. WILBUR, formerly president of the Lehigh Valley Railroad, has donated \$10,000 to St. Luke's Hospital, of South Bethlehem, the income of which is to be devoted to the support of the children's ward. Samuel Thomas, Catasauqua, will build an operating ward for the hospital to cost \$10,000.

THE STATE QUARANTINE BOARD has decided to improve the facilities at Marcus Hook, near Philadelphia. Two new detention barracks will be erected for the accommodation of 400 patients. A tug boat for boarding vessels and for a floating disinfectant plant will also be built. It was decided to lift the quarantine restrictions on coast vessels from points north of St. Mary's River, Florida, from November 1 to March 31.

Philadelphia.

THE PHILADELPHIA MEDICAL CLUB gave a reception October 26, in honor of Dr. Maurice H. Richardson, Boston.

THE NUMBER of deaths which occurred for the week ending October 20 was 366, an increase of 28 over the previous week, and a decrease of 18 over the corresponding period of last year.

THE COMMITTEE recently appointed by President Potter, of Jefferson Medical College, to establish a clinical laboratory in honor of Dr. J. M. Da Costa, met October 13 and appointed a sub-committee to prepare a circular letter to be distributed setting forth the need of such an institution.

THE CITY council committee on Charities and Correction, recommended to the finance committee an appropriation of \$130,000 for the erection of new buildings as additions to the Philadelphia Hospital.

TENNESSEE.

THE MEMPHIS HOSPITAL MEDICAL COLLEGE will begin its twenty-first annual session November 1, 1900.

THE STATE BOARD OF PHARMACY met in Nashville, October 17, and instructed its attorney to draw up a bill to be presented to the next legislature providing for the regulation of the selling of cocaine in Tennessee. The use of this drug among the lower classes, especially negroes, has increased within the past few months at an alarming rate, and all efforts to prevent the sale of the drug have been unavailing. Nashville, Memphis, Chattanooga and Knoxville have passed ordinances providing that the drug can be purchased only on a physician's certificate, but this fails to meet the requirement. There are thousands of cocaine sniffers in the state.

THE STATE BOARD OF HEALTH held its semi-annual session in

Nashville, October 15. Secretary Albright submitted a report in regard to the smallpox condition of the state. The report stated that since the last meeting of the board the disease had appeared in thirty-one counties. At the present time, however, the disease exists in a mild form only in six counties. In all these, with the exception of Maury, the regulations of the State Board was being observed. There are in the state at present only about twenty-five cases. In Maury county, it was stated, the board had met with a flat refusal from the county board when called on to assume charge of a case which appeared at Mount Pleasant. The reason assigned was that the county could not afford a repetition of the heavy expense incurred in stamping out the disease last year. After much discussion, a committee was appointed to go to Maury County and see if something could not be devised to prevent the spread of the disease. The general health of the state was reported as good.

CANADA.

THE MEDICAL and surgical staff of the Victoria Hospital, Halifax, has resigned in a body on account of differences with the superintendent.

ONTARIO BOARD OF HEALTH.

THE regular quarterly meeting of the Provincial Board of Health was held in Toronto, last week. Dr. Bryce reported that there had been in the months of June, July and August, 644 deaths, as compared with 507 for the corresponding three months in 1899, an increase of 27 per cent. A remarkable fact in this death-rate was that 264 deaths occurred in July last, or 60 per cent. more than in 1899. Dr. Bryce advises that the cities of the province increase the staff work of their health departments. Medical inspectors for schools, especially in Toronto, was also advised.

APPOINTMENT.

DR. J. T. HALSEY, of Columbia College, New York, will take charge of the Morrice Pharmacologic Laboratory at the McGill University, Montreal. This laboratory has not only been equipped by Mr. Morrice but will be supported by him for five years with annual donations, to enable the University to carry on the work of original research in this department. Dr. Halsey, after graduation, spent a year at St. Luke's Hospital. He then went to Germany, where he has spent the past five years in chemical, physiologic and pharmacologic research work in the laboratories of Prieberg, Strassburg and Marburg.

THE BIOLOGICAL STATION, ST. ANDREWS, N. B.

During the past summer, some splendid work has been accomplished in connection with the Government Marine Biological Station at St. Andrews. During the season, the station was visited by most of the eminent scientists in Canada, who pursued special lines of research work. Amongst those doing work there were Dr. Joseph Stafford, of Toronto University; Professor Prince, of Ottawa; Dr. McCallum, of Toronto University, and Dr. A. V. Scott, of Trinity; Prof. McBride, Dr. Jackson and Mr. Simpson, of McGill; Prof. Knight and Dr. Fowler, of Queen's, Kingston, and Dr. Mackay, of Halifax. This is the second season of the station's existence, and the building has been so constructed as to lend itself easily to removal. It is likely to be removed to Prince Edward Island, next season.

FOREIGN.

MARAGLIANO AND GOLGI have been elected senators, and Santrelli deputy, to the new Italian parliament.

KOCH has reached home from fifteen months of study of malaria in New Guinea, Java and adjacent islands. He is of the opinion that mosquitoes are the principal propagators of malaria in the districts he has visited.

THE *Lancet* announces the election to parliament of the following medical candidates: Sir B. W. Foster, Sir M. Foster, M. A. McDonnell and F. Rutherford, in England; John Dillon, R. Ambrose, and C. K. D. Tanner, in Ireland; Sir J. Batty Tuke and R. Farquharson, in Scotland. Sir R. B. Finlay, the attorney-general, was formerly a medical practitioner.

SIR HENRY WENTWORTH ACLAUD, honorary physician to the Prince of Wales, and one of the most eminent medical authorities of Great Britain, died at Oxford, October 16, aged 85. He took the M.D. degree at Oxford in 1848, was made regius

professor of medicine in 1858, and accompanied the prince on his visit to America in 1860.

MR. FREDERICK TREVES, of London, one of the consulting surgeons in the South African war, has written an account of his experiences there, which will shortly appear under the title of "The Tale of a Field Hospital."

DR. SAMSON GEMMEL has been appointed professor of clinical medicine in the University of Glasgow, in place of Professor McCall Anderson. The latter takes the chair of practice of medicine.

THE PROJECT of holding an International Congress of Gynecology and Obstetrics in London in 1902 has been abandoned. A large amount of preliminary work had been done, but certain misunderstandings developed, and as a result it was thought best to drop the matter for the present.

RUSSIA is supplementing her stupendous anti-alcohol campaign mentioned in THE JOURNAL of September 1, p. 563, by enacting stringent laws against drunkenness. Every person found intoxicated on the streets or in public places is to be placed in jail for three days to two weeks, and on repetition imprisoned for three months. The correspondent of the *Lancet* comments that if this law is enforced, one-tenth of the inhabitants will be housed in jails.

THE *Ilustracion* of Madrid states that the officials have declared that the vaccin they have been using for the last two or three thousand vaccinations is defective. It did not take in any case. Persons believing themselves safe have mingled more or less with smallpox patients, and there is much consternation over the carelessness in standardizing the vaccin, which the editor denounces as criminal.

THE FRENCH courts have always upheld the principle of professional secrecy to the extreme letter of the law and consequently much surprise is expressed at a recent decision of the Toulouse court in a case involving the disposition of property. The medical attendant of the deceased was summoned as a witness and the court accepted his testimony for two reasons, first, because he had derived the information as the intimate friend of the family, and not necessarily as the physician of the deceased, and secondly, because the matter in question was widely known throughout the community.

FROM the recently published official report of the epidemic of the plague last year in Japan, it appears that the sanitary regulations are more advanced and stringent than in the most progressive of the western nations. The notification of cholera, dysentery, typhoid and typhus fever, variola, scarlet fever, diphtheria and plague is obligatory on the physician and also on the head of each private household and public establishment, factory, theater, school, hotel, temple, etc. The owner of the house is responsible for the execution of the measures of disinfection and cleaning ordered by the physician or the sanitary officials. Patients and even well persons can be placed in isolation hospitals at the discretion of the sanitary officials. The corpse of a person dying from one of these diseases must be cremated. As Vallin recently observed, at the Academie de Médecine: "They have jumped with both feet into the midst of European civilization and adopted the latest perfected ideals of hygiene and sanitation, untrammelled by the traditions of personal liberty, etc., with which other countries have to contend." There were 69 cases of the plague in all, with 63 deaths, including 6 among physicians or members of physicians' families. A bounty of two cents was paid for rats, and in three months 35,000 had been destroyed in Kobe and Osaka, the infested cities. Plague bacilli were found on a number of rats taken in portions of the town remote from the foci of infection.

THE AUTHORITIES in Germany are partial to the sick-benefit societies and are practically ignoring the rights of the medical profession in the matter. The physicians of Ludwigshafen have founded a "Society for the Protection of Physicians' Interests," based on the principle of self-help by close organization. The weekly dues of sixteen cents are accumulating a fund to reimburse physicians who incur pecuniary loss in the struggle. Dr. Hartmann, of Leipsic, has also organized a similar association for protection of the economic interests of

physicians and has issued an urgent appeal to arm for the fray. "The strike of the medical men at Remscheid and Elberfeld was merely a skirmish at the outposts; the battle is liable to be raging all along the line before long." Another important weapon for the struggle is the sympathetic co-operation of the professional and lay press, which must be secured, with an energetic stand on all questions involving the social and material interests of physicians. The *Berliner Zeitung* recently published an article entitled "The Medical Proletariat." It stated that certain sick-benefit societies paid the physicians from 25 to 60 pfennings per visit, but the Bon system only pays 60 pfennings in all, although the policy-holder is insured for seven days and the physician may have to call seven times. The three months Bon system insures for three months and pays only 1.5 to 2 marks, although the physician may have to make ninety calls.

Correspondence.

Alleged Insanity in the Army.

WASHINGTON, D. C., Oct. 22, 1900.

To the Editor:—Sensational paragraphs have appeared in the daily papers concerning the prevalence of insanity among our troops in the Philippines and these paragraphs have found their way into our medical journals and have been commented on by editorial and other writers. To clear up this matter I am authorized to state to you what Surgeon-General Sternberg has said officially on this subject. A summary of his report has been given to the press, but the summary touches lightly on the question, giving merely the absolute number of cases reported. In his full report he shows that the admission rate for the army in 1898 was 1.8 per 1000 men and in 1899, 1.78. The latter rate is higher than the mean annual rate of the decade 1888-97, which was 1.7, but it was exceeded by the rate of one of the years of the decade, the year 1892, when the rate was 1.79. He continues:

The increase in the rate of admission in 1899 over the mean rate of the decade was due to a general rise in the rates, largest in Porto Rico, 3.76 per 1000, smallest in the United States, 1.37 per 1000.

This increase was to have been expected on account of the rapidity with which recruiting was effected during 1898 and 1899. It is well understood by army medical officers that among recruits there are always more mentally unsound men than among a similar number of civilians of the same age and physical development. The most careful physical examination often fails to detect a man whose brain works irregularly, but who is sane enough to go to the recruiting office. Under the stimulus and excitement of the organization of troops many such men drift to the rendezvous and must be eliminated after muster into service. Men excitable but not actually unbalanced lose their equilibrium under conditions of stress in the field and the first two years of military life are apt to develop many such cases. Hence it was to be expected that the active recruiting of the past two years would bring into the ranks men who would increase the insanity admission rate of the army. That this increase would be found chiefly among those sent to foreign service was also to be expected. No doubt many young men separated from home and friends became the subjects of intense mental depression and their cases were properly recorded on the monthly reports of sick and wounded as cases of insanity; and as the only method affording a prospect of recovery was a return to their homes they were judiciously shipped by transport to the United States. Many such cases recovered during the trans-Pacific voyage or during their detention for observation at the General Hospital, Presidio of San Francisco, Cal., and never reached the Government Hospital for the Insane at Washington, D. C. That this is no mere supposition may be inferred from the following statement concerning the insanity cases of the army as a whole and of the Philippine army:

In the army, regulars and volunteers, during the calendar years 1898 and 1899, there were reported on the monthly reports of sick and wounded 347 cases of insanity, and 202 of these cases or 58.2 per cent., were committed to the Government Hospital for the Insane. One hundred and thirty-five cases, or 66.7 per cent. of the commitments, recovered in an average period of 3.9 months, 13 were improved, 6 died and 48 remained unimproved. Ninety-six of the 347 cases were

reported on the monthly reports of troops serving in the Pacific islands, and 32 of these, or 33.3 per cent., were sent to the Government Hospital for the Insane. Seventeen cases, or 53.1 per cent., of those committed recovered in an average period of 3.6 months, 2 were improved, 2 died and 11 remained not improved.

It is not deemed necessary to do more than present these official figures to silence the sensational newspaper paragraphs which have been published during the past year relative to the unusual number of cases of insanity which have been returned to the United States from our troops operating in the Philippine Islands. Respectfully,
CHARLES SMART,
Lieut.Col., Deputy Surg.Gen., U. S. Army.

Traumatic Neuroses.

WAVERLY, N. Y., Oct. 13, 1900.

To the Editor:—I note with surprise the discussion on Professor Bevan's paper in issue of September 22. Is it possible the majority of those taking part in the discussion represent the highest attainment of the neurologists of the present era? If so, there is small wonder that corporations do not generally employ them. I have too much respect for the eminent men, universally known and esteemed throughout the world, who have espoused that field to believe any such thing. Professor Bevan's experience is that of most experienced surgeons, be they railway surgeons or others. While I can not concur in all he says, in the main my experience for thirty years corroborates his views. But I wish briefly to refer to such authorities as Broudel, Paget, Charcot and many others of equally world-wide fame, who state the proportion of simulated cases of traumatic neuroses as high as 80 per cent. One such authority claims that they often nurse themselves into a condition of pathologic entity resulting in serious lesions, sometimes resulting even in death. While I do not believe so large a percentage are consciously fraudulent, I do believe a very large percentage, a large majority even, are unconsciously so. Through psychic influences such conditions are engendered and engrafted on the nervous system, and much tact on the part of the surgeon or neurologist is necessary to overcome them. We should consider a very large percentage pure simulation, but not declare them as such to the patient. We should be careful not to overlook the genuine cases and to call to our aid the experienced neurologist if necessary.

R. SAYRE HARDEN.

Medical Practice in Australia.

SYDNEY, NEW SOUTH WALES, Sept. 14, 1900.

To the Editor:—You have asked me to give you an occasional short letter. In the Australian colonies lodge practice has become a subject of much interest to the medical profession. Nearly one-fourth of the total population participates in cheap medical attendance through the means of these medical "friendly societies." There are 2650 medical men in the colonies, and of these 170 hold government positions, which prevents them from having private practice. One-third of the remainder have lodges, nearly 1200 souls to every lodge physician.

The medical profession is attempting to change existing conditions, but finds some difficulty in doing so. The lodge practice offers a ready means to the young practitioner to start in life; £150 to £200 per annum gives him some assistance while gaining a private practice. A change in the present system would be an advantage to the profession and public. In 1901 all the colonies come under a federation, and very probably after such a change more harmonious regulations will be established in regard to medical practice.

Years ago men holding American diplomas established some rather poor records in Australia. The medical men here are rather conservative, so that all Americans must suffer. A medical man here is somewhat at a disadvantage unless he has an English degree.

P. M. K.

Average Doses in the Next Pharmacopœia.—A Protest.

SAGUACHE, COLO., Oct. 20, 1900.

To the Editor:—At the last convention for the revision of the U. S. pharmacopœia an instruction was given to the revision committee to insert the average dose of each article. This was stated by one of the leaders to be merely a concession to the demand by physicians that the forthcoming revision should result in a more practical manual for their use. In this spirit it was adopted without debate or alteration.

Conversation since that time with many of the delegates to that convention, as well as with professional gentlemen from all sections of the country, convinces us that average doses are not wanted in this work by either physicians or pharmacists, as in many instances they must be a wholly indeterminate quantity, owing to the wide range of conditions that are to be met, and under no circumstances could they be more than a treacherous guide to inexperience.

What is wanted both by physicians and pharmacists and what they have for more than twenty years been demanding is the insertion in this work of maximum safe doses, the intentional exceeding of which by the prescriber shall be indicated by an exclamation mark or otherwise.

This step would bring the work into accord with other standards, assure the prescriber of the usual limit of safe dosage in producing the specific effect of the drug and guide the pharmacist in discriminating between an error and an intentionally large dose. Few situations are more responsible and perplexing to a prescription clerk than to receive a prescription containing unusual doses, yet having no authoritative standard which will justify him in declining to prepare it until he can consult the prescriber. This vital point will be in no way improved by the proposed insertion of the average dose.

The "average" dose of any drug is almost wholly a matter of individual experience and method of treatment. Scarcely two of our American authorities will agree within wide limits on the best dose of a given remedy, even for the same complaint. How absurd, then, to specify an average dose for all complaints and all conditions of environment. The average dose of quinin in the Mississippi Valley would mean certain delirium in our mountain climates. Therefore the one demand for the protection of physician, pharmacist and patient is that this authoritative standard shall simply indicate the maximum safe dose of its preparations which may be exceeded by the prescriber, if necessary, by his indicating that he recognizes its unusual size, and from which he may descend toward infinity just as far as his judgment may guide, that is immaterial; the "maximum" dose is the important and serious one which every one who in any way handles drugs must know. The "average" dose is of service to few. Can not this error, as we consider it, be rectified before the labor of revision goes too far? There will probably be two years yet before its publication.

J. TRACY MELVIN, PH.D., M.D.,

Member Convention for Revising U. S. Pharmacopœia, 1900.

Deaths and Obituaries.

ROSS RICHARDSON BUNTING, M.D., Jefferson Medical College, Philadelphia, 1856, died at his home in Roxborough, Philadelphia, Oct. 9, aged 66. He was the only child of Dr. Thomas Chalkley Bunting. After receiving his degree he studied five years in France and was one of the first Americans to receive the diploma of the Ecole de Médecine of the University of Paris. On his return to America he took charge of the practice of his uncle, Dr. Ross Richardson. He was a member of the principal medical societies and a frequent contributor to medical literature.

HOLT FAIRFIELD BUTT, M.D., University of Pennsylvania, Philadelphia, 1856, died at his home, Portsmouth, Va., Oct. 9, aged 66. Dr. Butt was one of the oldest practicing physicians in Tidewater, Va., served as a surgeon in the Confederate Army, was health officer and quarantine officer of Portsmouth, where he had practiced for more than forty years. The

Medical Society of the City of Portsmouth, at a called meeting, Oct. 11, passed resolutions expressing sorrow at his death and respect to his memory.

ELLIS HORTON, M.D., Medical College of Indiana, 1875, one of the best known physicians in Morgan County, died Oct. 6, from heart disease, a few hours after the death of his wife, at Monrovia, Ind., aged 58. He was the author of the "Hoosier Practitioner," a book which attracted considerable attention when it appeared a few years ago.

BENJAMIN F. TEMPLETON, M.D., Starling Medical College, Columbus, O., 1887, of Zanesville, died at the City Hospital, Findlay, from appendicitis, Oct. 2, aged 35. The Muskingum County Medical Society at its meeting, Oct. 5, passed resolutions of respect to his memory and of sympathy to his bereaved family.

ANDREW C. BERGEN, M.D., an old resident of Sioux City, Ia., a graduate of Long Island College Hospital in 1870, lieutenant-colonel and assistant surgeon-general Iowa National Guard, and major-surgeon 52d Iowa Infantry, U. S. V., in the Spanish-American War, died from apoplexy, October 3.

WADSWORTH A. WARD, M.D., Conneaut, Ohio, died September 30, after a long illness. He was graduated from the medical department of Western Reserve University, Cleveland, in 1861, resided for nearly forty years in Conneaut, and was surgeon to the Chicago, New York & St. Louis Railway.

ABNER V. DOAK, M.D., who studied medicine in the University of Virginia, served during the Civil War as surgeon in the Confederate service, was graduated from Bellevue Hospital Medical College and then engaged in general practice in Taylor, Tex., died September 15, aged 62.

WILLIAM W. BROWN, M.D., died a few hours after a cerebral hemorrhage, brought about, it is claimed, by an exciting automobile ride, at his home in Brooklyn, N. Y., October 5, aged 48. He was a graduate of Bellevue Hospital Medical College in 1884.

BENJAMIN F. TEMPLE, M.D., died at Zanesville, Ohio, October 2, two days after an operation for appendicitis had been performed. He was graduated from Starling Medical College, Columbus, in 1887, and was 35 years of age.

WILLIAM C. TOWLE, M.D., Medical School of Maine, 1855, died recently at his home in Fryeburg, Me., aged 70 years. During the Civil War he served as surgeon of the 12th and 23d Maine and the 8th Indiana regiments.

CHARLES MITCHELL, M.D., University of Louisville, 1871, died recently at Nashville, Tenn. The Nashville Academy of Medicine met Oct. 4, to express the esteem felt for Dr. Mitchell and the regret at his death, and appointed a committee to draft suitable resolutions.

TITUS DUNCAN, M.D., University of Michigan, 1862, one of the oldest and best known practitioners in Michigan, who served throughout the war in the medical department of the army, died at his home in Saginaw, Oct. 4, after a lingering illness, aged 66.

JOHN PAUL JONES, M.D., Bellevue Hospital Medical College, 1886, formerly a medical officer in the navy, and later a resident of Pine Bush, N. Y., died suddenly at Comfort, Texas, Sept. 26, aged 38.

JOHN T. MILLER, M.D., who, although a graduate in medicine, had not practiced for many years, died at his home and birthplace, Edgewood, near Louisville, Ky., Oct. 12, from cancer of the stomach, aged 69.

CURTIS CLARK STRONG, M.D., Bellevue Hospital Medical College, New York, 1872, who had practiced medicine for twenty-eight years in Portland, Ore., died in that city Oct. 11, after a lingering illness, aged 52.

GEORGE W. WOODLIFY, M.D., Atlanta, (Ga.) Medical College, 1888, a resident of Oscarville, Forsyth County, died from rheumatism at the Grady Hospital, Atlanta, Oct. 3, aged 39.

WILLIAM R. LARKIN, M.D., Bellevue Medical College, 1880, surgeon of the New York Fire Department for many years, died at his home in New York, Oct. 15, aged 42.

JAMES H. LAFFERTY, M.D., College of Physicians and Surgeons, Baltimore, 1881, and for many years a practitioner at New Florence, Pa., died Oct. 14, after an illness of about two weeks, aged 46.

JOSEPH L. CUTLER, M.D., New York University, 1850, and since that time a resident of Bolivar, N. Y., and a leading surgeon of Allegheny County, died at his home, Oct. 14, from uræmic poisoning, aged 71.

JOHN W. ELSTON, M.D., Bellevue Hospital Medical College, New York, 1871, one of the pioneer physicians of Kansas City, Mo., died in Burila, Colo., Oct. 12, from Bright's disease, aged 56.

FRANKLIN SMITH, M.D., University of New York, 1865, died on Oct. 9, at his home, in New York City, where he had practiced for more than twenty-five years, age 76.

LOUIS ROCH PERRAULT, M.D., Laval University, Quebec, 1887, who had practiced for a long time at Franklin Falls, N. H., died from cancer, Oct. 16, aged 38.

N. J. PASCHALL, M.D., Jefferson Medical College, 1869, a prominent physician of Fulton, Ky., died at his home, Oct. 12, two days after a stroke of paralysis.

HENRY B. GWYNN, M.D., Baltimore University, 1887, who had been engaged for many years in teaching, and was principal of Grammar School No. 1 in Baltimore, died at Gordonsville, Va., Oct. 11, from paralysis, aged 45.

T. H. HAIRSTON, M.D., University of Louisville, 1892, died at Martin, Texas, Oct. 7, from hemorrhage of the bowels, after an illness of two weeks, aged 33.

DAVID BROCK, M.D., Tennessee Medical College, Knoxville, 1899, died at his home, Unita, Tenn., Oct. 7, from consumption, aged 27.

WILLIAM M. CATERSON, M.D., Jefferson Medical College, Philadelphia, 1875, died at his home in Philadelphia, Oct. 7, aged 70.

GEORGE NELSON JONES, M.D., McGill University, Montreal, 1874, died at his home in Burlington, Iowa, Oct. 17, aged 48.

BENJAMIN A. FICHTNER, M.D., Confluence, Pa., died at Mount Pleasant, Oct. 7, from hemorrhage of the bowels, aged 65.

JAMES M. SUGGETT, M.D., Transylvania University, Lexington, Ky., 1847, died at his home in Flora, Ill., Oct. 9, aged 77.

JOHN C. BECHTEL, M.D., University of Pennsylvania, Philadelphia, 1876, died Oct. 11, at Rehersburg, Pa., aged 49.

MILTON D. BROWN, M.D., Harvard University Medical School, Boston, 1894, of Baltimore, died recently at the residence of his parents, Charles City, Va.

JOHN GORDON FRAZER, M.D., New York University, 1865, formerly of New York City, died Oct. 4.

BENJAMIN HUSSEY WEST, M.D., Harvard University, 1838, a resident of Boston, died Oct. 11, aged 86.

JOHN MILLS, M.D., Pana, Ill., died Oct. 16, aged 81.

Miscellany.

Explanation.—Owing to an oversight part of the discussion of Dr. Peter A. Callan's paper on "Operations for Secondary Cataracts," in issue of October 13, was omitted. It will appear next week.

Extirpation of Gasserian Ganglion.—F. Krause now has a record of twenty-four cases of rebellious trigeminal neuralgia treated by extirpation of the Gasserian ganglion. Two of the patients have died since, the deaths not being directly imputable to the operation. All the rest are permanently cured.

Experimental Extirpation of the Liver.—Salaskin states that some dogs survived for three to five hours after extirpation of the liver. The urea in the urine was diminished during the interval before death, but not to such an extent in proportion, as the decrease in uric acid in geese after extirpation of the liver.

Sterilization of Sponges.—Carrière reports in the *Arch. Proev. de Chir.*, 1900, ix, that sponges can be rapidly and effectively sterilized without injuring their structure, in a 10 per cent. solution of hydrogen peroxid, in which they are left to soak for twenty-four hours. The absorbent properties of the sponges are not diminished even after six or seven months in the solution. The abstract in the *Cbl. f. Chir.* mentions that his tests were restricted exclusively to the bacillus subtilis.

Useless Efforts.—Certain of our foreign exchanges are commenting editorially in a pessimistic vein, on the futility of all efforts to educate the public in the matter of hygiene. "The most impassioned apostles of hygiene and sanitary progress seem to be powerless to convince even their own wives and daughters of the dangers of trailing their skirts through the filth of the streets, collecting animal ordure and urine and pathogenic microbes, and then dragging them into private houses."

Ophthalmic Hints.—The *Berliner Klin. Woch.* for July 9 mentions two practitioners who have found mercury extremely effective in ocular affections: Heddaus uses calomel internally or inunctions of gray ointment in blepharitis, and Guthmann, calomel, combined with local treatment in scrofulous and ocular affections. Jaqueau advises sewing the eyelid down after operating for cataract, in case of senile, rebellious or inebecile patients. Wolfberg recommends a hollow bandage after operations on the eye, made of lint mixed with glycerin-gelatin or formalinized bookbinders' glue, moulded over the orbit to form a tight, hollow cap, closely adhering but nonirritating.

The Blister as a Means of Determining Death.—The *Journal de Médecine*, of Paris, of August 19, states that an absolutely reliable means of determining whether death is apparent or real, is to hold a candle to the skin for a few moments until a blister forms, which soon occurs. If there is still life in the body the blister will be filled with serous fluid, in obedience to the inevitable physiologic laws, but if death has actually occurred, the tissues obey only the physical laws, and these compel the fluid in a heated tissue to pass into the form of vapor. Therefore, if the blister contains merely steam, the body is an inert cadaver, but if the contents are fluid, life is not extinct.

Should We Treat Fever?—In the discussion of this question at the International Medical Congress, Stockvis declared that "nursing, not treatment," was what febrile patients require; hygienic, analeptic, dietetic measures, hypurgia. Robin observed that in simple hyperthermia the general oxidations are increased, while in grave hyperthermia the oxidations are diminished and merely the elementary phenomena of disassimilation are augmented. The chemical processes of the organism, the diuresis and the nervous system should be stimulated in the latter. Reduction of the temperature alone is useless, as it is merely one manifestation of the febrile state. Huehard pointed out the varieties of fever in tuberculosis for example, each originating from a different process, germination, inflammation or absorption. Antithermia, he concluded, is easily induced, but of little practical use; antipyresis is more difficult to attain, but its triple aim of promoting chemical interchanges, diuresis and stimulating the nervous system, is sometimes reached by cold baths and weak doses of quinin—large doses produce the opposite effect.

A Peculiar Case of Cyanosis.—Dr. William Osler reports a remarkable case of cyanosis in a young white man now at the Johns Hopkins Hospital. He is a Pole, and it was difficult to elicit his history. He entered October 3. His illness began September 29, with chill, fever, pain in the chest, stomach and head and diarrhea. He had also had cough and expectoration and had been confined to bed. On admission he complained of pain in the abdomen, had considerable dyspnea, dry tongue and deep cyanosis. The respirations were 30 per minute, but the dyspnea was not urgent. There was slight emphysema and asthma. The leucocytes numbered 18,000. There was practically no fever, the temperature being, as a rule subnormal. He had remained practically in the same condition, the cyanosis being as noticeable in the recumbent as the erect posture. On October 7 petechiæ appeared about the face and extended over the entire body except the legs. The appearance was very like malignant hemorrhagic smallpox. The eosinophiles were 11 per cent. October 11, he complained of extreme tenderness over the muscles, and some muscular tissue was extirpated for examination. Much fatty degeneration was found. The eosinophiles were 25 per cent. October 14 the cyanosis began to diminish. Blood cultures were negative. Albumin was doubtful; there were no casts. The muscular tenderness had disap-

peared. Pulse good. There was a little puffiness of the face and eyelids. The petechiæ were still extensive. Dr. Osler regarded the case as entirely anomalous.

MARINE HOSPITAL NOTES.

ASST.-SURGEON J. W. KERR, who has been detailed for duty in the office of the United States Consul General at Hong Kong, China, sailed from Honolulu for Hong-Kong on the steamship *Coptic* on Sept. 22.

QUARANTINE SERVICE IN PHILIPPINE ISLANDS.

AN EXECUTIVE order has been issued which details a commissioned officer of the Marine-Hospital Service on the staff of the military governor of the Philippine Islands as chief of the quarantine service of the islands. P. Asst.-Surgeon J. C. Perry has been detailed as such officer.

YELLOW FEVER IN HABANA.

REPORTS from Surgeon Glennan at Havana show that for seventeen days ending October 17, there were 175 new cases and thirty-nine deaths.

ASST.-SURGEON R. L. WILSON has been ordered from San Francisco to Honolulu to report to Surgeon Carmichael for duty at the marine-hospital station recently established at Honolulu for the treatment of seamen of the American merchant marine. Asst.-Surgeons Dunlop Moors and Carroll Fox, and Hospital Steward Myron R. Mason have been ordered to return from Dutch Harbor, Alaska, at the close of navigation. Assistant Surgeons E. H. Earle and B. J. Lloyd, who have been on duty at the national quarantine station at Nome, Alaska, are expected to return on the last revenue cutter leaving Nome at the close of the season.

THE ACTING ASST.-SURGEONS at the fruit ports of Central and South America have been ordered to return to the United States, November 1. This inspection service will be re-established on the same lines the coming season. The acting asst.-surgeons who were appointed in July last at Handsboro, Biloxi, Pascagoula, Scranton, Bay St. Louis, Pass Christian, McHenry, Ocean Springs and Gulf Port, Mississippi, to act as sanitary observers with a view especially to the early detection and report of first cases of yellow fever on the Gulf Coast, have also been discontinued. In addition to the places named above, the service has had its regular officers in all large ports on the South Atlantic and Gulf, who were given special instructions to maintain vigilance at their respective ports.

SANATORIUM FOR CONSUMPTIVE SAILORS.

THE MARINE-HOSPITAL Sanitarium at Fort Stanton, New Mexico, is now pretty well equipped, and there have been admitted since November, 1899, up to the present time, 78 patients suffering with tuberculosis. Of these 11 have been discharged recovered, 13 improved in health with prospect of recovery, and 8 have died, showing a very fair percentage of recoveries. Of the 8 who died, 7 were cases too far advanced at the time of their arrival to be benefited by the change of climate. It would seem from the above that the establishment of this sanitarium, which was sanctioned by the last Congress, was a wise measure, and it is in line with the efforts of State and municipal authorities to make provision for this class of patients.

PLAGUE SITUATION IN GLASGOW.

CABLE REPORTS from P. A.-Surgeon Thomas, at Glasgow, show that for the week ended September 29 there were four deaths from plague in the city, but no new cases; week ended October 6, one death but no new cases; and during the week ended October 13 there were no deaths and no new cases. The authorities, therefore, have probably succeeded in suppressing the epidemic. During the outbreak there have been eight deaths all told.

A CASE OF PLAGUE AT SAN FRANCISCO.

Another case of plague has been reported by the local board of health at San Francisco as occurring October 5, the diagnosis having been confirmed by bacteriological examination, October 11. The case was taken from the same house from which a fatal case was taken July 5 to the City Hospital. This

is the first case reported since August 18. It is presumed that the case was a Chinaman, as were the other cases.

YELLOW FEVER IN HABANA.

Reports from Surgeon Glennan, at Habana, show that for the week ended October 5 there were 55 cases of yellow fever officially reported in that city, with 16 deaths, and for the week ended October 12 there were officially reported 76 cases, with 14 deaths.

DETENTION OF NON-IMMUNE PASSENGERS FROM HABANA.

The value of the quarantine regulations requiring detention at northern ports of non-immune passengers from Habana a length of time to complete five days from departure was illustrated recently at the New York quarantine. A saloon passenger who had been given a red ticket at Habana by Surgeon Glennan, thus indicating that he was not immune, was detained at Hoffman Island. The voyage from Habana generally requires three and one-half days, so the passengers of this class are subject to one and one-half or two days detention. The same night, he developed a marked case of yellow fever and was transferred to Swinburne Island, where, according to Dr. Doty, he is doing well.

AN IMPROVED FORMALDEHYDE GENERATOR.

Under date of August 14, 1900, the acting director of the laboratory made a report to the surgeon-general on an improved formaldehyde lamp, of which a thorough test, lasting about a month, had been made. This lamp, known as the Kuhn Generator, is an apparatus designed to produce formaldehyde gas by the de-hydrogenization of wood or methyl alcohol. This is accomplished by passing the vapor of alcohol through discs or plates which contain incandescent, metallic platinum in a state of fine division. It is an improvement on the lamp that was designed and reported on by Surgeon Kinyoun. So satisfactory were the results of the tests that a dozen of the lamps have been purchased and are now in actual operation at the quarantine stations, where a thorough test of their durability, as well as practical utility, will be made. The advantages of an efficient lamp of this kind are so many that an enumeration of them in a short article is impossible. The full report, giving the details of the experiments, will be published shortly.

Societies.

Coming Meetings.

Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13-17.
The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, Nov. 13-15.
Oklahoma Territory Medical Society, Oklahoma City, Nov. 15.
Indian Territory Medical Association, Muskogee, Dec. 4-5.
Pan-American Medical Congress, Havana, Cuba, Dec. 26-28.
Western Surgical and Gynecological Association, Minneapolis, Minn., Dec. 27-28.

THE AMESBURY (Mass.) MEDICAL ASSOCIATION, at its annual meeting, October 12, elected Dr. John A. Fitz-Hugh secretary and Dr. John A. Douglass, treasurer.

THE DELAWARE COUNTY (Ind.) MEDICAL SOCIETY met at Muncie, October 10. Dr. George W. H. Kemper presented a paper entitled "A Half-Hour with Hippocrates."

THE BROOKLINE (Mass.) MEDICAL CLUB has elected the following officers: Dr. J. Henry Woods, president; Dr. Henry M. Cuts, vice-president, and Dr. George H. Francis, secretary and treasurer.

THE IOWA AND ILLINOIS DISTRICT MEDICAL SOCIETY held its quarterly meeting at Rock Island, Ill., October 11, and listened to a paper by Dr. St. Elmo M. Sala, Rock Island, on "The Treatment of Typhoid Fever."

THE OSAGE COUNTY (Kas.) MEDICAL SOCIETY organized at Osage City, October 9, and elected the following officers: Dr. Albert L. Stubbs, Burlingame, president; Dr. Edwin B. Packer, secretary, and Dr. William B. Artz, treasurer.

A "PHYSICIANS' CLUB" has been formed at Greenfield, Mass. At the initial meeting, October 10, Dr. Halbert E. Stetson, Greenfield, was elected president and Dr. George A. Cooke, Montague, secretary and treasurer.

THE ESSEX NORTH DISTRICT (Mass.) MEDICAL SOCIETY entertained the Essex South District Medical Society at its meeting in Newburyport, October 10. Dr. William B. Coley, New York, delivered an address on "The Results of Modern Methods in the Treatment of Cancer."

THE DETROIT ACADEMY OF MEDICINE, at its annual meeting, October 9, elected Dr. Arthur D. Holmes, president; Dr. Heneage Gibbs, vice-president, and Dr. Harrison D. Jenks, secretary-treasurer. A special committee was appointed to investigate the Physicians' Business League.

THE CLARK COUNTY (Ky.) MEDICAL SOCIETY met at Winchester, October 13. Dr. J. N. McCormack, Bowling Green, secretary of the State Board of Health, addressed the society on state sanitary matters with especial reference to county boards of health.

THE NORTH BERKSHIRE DISTRICT (Mass.) MEDICAL SOCIETY met at North Adams, September 25, and elected the following officers: Dr. William Galvin, Blackinton, president; Dr. Nicholas Crofts, North Adams, vice-president; and Dr. Lyman A. Jones, North Adams, secretary and treasurer.

THE OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY of Washington, Dr. S. O. Richey, president, held its first fall meeting, October 9, at the residence of Dr. W. K. Butler, who read the paper of the evening, entitled, "The Necessity for Wearing Glasses."

THE GUTHRIE DISTRICT (Okla.) MEDICAL SOCIETY organized on September 29 and held its first regular session, October 10, with the following officers: Dr. John R. Hamil, president; Dr. Abraham L. Blesh, vice-president, and Dr. Eugene O. Barker, secretary.

THE NORTHEASTERN IOWA MEDICAL SOCIETY held its semi-annual meeting at Waukon, October 12, at which papers were presented by Dr. Daniel H. Bowen, Waukon, on "Typhoid Fever"; Dr. J. Cliff Crawford, Waukon, on "Catarrhal Pneumonia," and Dr. Philo M. Jewell, Decorah, on "Surgical Appendicitis."

THE ORANGE MOUNTAIN (N. J.) MEDICAL SOCIETY held its two hundredth meeting, Oct. 12, at Newark. The president, Dr. James S. Brown, Montclair, paid a tribute to the memory of the late Dr. William Pierson. Dr. Thomas W. Harvey, Orange, then gave a short résumé of the history of the society since its organization in 1883.

THE LAWRENCE COUNTY (Pa.) MEDICAL SOCIETY held its annual election of officers at New Castle, Oct. 11, with the following result: Dr. John Foster, president; Drs. Wallace and Charles A. Reed, vice-presidents; Dr. Edwin C. McComb, secretary, and Dr. William G. Wilson, treasurer, all of New Castle.

THE JACKSON COUNTY (Mo.) MEDICAL SOCIETY held its annual meeting at its rooms in Kansas City, Oct. 11, and elected the following officers: Dr. Amos A. Freyman, president; Dr. Winn F. Morrow, vice-president, Dr. Franklin E. Murphy, secretary; Dr. Louis W. Linscher, treasurer; Dr. Charles B. Hardin, censor, and Dr. Edward H. Thrallkill, librarian.

THE SAN JOAQUIN VALLEY (Cal.) MEDICAL ASSOCIATION held its annual meeting at Visalia, October 9, and elected the following officers: Dr. J. Lawrence Maupin, Fresno, president; Drs. John B. Rosson, Tulare, Henry Hildreth, Delano, and Thomas O. McSwain, Visalia, vice-presidents; Dr. Joseph D. Davidson, Fresno, secretary, and Dr. Thomas M. Hayden, Fresno, treasurer.

THE MEDICAL ASSOCIATION OF THE ST. FRANCIS DISTRICT, P. Q., at its quarterly meeting at Sherbrooke, elected Dr. T. L. Brown, Richmond, president, Dr. Stevenson, Coaticook, vice-president, and Dr. Thomas, Lennoxville, secretary. The transmission of typhoid fever and the question of medical fees were discussed.

THE CHICAGO GYNECOLOGICAL SOCIETY held its annual meeting, Oct. 19, 1900, and elected the following officers: Dr. Reuben Peterson, president; Drs. Lester E. Frankenthal and Henry Bangs, vice-presidents; Dr. William H. Rumpf, secretary; Dr. Addison H. Foster, treasurer; Dr. Charles S. Bacon, editor; Dr. Emil Ries, pathologist.

THE IDAHO STATE MEDICAL SOCIETY, at its meeting at Boise, October 4 and 5, elected the following officers: Dr. Joseph R. Numbers, Weiser, president; Dr. Hubert A. Castle, Pocatello, vice-president, and Drs. John W. Given, Blackfoot, Robert L. Nourse, Hailey; Jesse L. Conant, Genesee; Charles W. Shaff, Lewiston, and Lucian F. Micah, Boise, board of censors.

THE WAYNE COUNTY (Mich.) MEDICAL SOCIETY, at its annual meeting, October 4, elected Dr. John J. Mulhern, president; Dr. Samus Bell, vice-president; Dr. George G. Gordon, secretary, and Dr. C. Henri Leonard, treasurer. Dr. Edgar B. Smith offered at paper on "Preparation for Surgical Operations"; and Dr. Edward T. Milligan addressed the society on October 18, on "Adenoid Vegetations."

THE CUMBERLAND DISTRICT (N. J.) MEDICAL SOCIETY convened at Millville, October 9, when papers were presented by Dr. Dowling Benjamin, Camden, on "Some Mooted Points in Pelvic and Abdominal Surgery," and by Dr. Charles W. Wilson, Vineland, on "Treatment of Appendicitis from the General Practitioner's Standpoint." Dr. S. Thomas Day, Port Norris, was elected reporter for the ensuing year.

THE HARTFORD (CONN.) CITY MEDICAL SOCIETY at its October 1 meeting was presented by Dr. W. Gordon Russell with a stately carved oaken chair for the use of its presiding officer and also with some beautiful anatomical drawings, the donor of which wished to remain unknown. Drs. Arthur J. Wolff and Charles E. Taft reported cases and presented specimens, and Dr. George R. Shepherd read a paper on "Non-Surgical Methods for Treating Cancer."

THE BRASHEAR MEDICAL SOCIETY held its quarterly meeting at Bloomfield, Ky., October 16. Dr. Aloysius G. Blincoe, Bardstown, read a biographical sketch of Dr. Walter Brashear, and a paper on "Some Facts, Fancies and Fallacies About Eye-Strain"; Dr. William W. Ray, Springfield, presented a paper on "Some Practical Trifles"; Dr. Benjamin E. Gore, Bardstown, one on "What Shall We Prescribe?" and Dr. J. T. Tichenor, Waterford, one on "Erysipelas."

THE MIDDLESEX SOUTH DISTRICT (Mass.) MEDICAL SOCIETY met at Cambridge, October 10. Dr. Zabdil B. Adams read a paper entitled "When Should the Medical Examiner Be Called?" Dr. Julian A. Mead, Watertown, considered "The Duties of the Medical Examiner"; Dr. Eugene G. Hoitt, Marlboro, compared the "Advantages of the Medical Examiner System Over the Coroner System," and made suggestions toward the betterment of the present law, and the Hon. John R. McLaughlin discussed "The Medical Examiner and the Physician in the Witness-Box from the View-Point of the Law."

THE CHESHIRE COUNTY (N. H.) MEDICAL SOCIETY held its annual meeting at Keene, October 9. The guest of the evening was Dr. Charles G. Cumston, Boston, who delivered an address on "Cancer of the Liver and Gall-Bladder." Dr. Silas M. Dinsmoor, Keene, read a paper on "Some New Remedies," and the retiring president, Dr. Israel A. Loveland, Gilsum, delivered the annual address on "The Prevention of Nervous Diseases Throughout the State."

THE McDONOUGH COUNTY (Ill.) MEDICAL SOCIETY held its annual meeting at Macomb, October 2. Papers were read by Dr. John P. Roark, Bushnell, on "Rheumatism"; Dr. Arthur D. Pollock, Macomb, on "The Treatment of Typhoid Fever and Its Complications," and Dr. Samuel C. Stremmel, Macomb, on "Dysmenorrhea." The following officers were elected: Dr. Joseph B. Holmes, Macomb, president; Drs. John B. Roark, Bushnell, and Henry Knappenberger, Macomb, vice-presidents; Dr. Robert E. Lewis, Macomb, secretary and treasurer, and Dr. Elizabeth R. Miner, Macomb, necrologist.

THE SOMERSET COUNTY (Pa.) MEDICAL ASSOCIATION held its annual meeting at Meyersdale, October 18, and elected the following officers: Dr. Bruce Lichty, Meyersdale, president; Dr. Henry Garey, Berlin, vice-president; Dr. H. Clay McKinley, Meyersdale, secretary; Dr. W. T. McMillan, Meyersdale, corresponding secretary, and Dr. Walter S. Mountain, Confluence, treasurer.

THE FULTON COUNTY (Ill.) MEDICAL SOCIETY held its third annual meeting at Canton, October 2, and elected the following officers: Dr. W. E. Schallenberger, Canton, president; Drs. Perry H. Stoops, Ipava, and S. B. Bennett, Canton, vice-presidents; Dr. David S. Ray, Jr., Cuba, secretary, and Dr. Frank M. Harrison, Bryant, treasurer. Dr. Paul S. Scholes, Canton, read a tribute to the late Dr. Joseph V. Harris; Dr. Ellen Heise, Canton, presented a paper on "Smallpox"; Dr. Willis T. Ziegler, Canton, one on "Appendicitis," and Dr. Thomas R. Plummer, Farmington, one on "Tonsillitis."

THE NATIONAL ASSOCIATION OF COLORED PHYSICIANS AND SURGEONS held its fourth annual meeting at St. Louis, October 3 and 4. Papers were read by Dr. John W. Rowland, Pine Bluff, Ark., on "La Grippe Meningitis"; Dr. Willis E. Sterrs, Decatur, Ala., on "Typhoid Fever"; Dr. John W. Norrell, Elizabethtown, Ky., on "Carcinoma of the Pyloric End of the Stomach." The following officers were elected: Dr. Ferdinand A. Stewart, Nashville, Tenn., president; Dr. A. Wilberforce Williams, Chicago, vice-president; Dr. John W. Norrell, Elizabethtown, Ky., secretary, and Dr. Ottoway T. Fields, St. Louis, treasurer. The next meeting will be held in Hot Springs, Ark., in September, 1901.

THE IOWA STATE ASSOCIATION OF RAILWAY SURGEONS convened at Des Moines, October 11, for its seventh annual session. President Dr. Nathan C. Morse delivered an address in which he urged that the principles of first-aid be taught in our public schools and generally. Papers were read by Dr. John N. Warren, Sioux City, on "Fractures of the Pelvis"; Dr. David S. Fairchild, Clinton, on "Sequela of Case of Nerve Injury Presented at Clinton Meeting"; Dr. Gilbert Baldwin, Ruthven, on "Talma's Operation, Report of Case"; Dr. John C. Schrader, Iowa City, on "Railway Surgeons as Sanitarians"; Dr. Van Buren Knott, Sioux City, on "The Use of Anesthesia in the Diagnosis and Treatment of Fractures"; Dr. Henry C. Eschbach, Albia, on "Ununited Fractures"; Dr. Paul E. Gardner, Hazleton, on "Injuries of the Elbow-Joint"; Dr. Francis V. Shore, Des Moines, on "The Simulation of Eye Diseases"; Hon. Carroll Wright, Des Moines, on "The Relation of the Railway Surgeon to His Patient"; Dr. Gilbert G. Cottam, Rock Rapids, on "Technic and Limitations of Emergency Surgery"; Dr. Arthur L. Wright, Carroll, on "Hernia"; Dr. George C. Stockman, Mason City, on "Submeningeal Cocain Anesthesia"; Hon. W. H. Bailey, Des Moines, on "What Pecuniary Compensation Should One Receive for Disabling Injury or Loss of Life?" The following officers were elected: Dr. Gilbert G. Cottam, Rock Rapids, president; Dr. Arthur L. Wright, Carroll, vice-president; Dr. Ira K. Gardner, New Hampton, secretary, and Dr. Gilbert Baldwin, Ruthven, treasurer. Des Moines was selected as the next meeting-place of the association.

New York State Medical Association.

Seventeenth Annual Meeting, held in New York City, Oct. 15-18, 1900.

President Dr. E. D. Ferguson, Troy, in the chair.

There was a very largely-attended meeting of the Council and Fellows held in the forenoon of the first day at the New York Academy of Medicine, in accordance with the plans for re-organization of the State Association. It will be remembered that the "Fellows" are the delegates appointed to represent the whole Association on a basis of representation of one in ten. The meeting was called to order promptly by the president of the Association, Dr. E. D. Ferguson, who then delivered an address in which he set forth the more important changes which it was proposed to make in the organization of the Association.

DR. FREDERICK HOLME WIGGIN, chairman of the Committee on Reorganization, in presenting the report of this committee—the proposed new by-laws—delivered an address in which he pointed out very clearly the need for better organization, and the interest that had already been awakened in various parts of the United States in connection with the proposed action of the Association.

An attempt was then made to consider the by-laws seriatim, but after considerable discussion it became evident that those present had not fully grasped the full meaning of the proposed plan, and accordingly the by-laws were referred to an enlarged committee.

The Association was called to order by the President promptly at 10 a. m., Tuesday, and it then formally accepted the charter procured last spring. This having been done, the Association took a recess to allow an opportunity for the Council and Fellows to meet and pass on the proposed by-laws. The enlarged committee presented to this body the result of its labor since the session of the day previous. In brief, it may be said that while they recommended the adoption of the general plan, as printed and circulated, they were in favor of certain minor changes. Among the latter, was the proposition to postpone, for the present, the institution of associated medical defense and the conferring of a death-benefit. After a very full discussion by the Council and Fellows, the report of the committee was adopted, the new by-laws stating very clearly the purpose of the Association to embark in the work of defending its members against suits for malpractice at no very distant day. This preliminary business served to clear the air of many doubts, fears and suspicions that had hovered over the meeting at its first session, and in the succeeding days of the convention it was a matter of common remark that the spirit of harmony and good fellowship was abroad, and that the members of the New York State Medical Association were cemented together by closer ties than ever before.

A NEW THEORY OF MUSCULAR RHEUMATISM.

SIR JAMES GRANT, Ottawa, at the opening of the regular scientific session, was presented to the Association, and he embraced the opportunity to describe his studies in muscular rheumatism, and his recently published conclusion, to the effect that muscular rheumatism is dependent on the accumulation in the muscles of an abnormal charge of electricity. The treatment, founded on this theory, has certainly proved very successful in his hands. It consists in plunging a number of fine needles into the affected muscles, and almost immediately withdrawing them. When this had been done, it would be found that the rigidity and pain in the muscles had disappeared. By connecting the needles with an electrometer one could easily satisfy himself of the existence of the electrical charge, as well as of its removal by passage through the uninsulated needles to the person of the physician.

ANALOGY BETWEEN NERVOUS AND ELECTRIC CONDUCTIBILITY, AND THEIR RELATION TO FUNCTIONAL NEUROSES.

DR. A. D. ROCKWELL, New York City, read a paper with this title. He considers that there is an analogy between nerve conductivity and the variations in electric conductivity noticed in an instrument known as a "coherer." This is a glass tube filled with iron filings. It does not normally conduct electricity, but if placed in a solenoid situated in the path of a high frequency current, it at once becomes a conductor, presumably because this current has produced an expansion of the sheaths of condensed ether supposed to surround each particle of metal. The natural resistance of the neurons is thought to be overcome in a similar manner.

COCAINISM.

DR. T. D. CROTHERS, Hartford, Conn., read a paper on this topic. He said that cocaine appears in two forms, the periodic and the continuous. The principal action of cocaine is a stimulation of the brain, producing a sense of exhilaration and a peculiar exaltation of brain activity. The stage of intoxication is marked by great talkativeness, a flow of speech which is in marked contrast with the speech of the alcoholic. Again, the cocaineist may be distinguished from the alcoholic by his solitary habits. A significant symptom in the later stages is a sensation of bugs crawling over the skin. The prognosis is always grave. In treating cocaineism, the speaker recommended the immediate withdrawal of the drug, and the use of valerian, hyoscyamus and other drugs of that class as temporary substitutes. The patient should be sent away to a sanatorium until the acute symptoms had subsided, and

after that should remain for a long time under the constant supervision of his family physician. One cause for the undoubted increase in the use of cocaine is that it is sold everywhere without the restraint of law. Other reasons for the spread of cocaineism are its reckless use by many physicians, and its presence in many proprietary preparations.

HEART COMPLICATIONS IN RHEUMATISM.

DR. JAMES J. WALLS, New York City, presented in this paper some of the views recently expressed at the International Medical Congress in Paris. He stated that there is little doubt that acute rheumatism is an infectious disease, although its specific cause must be totally different from micro-organisms known at present. The treatment should embrace measures calculated to secure antiseptics of the alimentary canal.

TREATMENT OF PATIENT PRECEDING EXPECTED CONFINEMENT.

DR. EDWARD P. DAVIS, Philadelphia, read the opening paper of the symposium on obstetrics. Commenting on the importance of a careful supervision of the excretory functions, he said that the occurrence of neuralgic disturbance of the cardiac rhythm, changes in temperament, loss of appetite and vague frontal headache, associated with diminished excretion, constitutes a clinical picture of great significance. In the latter part of pregnancy, it is well to limit the consumption of meat to once daily. The presence of serum albumin alone in the urine is of but little significance. When toxemia is present, water should be drunk freely, and it could also be used to advantage in the form of colonic washings. Calomel, in doses of 1/20 of a grain, night and morning, is very useful in increasing the elimination of urinary solids. If sedatives are needed in cases of toxemia, chloral or some derivative of it gives the best results. Walking is a most valuable exercise for pregnant women of all classes of society. A diagnosis of central placenta prævia at any time during pregnancy should be considered a positive indication for the immediate induction of labor.

MANAGEMENT OF NORMAL LABOR, INCLUDING THE USE OF FORCEPS.

DR. AUSTIN FLINT, JR., New York City, insisted on the pregnant woman taking daily walks up to the time of confinement, the object being to strengthen the muscles, soften the cervix and guard against malpresentations. A thorough pelvic examination, he said, should be made at the end of the eighth month.

OPHTHALMIA NEONATORUM.

DR. JOHN E. WEEKS, New York City, was favorable to the employment of the Credé method of prophylaxis in all cases. The treatment should consist in washing out the eyes every half hour with a 3 per cent. boric acid solution, together with a daily application to the lids of a 1 per cent. solution of nitrate of silver, and the use of cold applications until secretion ceases.

AFTER-TREATMENT OF THE MOTHER IN NORMAL CASES.

DR. GEORGE W. JAGMAN, New York City, contributed this paper. Attention was called to the importance of the physician's remaining at hand for at least one hour after delivery in order to insure continued firm contraction of the uterus. He saw no objection to urinating in the sitting posture after the third day. It was not generally known that an excessive secretion of milk could be materially diminished by taking coffee. Hemorrhoids were often quite troublesome after labor, but would usually be relieved by cold applications and the use of suppositories containing one grain of ichthyol.

PURPERAL SEPSIS: ITS PATHOLOGY AND TREATMENT.

DR. WILLIAM R. PRYOR, New York City, said that autoinfection in puerperal women had been pretty thoroughly disproved, with possibly a few very rare exceptions. The cases could be divided into two classes, septic thrombosis and pelvic lymphangitis. The first class is especially fatal. He mentioned the popular treatment by intermittent washings only to condemn it as inefficient and harmful. Cases of septic thrombosis were the only ones in which he would resort to hysterectomy. He commences treatment by thorough curettement of the uterus and washing out of debris, and follows this by a free incision into the cul-de-sac and evacuation of serum. He then applies a Mikulicz dressing, using a specially prepared

pared iodoform gauze. Cold enemata of salt solution are used every three hours to favor elimination.

TECHNIQUE OF BLOOD EXAMINATION.

DR. EDWARD K. DUNHAM, New York City, opened the evening symposium on the blood by describing the methods of determining the specific gravity and reaction of the blood, and of estimating the quantity of hemoglobin and the number of corpuscles.

LEUCOCYTOSIS IN RELATION TO SURGICAL DIAGNOSIS.

DR. JOSEPH C. BLOODGOOD, of the Johns Hopkins University, discussed the interesting relations of leucocytosis to appendicitis, peritonitis and obstruction of the bowel. He said that in cases of appendicitis the absence of a leucocytosis does not exclude a small abscess, but its presence is almost pathognomonic of absence. A high leucocyte count in the first twenty-four hours of a peritonitis was of little significance, but its persistence after this time made the prognosis more favorable. He had found that intestinal obstruction from any cause is almost invariably followed in a few hours by a rise in the leucocyte count.

PERNICIOUS ANEMIA.

DR. ALFRED STENGEL reviewed in this paper the literature, and said he would regard as pernicious anemia a case presenting the usual symptoms of this disease, together with a count of the red blood corpuscles amounting to 1,500,000, and a proportionate number of leucocytes. By appropriate treatment it was entirely possible to stay the progress of the disease for several years.

LEUKEMIA.

DR. C. Y. WHITE, Philadelphia, considered leukemia under two heads, namely, splenomyelogenous leukemia and lymphatic leukemia. The anemia of the second variety is less marked, and there is less red cell degeneration and leucocytosis.

PARASITES IN THE BLOOD.

DR. LEON T. LE WARD, New York City, under this heading, gave an interesting account of the two very recent and famous experiments by which had been demonstrated the positive part played by the mosquito in the malarial infection of man.

VALUE OF BLOOD EXAMINATIONS IN THE DIAGNOSIS OF TRICHINOSIS.

DR. H. C. GORDINIER, Troy, reported in this paper two cases of trichinosis, coming under his observation, which served as additional confirmation of the value of the discovery made by Dr. Brown, Baltimore, that the enormous increase of eosinophiles in the blood is a valuable diagnostic aid in cases of trichinosis.

The following officers were elected: President, Dr. John A. Wyeth, New York City; vice-president, Dr. A. A. Hubbell, Buffalo; secretary, Dr. Frederick Holme Wiggin, New York City; treasurer, Dr. E. H. Squibb, Brooklyn; chairman of committee on legislation; Dr. Irving S. Haynes, New York City; chairman committee on legislation, Dr. E. Eliot Harris, New York City; chairman library committee, Dr. John W. S. Gouley, New York City; chairman committee on public health and medical charities, Dr. Stephen Smith, New York City; chairman committee on nominations, Dr. C. A. Wall, Buffalo; chairman committee on publications, Dr. James Hawley Burtenshaw, New York City. The foregoing constitute the Council of the Association for the ensuing year. The district presidents at present are as follows: First District, Dr. Charles B. Tefft, Utica; Second District, Dr. John T. Wheeler, Chatham, Third District, Dr. Theron A. Wales, Elmira; Fourth District, Dr. William H. Thornton, Buffalo; Fifth District, Dr. J. C. Bierwirth, Brooklyn.

DR. C. A. L. REED, president of THE AMERICAN MEDICAL ASSOCIATION, was then introduced to the Association. He said: I thank you for your very cordial greeting, and I accept it as a feat on your part to our great National Organization which I have the honor, for the time being, to represent. I have peculiar pleasure, however, in meeting you to-day because I discover in your charter, a copy of which has been placed in my hands by your efficient secretary, a proclamation of princi-

ples which appeals to me with peculiar force. The first there enumerated, the cultivation of our humane sciences and the promotion of the esprit de corps in our profession, are sufficient in themselves to commend this organization to the enthusiastic regard of every practitioner in this Empire State. Your provision for a death-benefit, which I understand is held under advisement, must, it seems to me, appeal to every one who has a sympathetic cord in his bosom and understands the mutability of fortune. It is the irony of experience that he who often needs succor is the Samaritan himself. This feature of your organization may well be emulated by every state society in the Union.

On this occasion, however, I find myself especially interested in the fourth plank in your platform—that plank which announces as one of your fundamental principles the promotion of harmony, or, as your charter itself says, "the furtherance of cordial professional relations and fellowship between the medical profession of the State of New York and the medical profession of other states of the United States and of foreign countries through the medical associations and societies of such states and countries."

Criticism of that clause must exhaust itself in commendation. It breathes the spirit of harmony, and the spirit of harmony is abroad in the profession, not alone in the State of New York but in the country over. This clause means the union of your noble profession. This clause means that every member of your state organization should become a member of THE AMERICAN MEDICAL ASSOCIATION, and I am delighted to know that many already sustain that relation. This means, as it should mean, that you stand consecrated to an idea above other ideas—the idea of the unity and the solidarity of our great national profession. I know of no object more worthy of your zealous devotion. It simply means that this movement is one on your part that will command the cordial co-operation of the great national body of the profession—not only THE AMERICAN MEDICAL ASSOCIATION, but the great independent body of the profession.

If you stop to think of that independent body you can appreciate its magnitude. Notwithstanding your splendid success in this body—unparalleled in the work of state organization in the United States—and notwithstanding the existence of another state organization in New York State, where the regular profession numbers ten thousand, there are but two thousand yet within the fold of organization. In the United States of America, with an aggregate regular profession of nearly one hundred thousand, there are but ten thousand enrolled in THE AMERICAN MEDICAL ASSOCIATION. There is, therefore, much work in the direction of organization. The spirit is abroad in the land; it will brook no opposition. It is deeply grounded in the sentiment of the general profession, that to be effective at Albany, or Washington, or at the various state capitals, the profession must stand together, man to man and shoulder to shoulder. It ought to take but little time and less effort to accomplish a change that is already accomplished in sentiment. There is not much occasion for the rescinding of resolutions; there is not much occasion for the modification of by-laws or the amendment of constitutions. Possibly some memories may be well effaced, and some conventions that have honorably served their day but are now relatively meaningless. These are subsidiary matters which can well take care of themselves.

He who interposes prejudice, preference or prerogative as obstacles to this consummation is to be looked on and treated as the enemy of progress. I ask, and look confidently, for the cordial co-operation of this great and efficient organization in extending its influence all over the United States. From the remotest districts you will find coming back to you words of cheer, words of encouragement, words of co-operation. The medical profession to-day—and I have reason for the faith that is in me—the medical profession of to-day, the country over, is ready to taken any necessary step, through its organized bodies, that it may present a united front to the dawning century.

(To be continued.)

Chicago Medical Society.

October 10, 1900.

THE CLIMATIC CONDITIONS OF THE SOUTHWEST CORNER OF THE UNITED STATES.

DR. NORMAN BRIDGE read the above paper. Climate is wholly a question of atmosphere. The atmosphere is the same everywhere with variations due mostly to local conditions. The variations may be classified under: 1, temperature; 2, moisture; 3, weight of air (barometric); 4, sunshine; and 5, contaminants as of gases, dust and microbes. These variations are due largely to the physical conditions of each region of the earth's surface; and as the latter differ more or less there are no two climates that are exactly alike. The most potent physical factors are: altitude—mountains—latitude, and large bodies of water.

Southern California is divided by a mountain range that, with the ocean, surrounds an irregular half-elliptical region, which has a climate wholly different from that of the desert lands north and east of the mountains. The climate of this coast-mountain region is determined by the three conditions named to a degree hardly found more marked, in any part of the world. The mountain range is four to five thousand feet high; the plateau of habitable land (from 1 to 50 miles wide) has an elevation from sea level to 1500 feet, and rising toward the foothills; the ocean is enormous and cold; and the latitude is nearly as far south as Cairo in Egypt.

As a result of all this the sun warms the land during the day, the air rises by its lightness, air cooled by flowing over the ocean rushes in to take its place all day, making an ocean breeze. The dry air of the mountains and plains causes rapid radiation of heat at nightfall, the stars are brighter there than in this part of the country by reason of the reduced humidity; the air becomes rapidly cooled in consequence, and first cools on the mountains; and by its weight flows down toward the sea most of the night producing a gentle breeze nearly every night, especially in summer. The result of these conditions is a mild, comfortable atmosphere nearly every day throughout the year. The exceptions are an occasional wind in autumn and rather uncomfortably high temperature in some of the more inland foot-hill regions a few days in summer. Without the peculiar arrangement of mountain and ocean with habitable land between, Southern California with its far south latitude, from being one of the most comfortable regions for a residence winter and summer in the world, would be a most uncomfortable one except in winter.

The desert region north and east of the mountains is very dry and very warm in the summer, although not uncomfortable in winter. Heavy rains fall irregularly, more often in the summer, but the air is usually very low in humidity and altogether the climate is totally different from that of the zone on the other side of the mountains.

The highlands of Arizona are arid and comfortable both winter and summer. The regions of low altitude, especially far south, are in summer too hot for comfort.

The statistics as to physical conditions of the southwest corner are interesting when compared with those of the east. The mean temperature of Southern California is higher than Chicago by about four degrees Fahrenheit in summer and thirty degrees in winter. The relative humidity is lower by 5 to 10 per cent., but the actual humidity is higher than in any region east of the mountains. The cloudiness is only two-thirds as much as that of the region about Chicago; the rainfall is a third or less than that of the Mississippi Valley.

One of the most remarkable atmospheric conditions is the slight range of the barometer; that of Los Angeles being only 14 100 of an inch, while that of Chicago is over 56, 100.

The actual temperature of the whole southwest region ranges higher than the east by several degrees and most in summer, but the sensible temperature, that which is actually perceived by man, is seven and one-half degrees Fahrenheit less than that of the east. This is wholly due to the reduced relative humidity—the percentage below saturation.

Fogs abound in certain regions, especially nights and early mornings. They simply mean a sudden drop in temperature so that saturation is reached. The sunshine soon warms the air and redissolves the fog. As the chilling of the warm clear air is usually by a cold ocean current containing much less actual moisture, the mixed air of the fog usually has less water than the warm air did before; hence a curious paradox of wet cloths and dripping roofs with less absolute moisture than before the fog appeared. It is only a small part of the time that humidity is 100 per cent.

The physical discomforts incident to weather, of a continuous residence in Los Angeles, are about a quarter what they are in Chicago—yet people there growl at a disagreeable day. Thermic fever is practically unknown, as is hydrophobia, and in nine years there I have yet to see a case of lobar pneumonia, non-tubercular.

Southern California is the paradise of children and old people—the former thrive and have many fewer infantile diseases than here; the latter piece out their lives as they can not anywhere else in the world.

Of course, the greatest number of cases of disease migrating thither are of tuberculosis and many of these recover; so many that it strongly supports the theory that neither great altitude nor great dryness of air is of half as much value as the ability to live day and night in an outdoor atmosphere.

Many cases of chronic articular rheumatoid diseases find their way there and nearly all get better.

Cases of chronic bronchitis and asthma are nearly all more or less benefited.

THE FATE OF SPONGES, LIGATURES AND OTHER FOREIGN BODIES IN THE PERITONEAL CAVITY.

DR. CARL BECK, after reviewing the literature on the subject, which covers experiments, as well as experiences during and after operations, adds two cases of sponges left in the abdominal cavity by him to the number already published. In one the sponge caused an abscess which opened into the incision. In the other, it was discharged through the bowel. He cites three typical cases of silk ligatures sloughing through into the bowel, the bladder, and uterine cavity. Such cases may puzzle the operator, especially as a number of the most perplexing symptoms obscure the diagnosis. Serious consequences may follow the sloughing of sutures into hollow organs like the bladder, the lung, or even the intestine, but, as a rule, they are more marked by a tedious, protracted ailment of an indefinite character. Hemorrhage from the intestine is a very characteristic symptom, and led Dr. Beck to suspect in one case a forgotten sponge which was verified afterward by experience.

His conclusions are: 1, Silk ligatures are not as harmless as they are usually regarded. 2, Absorbable material should be preferred. 3, If unabsorbable material is used, small and interrupted sutures should be employed. 4, It takes less time for the interrupted one to slough out. 5, A way out is to be prepared if ligature suppuration is suspected. 6, Even catgut may cause such symptoms.

ELIMINATION OF THE INFLAMED, GANGRENOUS, OR PERFORATED VERMIFORM APPENDIX FROM THE GENERAL CAVITY.

DR. A. J. OCHSNER points out the fact that the vermiform appendix is located in the peritoneal cavity in a spot bounded by relatively fixed areas on all except the inner side, and that on this side lie the exceedingly movable small intestines; also that the appendix is surrounded by the omentum as soon as it becomes inflamed or gangrenous, or in case a perforation is threatened. If this condition can be maintained throughout the attack it is plain that the appendix will be practically eliminated from the peritoneal cavity. Experience has shown that this condition of rest is disturbed only by peristaltic motion, and that this occurs only as a result of placing food or cathartics in the stomach. Consequently, if neither food nor cathartics are given by mouth this condition of rest will not be disturbed, unless there is present at the beginning of the attack an amount of food in the stomach. It happens frequently that an attack follows the taking of a large meal. In this case, the stomach should be irrigated and its contents removed.

This will stop the vomiting and will inhibit peristaltic motion.

The author advises the use of some concentrated, predigested food, diluted with normal salt solution, for the purpose of rectal alimentation, in quantities not to exceed four ounces at intervals of four hours. This treatment, which is continued until the patient has been free from symptoms for at least four days, will not protect the patient against a recurrence, nor against the very troublesome digestive disturbances due to the adhesions following appendicitis, but it will carry the patient safely over an acute attack changing what threatens to be a dangerous diffuse into a comparatively harmless circumscribed peritonitis; enabling the surgeon to select a favorable time for operation.

The paper contains a series of consecutive histories illustrating the plan of treatment and its results. In the author's hands this method has reduced the mortality in cases of inflamed, gangrenous or perforative appendicitis to one-fourth of that formerly experienced in his practice.

TWO INTERESTING CASES OF APPENDICITIS.

DR. A. R. SMALL reported these mainly because of the peculiar position and investments of the appendix in both of them. He had not been able to find the report of a similar case in the voluminous literature of appendicitis, nor has he been able to find any one who has seen a similar case. The peculiarity in common in the two cases consisted in the location and investments of the appendix. The appendix was unusually long in both cases, being six inches long in one and five in the other. The appendix in both cases was turned backward and upward along the band of longitudinal fibers of the cecum and colon, and covered by the same peritoneal coat as the bowel, except in one case, one inch of the distal extremity, and in the other one-half inch. There was no mesentery in either case, but the appendix lay in intimate contact with the posterior surface of the bowel along the band of longitudinal fibers, and the peritoneal coat invested both the bowel and the appendix, so that it was almost impossible to discover the appendix except by its free distal extremity. This condition was not due in either case to inflammatory exudate and adhesions, but was evidently congenital. The author then narrated the two cases in detail.

The cases were interesting also on account of one being of so serious a nature, yet manifested mild symptoms; and the other from the fact of having had so many attacks without more serious results. In one the first attack would probably have been fatal without an operation; in the other there were many attacks without producing a fatal result.

DR. HAROLD N. MOYER believes that the method outlined by Dr. Ochsner is based on correct scientific principles. While he has seen but a few cases of acute appendicitis, he has witnessed a large number of chronic ones. While he would condemn in unmeasured terms operation in the early stage, unless done very early, when these cases are rarely seen, in the acute stage, he would just as firmly and enthusiastically urge operation on all chronic cases. After the acute stage has passed the appendix should be removed.

DR. WILLIAM M. HARRIS said that any method of treatment which would give only 8 cases of death out of 248 patients deserved more than a passing notice. However, he believes that the method of Dr. Ochsner is no more applicable to every case than any other method that has ever been devised. In cases of fulminating appendicitis in which perforation takes place, it requires a great stretch of the imagination to see how opium and starvation would limit the sepsis so as to make it safe for the patient without operation. He believes there are a number of cases of fulminating appendicitis which should be operated on as soon as the diagnosis is made.

DR. FENTON B. TURCK recommended colonic lavage, saying that by it the fecal matter could be removed without increasing the peristalsis of the entire alimentary tube, without overstretching the colon, and obtaining the heat stimulation necessary for the purpose of removing gases and lessening pain. After lavage of the colon it is much easier to make an accurate diagnosis.

DR. WILLIAM E. SCHROEDER referred to the medical statistics of appendicitis, saying that out of 7000 cases cited by one author no reference was made to complications. The complications are abscess of the liver, septic pleurisy and other forms of suppurative disease. He has seen three or four cases where the appendix was removed before perforation had taken place.

DR. W. T. ECKLEY has seen only two cases where the appendix was eviscerated between the two layers of the mesoecum out of 400 appendices in cadavers during the last five years. In both the mesoecum was very short. The cecum was located high in the right iliac fossa.

DR. J. N. BARTHOLOMEW, in operating on a case of appendicitis recently, found the appendix situated in the posterior part of the cecum, its lower half being covered with peritoneum. The appendix was eight inches long, and extended up in the direction of the liver. The end of the appendix, in which the abscess was situated, lay in close contact with the gall-bladder.

MYASTHENIA GRAVIS.

DR. SANGER BROWN reported a case. The patient was a teacher, with good family history. Nervous temperament. After having attended a social function several months previously, there was muscular exhaustion on slight exertion, so that it was with difficulty that she was able to move her arms and legs. Diplopia and ptosis became troublesome; the voice nasal and articulation imperfect. Occasionally there was humming in the ears and pains throughout the body, but the latter were infrequent and trivial. Mucous membranes of the mouth and nose were uncomfortably dry at times; hair and scalp very dry. Skin has remained in good condition. Appetite, digestion, sleep, etc., were satisfactory. Habitual constipation was somewhat aggravated. Very little mental depression existed. After a short walk there is not enough strength for the patient to cross her legs when sitting. Patient has lost fifteen pounds in weight since illness. Reflexes are lively, but normal; voluntary motion in every direction. No inco-ordination is present. Strength was greatly reduced. No suspicion existed of muscular atrophy or deformity; no pain or tenderness on pressure. There was no evidence of hysteria.

After detailing the other symptoms in this case, Dr. Brown referred to the literature of other cases and dwelt on the differential diagnosis between myasthenia gravis and hysteria, as well as other affections.

DR. HENRY B. FAVILL said he had seen one case which he believed could be designated as myasthenia gravis. The patient was 47 years of age. Toxic neurasthenia was one of the many manifestations occurring in a gouty family, and after a period of eighteen months the patient gradually recovered to the point of reasonable health and capacity. After a period of six months of good health the patient began to deteriorate and manifested in the course of the second year what he considered to be typical progressive bulbar paralysis, and he thought the patient would soon succumb. After going through a period of exaggerated symptoms the patient again apparently recovered, in that the typical signs of bulbar paralysis disappeared; she regained facility of speech, was able to swallow, vision was improved, etc., and yet in the course of the next nine months she developed a distinct myasthenia without ptosis, but more or less insufficiency of the ocular muscles, together with profound asthenia of the bodily muscles, so much so that when she fell on the floor, as in rocking, she was unable to get up. The patient was large. She went through this period of profound asthenia without dystrophy, without paralysis of any sort, without atrophy of any groups of muscles, and developed later, in the course of a year—and by this time the case covered a period of four years—a typical bulbar paralysis, and died finally of acute edema of the lungs.

DR. DANIEL R. BROWER said that he had seen two cases in which he had made a diagnosis of myasthenia gravis, although he had been in the habit of calling the disease asthenic bulbar paralysis. In both of the cases the myasthenia began with the third, fifth and seventh nerves, followed by general debility of

the whole muscular system, associated with slightly exaggerated patellar tendon reflexes that were easily exhausted. The electrical reactions were not determined. Muscular atrophy finally developed, the cranial nerves becoming involved, and the patient dying of bulbar paralysis.

The second case, which presented similar symptoms, recovered. In this case small doses of strychnia were used in conjunction with the constant galvanic current through the head, neck and spine.

DR. HAROLD N. MOYER had seen one case which he believes could be included in this category, but the clinical course was more rapid, the time of onset of the affection until the death of the patient being about four months. There were two distinct remissions. The paralytic trouble and myasthenia, which were most marked, began in the lumbar portion of the cord instead of the upper part, ultimately affected the upper portion of the cord, involving the respiratory center and followed by death.

The Kings County Medical Association.

Stated Meeting, October 9, 1900.

President Dr. H. Arrowsmith in the chair.

THE BIO-CHEMICAL BASIS OF PATHOLOGY.

DR. H. A. BUNKER read a paper with this title. He said that in 1898 he had read a preliminary communication on this subject before another medical society. We must go back of structure and form for the origin of disease; in other words, nutritional disturbances and perversions must antedate changes of structure from the normal. In the normal cell, the nucleus resembles in every respect morphologically, and as far as known, chemically, all other cell nuclei. The same number of chromatin filaments persist throughout. If there is any distinguishable difference in the nuclei, we must look into the material built up by the cell protoplasm. We are obliged to assume the existence of a selective affinity in the cell protoplasm for certain nutritive substances. The solution of the problems involving growth, waste and repair must rest on the quality of the building material required, the character of the structure to be built, and the means for disposing of waste products. Reference was made to the well-known Pasteur's medium for the culture of yeast cells, and special attention was called to the fact that the sugar in this medium undergoes a molecular change as shown by the change in its behavior when subjected to polarized light. This change, the speaker said, he had observed under many other conditions, and he believed it contained a clue to the solution of some of the deepest problems in biology. As in the yeast cell, so in all organic life there was abundant reason for believing that none of the food stuffs is used in the body as such, but only after having been subjected to complex dehydration and oxidation processes. Fats and carbohydrates are stored for use in emergencies as required by the organism. The ultimate fate of fat in the body is its splitting up into carbonic acid and water with the production of heat and energy, whether physical or molecular. This process is a continuous one, and occurs throughout living proteid substances. The particular character of a structure seems to be dependent on the predominant nitrogenous or fatty acid or group of fatty acids. Volatile fatty acids are apparently those which have not been built into proteids. Fat probably has its origin in the synthetic activity of protoplasm. Very little is known of the methods by which the stored-up fat is drawn upon and assimilated by the system when the emergency arises. Lymphoid cells are notably active in all the processes of anabolism, and it is probable that these cells bring about the necessary changes in the stored up fat to render the latter suitable for assimilation. All the tissues are supplied with lymphatic vessels and glands and lymph spaces, hence it is probable that the waste of one organ serves to provide the raw material for another organ. The waste products of each tissue or organ need not be the end-products of the body at all, but certainly are the antecedents of these. The different forms of pathological degeneration would seem to depend on imperfect hydrolysis. The amido acids are never

found combined with glycerin as are the free acids themselves. Aldehyde is always a cleavage product of proteid decomposition. Like glycerin, and its derivatives, the fatty acids, the amido acids, are never found free under normal conditions. The speaker thought he had found that in the fibrosis which occurs in the healing of tuberculosis, amido-succinic or sparteic acid is present. Certain recent experiments seem to show that in tuberculosis succinic acid plays an important part. Dr. Bunker expressed his belief in the existence of asymmetric forces at the moment of liberation of organic products. Under physiological conditions, lines of cleavage, synthetic rearrangements and successive oxidations follow a well-defined and symmetrical sequence. If these are disturbed, the result is a pathological process. If after normal cleavage imperfect oxidation takes place, or if after imperfect cleavage normal oxidation takes place, morphological changes will take place. On these theoretical considerations must depend largely the therapeutics of the future.

DR. JACOB FUHS said that one could not possibly follow life processes in disease without searching for a better understanding of the physiological. These had been brought forward in the paper. It should be remembered that each living cell of an organism is undergoing a constant change, a change which is particularly active in the protoplasm. The nucleus must also participate in the nutritional change, this cell being, as it were, an organism by itself so far as nutrition is concerned. We had just been told that the cell was even able to appropriate for its ends the fat stored up around it. Again, certain cells seem to conspire to help other particular cells. His attention had been directed to this by a study of the visual purple. This substance is probably intended to protect the very sensitive structures of the eye and assist in accommodation—at least that is the statement in the latest text-book on physiology. To him this explanation did not seem plausible, as it was known that the visual purple disappears at the time when protection is most needed. To his mind it was more reasonable to suppose that this visual purple plays a role similar to that of the stored-up fat. In the aromatics was to be found a substance which disturbs the nutrition of the cell, and leads to the production of uric acid. For the last few years the view has been held that the defect lay in the nucleus rather than in the protoplasm. According to this theory, albumoids can be given in uric-acid diseases as long as they do not contain xanthin, and the quantity is moderate. By cooking meat with cereals the aromatics are not formed as freely as by the ordinary method of cooking. Such meat is comparatively insipid, but the dangerous extractives have been for the most part eliminated.

DR. J. M. VAN COTT said that while the nuclei of all cells are alike originally, this equality does not continue. In a recent article, Kassowitz had claimed that the chemical activities are not restricted to the nucleus or the body of the cell, and even claimed that the connective tissue is just as vital as the nucleus. The enzymes are thought to be different in their nature, depending on whether they are in the cell or in the nucleus or in the connective tissue. He heartily agreed with the reader of the paper that morphology must now give way to the still higher branches, physiological and pathological chemistry. That this is the case was well exemplified by common experience in the laboratory that certain standard stains act in one way with normal tissues and in a different way with those which are the seat of pathological processes.

DR. BUNKER, in closing, said that he had characterized the nucleus as a selective and determining factor, its activity taking place not only throughout the protoplasm, but throughout the fluids bathing the tissues and cells.

The Cincinnati Academy of Medicine.

Regular Meeting, Oct. 1, 1900.

President Dr. C. L. Bonfield in the chair.

DR. R. B. HALL presented a specimen of multilocular fibroid tumor of the uterus, the greater part of one of the tumors of which had undergone calcification.

VERMIFORM APPENDIX ADHERED TO UTERUS.

DR. A. W. JOHNSTONE reported a case of a woman who had been afflicted with severe dragging pain on walking. This had annoyed her so greatly that she had herself demanded operation, though nothing could be found on examination to warrant operative interference. Section had disclosed an adherence of the end of the appendix to the uterus, and the former was put on the stretch with every movement of the body.

ETIOLOGY AND PATHOLOGY OF CARCINOMA.

DR. FRANK E. FEE stated that a lack of knowledge of the cause of cancer was the great obstacle to a proper cure; that it was thus rendered the most dreaded of all diseases. Not only was it greatly feared, but rightly so, as, according to Roswell Park's statistics, the disease was so rapidly increasing that if it continued at its present rate of rapidity in 1909 there would be more deaths from cancer in the State of New York than from tuberculosis, smallpox and typhoid fever combined. He then reviewed Cohnheim's theory of embryonic remains, but personally was inclined to reject it as not fitting all the facts, in other words, "not proven." The points of complicated development, the lips, tongue, pyloric and cardiac ends of the stomach, were also the parts of the economy subjected to the greatest irritation. He was inclined to accept a parasitic origin of the disease for the following reasons: Malignant growths present a close resemblance to certain of the infectious diseases—such as tuberculosis—in their obscure origin, tendency to spread locally, and dissemination by lymph and blood paths; the occurrence of secondary deposits in various parts of the body; that they often follow an injury or blow, or at the site of an old cicatrix, that is to say, a point where physiological resistance is below par; the existence of a toxemia, as shown by fever and cachexia, and often out of proportion to the size and situation of the tumor.

He called attention to the recent investigations in England, in which certain portions of the country had been mapped out where cancer was particularly present; these were known as cancer fields, and were usually situated in the low lands, on the banks of sluggish streams, as well as those subjected to frequent floods. This observation, he thought, might at some future time, be of considerable value. The essayist then described at some length the announcement of alleged discoveries of a parasite of cancer and laid particular stress on the reports of the New York Laboratory. Then followed a description of the parasite and the various methods of fixing and staining according to his own observations and those of Plimmer. Experiments in cultivating the parasite have not been entirely satisfactory. Both Plimmer, of England, and Park, of New York, claim to have succeeded. Their cultures inoculated into guinea-pigs produced death in from fifteen to twenty days. The peritoneum, into which the cultures were injected, was found studded with small transparent nodules, as were most of the other internal organs. Microscopically they were of endothelial origin. The cells were found to contain the organism. The production of cancer has not been satisfactory when these organisms have been brought into contact with epithelial surfaces. To cultivate the organism cultures of ordinary beef infusion are made to which is added after careful neutralization 2 per cent. of glucose and 1 per cent. of tartaric acid. Into this very small pieces of the growth, cut with all possible precautions against contamination, were placed, and the tubes put immediately under anaerobic precautions, the air being exhausted and hydrogen substituted for it. In conclusion the essayist stated "At present I am not prepared to state fully the results of my investigations in this line, but will say that I have only twice failed to find these bodies described, and that I have never found them in any other tissue than cancerous. I have always failed in cultivating the parasite to my own satisfaction. While I agree that the parasitic theory of cancer can not be accepted until it is unmistakably proved that a malignant growth can be produced by an organism isolated from a cancer, it is to be hoped that work in this line will be continued so that collective investigation can be well established. It is my intention to bring this subject before the Academy

in the near future, and I hope to at least assist to establish the claims made by other observers in regard to cultivation and inoculation.

The paper was discussed by Drs. A. Friedlander, J. Ransohoff, Joseph Eichberg, A. Freiberg and A. W. Johnstone.

EARLY DIAGNOSIS OF CANCER OF THE UTERUS.

DR. JOHN P. MILLER stated that the principal symptoms were hemorrhage, pain, discharge and cachexia; that hemorrhage was the first symptom to present itself. It usually attracts attention in a woman who has been menstruating normally as a slight show of blood, occurring after violent exercise, a severe jar, or especially after coitus, rather than as an increase in frequency or profuseness of the menstrual flow. In women who have ceased menstruating the reappearance of the flow may lead them to the belief that this function is being re-established. It is unfortunate that the hemorrhage is not more severe in the early stages, as in this case the woman would be more likely to consult her physician, and her condition be diagnosed while yet in a comparatively early stage. The hemorrhage which first occurs in cancer of the uterus, like the early hemorrhage produced by fibroid comes from the accompanying hypertrophic endometritis, and not as the result of ulceration. Pain is the next symptom to manifest itself, but it does not become prominent until the disease has made considerable headway. The severe pains we are accustomed to associate with carcinoma uteri are produced by the efforts of the uterus to expel clotted blood and detritus, by involvement of the peritoneum and by pressure on the nerves of the pelvis, conditions that do not exist in the early stages of the disease. Pain, as a rule, manifests itself in the sacral or lumbar region. It usually differs in no way from that produced by other uterine disease, but occasionally occurs in paroxysms at certain times of the day, and this paroxysmal pain is a diagnostic symptom of some importance when present. Early in the disease the discharge is leucorrhœal, of endometrial origin, and not distinctive; later it becomes thin, watery, irritating and fetid. Cachexia, as a rule, is the last of these cardinal symptoms to appear. The essayist then called attention to the value of the microscope in the early diagnosis of the disease.

He stated that carcinoma uteri usually took its origin from one of three places: The portio, the cervical canal and the body of the uterus. Carcinoma of the portio is either of the pavement epithelial variety or the cylindrical-celled variety, and has to be differentiated from decubitus ulcer, erosion, tuberculosis, chancre and chancroid. An elaborate table for the differentiation of these diseases followed. Cancer of the cervical canal is the most frequent of all cancers of the uterus. The varieties are the same as in cancer of the portio, but more frequently cylindrical. Cancer of the body of the uterus is the least frequent of uterine cancers, and develops either from the epithelium of the glands in the mucous membrane or from the epithelium between the glands.

Microscopically we can distinguish three forms of cancer in the body of the uterus, the malignant adenoma, the adenocarcinoma and the simple carcinoma. The essayist then reported a case that had presented itself at his clinic last winter. The patient was 32 years of age, the mother of several children, stout and well-nourished; complained of pain in the back, leucorrhœa and excessive menstruation. On examination, the cervix was found normal, the uterus itself somewhat enlarged, freely movable, but could not be freely palpated on account of the thick abdominal wall. She was sent to the Good Samaritan Hospital and curettage performed. Microscopical examination showed the scrapings to be from an adenocarcinoma (a specimen was shown under the microscope by the essayist). A subsequent hysterectomy showed a cancer about the size of a ten-cent piece situated on the posterior wall of the uterus. Cancer of the body of the uterus is to be differentiated from hypertrophic endometritis with enlargement of the uterus, from subinvolution, from sloughing fibroid and from retained products of conception.

The paper was discussed by Drs. R. B. Hall, C. D. Palmer, S. P. Kramer, Whittacre and Brown.

Therapeutics.

To Abort Pneumonia.

- R. Acetanilidi ʒi 4
- Puly. opii et ipecacuanhae gr. xxxvi 2 40
- M. Ft. chartula No. xii. Sig. One powder every four hours, day and night.

J. Patrath, in *Deutsche Med. Zeit.*, states that he has never failed to abort the beginning of pneumonia in from five to six days with the above treatment. He goes on the basis that pneumonia is not of bacterial origin. He orders the powders stopped as soon as the temperature drops.

Epileptiform Convulsions Due to Autointoxication.

- R. Ext. chiratae gr. ii 12
- Leptandrin gr. ss 03
- Podophyllin gr. 1 5 012
- Croscoti (beechwood) 03
- Euonymin, aa. gr. ss 03
- M. Ft. pil. No. i. Sig. One such after each meal.

—Harc: *Medical Record*.

Urticaria.

- R. Ethylis alcoholis 12
- Etheris sulphurici 32
- Chloroformis, aa. ʒi 32
- Mentholis gr. ii 12
- M. Sig. Apply as a lotion. —Gaucher: *Med. Record*.

Seminal Emissions With Erections.

- R. Strychnine sulphatis gr. i 06
- Acidi phosphorici diluti ʒii 64
- M. Sig. Twenty-five drops in water after each meal.

—B. K. Twitchell.

Blueberry in Intestinal Inflammations.

- R. Ext. myrtillus berries ʒi 32
- Potassii carbonatis gr. xlv 3
- Aque destil. ʒi 6
- Cacao butter ʒii 64

M. Ft. suppos. No. xxx. Sig. Two to be used daily.
Dr. H. Strauss, in *N. Y. Med Jour.*, recommends this combination as an astringent in intestinal inflammations.

Amenorrhœa.

- R. Strychnine sulphatis gr. iss 1
- Acidi oxalici gr. viiss 5
- Ferri peptonatis 8
- Manganese lactatis, aa. ʒii 8
- Ext. colocynthidis comp. gr. xxx 2
- M. Ft. capsule No. lx. Sig. One capsule three times a day, after meals.

—H. C. Bloom.

Hemorrhoids With Pain.

- R. Morphine sulphatis gr. vi 4
- Cocaine muriatis gr. xii 75
- Hydrargyri chloridi mitis. gr. xl 2 66
- Vaselini ʒi 32

M. Sig. Apply locally night and morning.
Sawyer states that this combination is the best local application that can be made when pain is present. If itching is present, or in cases of pruritis, he recommends:

- R. Menthol ʒss to ʒi 2-4
- Vaselini ʒi 32

M. For local application, night and morning.

Cough of Influenza.

- R. Sodii benzoatis ʒi 4
- Bromoformi m. x 66
- Syrupi tolutani ʒi 32
- Syrupi lactucarii ʒiii 96
- M. Sig. One tablespoonful every four hours.

—Le Moine: *Bul. of Ther.*

Ringworm.

- R. Epicarin 4
- Talei veneti ʒi 4
- Amyli, aa. ʒi 4
- Vaselini ʒiii 12
- M. Ft. unguentum. Sig. For external use.

—*Jour. de Méd. de Bordeaux.*

Anaphrodisiac.

- R. Lupulini ʒi 10
- Ft. capsula No. xv. Sig. One capsule at bedtime.

—*Med. Times and Gazette.*

Dental Caries.

- R. Acidi carbolic 1
- Essentia limonis, aa. ʒi 4
- Alcoholis ʒv 20

M. Sig. Wash and dry the cavity; soak a small pledget of cotton in this solution and insert into the tooth cavity and cover with tincture of benzoin on cotton.

—*Gaillard's Med. Journal.*

Malarial Cachexia.

- R. Quinine sulphatis ʒi 4
- Tinct. ferri chloridi ʒv 20
- Liquoris acidi arsenosi ʒi 6
- Potassii chloratis ʒi 4
- Syrupi zingiberis, q. s. ad. ʒiv 128
- M. Sig. One teaspoonful, in water, three times a day.

—Dr. Guice: *Med. Fortnightly.*

Acute Nephritis in Children.

- R. Tinct. aconiti ʒss 2
- Codinae gr. ii 12
- Potassii citratis ʒiii 96
- Glycerini ʒii 64
- Aque cinnamomi, q. s. ad. ʒviii 256

M. Sig. One teaspoonful every two hours in half a glass of pure water.

—Danforth: *Amer. Text-Book of Dis. of Children.*

Acute Catarrhal Laryngitis in Children.

- R. Tinct. aconiti gtt. viiss 5
- Sodii benzoatis ʒss 2
- Cherry laurel water ʒi 10
- Syrupi codeinae—gr. 1 per ʒ. ʒi 8
- Syrupi aurantii ʒv 20
- Mucilaginis acacie, q. s. ad. ʒiv 128

M. Sig. One to two teaspoonfuls every hour, according to the age.

—Perier: *Pediatrics.*

Irritability of the Bladder After Delivery.

- R. Salol 8
- Tinct. hyoscyami, aa. ʒii 8
- Infusi buchu, q. s. ad. ʒvi 192
- M. Sig. Shake. One teaspoonful three times a day.

- R. Liquoris potassae ʒi 4
- Mucilaginis acacie ʒss 16
- Tinct. hyoscyami, q. s. ad. ʒii 64
- M. Sig. One teaspoonful three times a day.—Fothergill.

Constipation in Children.

- R. Sodii bicarbonatis ʒiii 12
- Pulveris rhei ʒii 64
- Sodii sulphatis ʒi 32
- Olei menthae piperite gtt. xx 1 33

M. Sig. One-half to one teaspoonful of this powder may be given in the morning before breakfast.

- R. Manna ʒi 32
- Magnesia—calcined ʒii 64
- Sulphuris sublimati, aa. ʒii 64
- Mellis ʒi 32

M. Sig. From a teaspoonful to a tablespoonful dissolved in a cup of hot milk, night and morning. —*Jour. des Prac.*

To Lessen Labor Pains.

- R. Lactis ʒi 32
- Chloralis hydratis gr. xxx 2
- Aque destil. ʒi 32

M. Sig. To be used as an enema during the first stage of labor. —*Monthly Encyc. of Med.*

Early Cough and Fever in Pneumonia.

- R. Potassii citratis ʒvi 24
- Spts. etheris nitrosi ʒi 4
- Tinct. opii camphoratae, aa. ʒiv 16
- Liq. potassii citratis, q. s. ad. ʒvi 192
- M. Sig. One dessertspoonful every three hours.

—Hughes: *St. Louis Clinique.*

Acute Pharyngitis.

R. Tinct. aconiti	.....m. vi	36
Sodii salicylatis	.....ʒii	8
Aque menthae viridis	.....ʒiii	96

M. Sig. One teaspoonful, undiluted, every hour.
Of use in acute pharyngitis with moderate fever.

To Keep the Hands in Good Condition.

R. Olei rose	.....m. xv	1
Glycerini	.....ʒi	4
Spts. myricae	.....ʒiii	12
Olei cajuputi	.....m. xx	133

M. Sig. Apply to the hands before retiring, first washing them thoroughly in hot water. —*Calif. Med. Journal.*

Phosphaturia.

R. Ammonii benzoatisʒiv	16
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Place in cachets No. xxiv. Sig. One cachet after meals.
Indications—In phosphaturia with ammoniacal urine.

—*Dominion Med. Monthly.*

Expectorant Mixture.

R. Ammonii chloridi	.....ʒi	4
Potassii chloratis	.....gr. xxiv	166
Ext. glycyrrhizae	.....gr. xxx	2
Spts. etheris nitrosi		
Syrupi seneg. aa	.....ʒii	8
Aque cinnamomi, q. s. ad.	.....ʒii	64

M. Sig. One teaspoonful every four hours.
—*Druggist and Review.*

Gonorrheal Epididymitis.

R. Methyl salicylatis	.....ʒi	32
Olei olivae	.....ʒii	64

M. Sig. Apply to the scrotum and protect by gutta percha paper and a suspensory bandage.

Bettman advocates the above treatment and advises the change of dressings every two hours. That the salicylate is absorbed is proved by the urine. —*Med. Age.*

Ocular Neuralgia.

R. Morphinae sulphatis	.....gr. iv	125
Chloralis hydratis	.....gr. x	66
Cocaina hydrochlor.	.....gr. xx	133
Menthol	.....gr. xxx	2
Lanolin	.....ʒi	32

M. Sig. Apply a piece the size of a hazel-nut to the temple and over the brow every hour until relieved. —*Fox.*

Nasal Obstruction in the Newborn.

R. Resorein	.....gr. xv	1
Olei vaselini	.....ʒiiss	48

M. Sig. Drop three or four drops into the nares three or four times a day.

Or,

R. Sodii bioratis	.....ʒiiss	6
Glycerini	.....ʒi	32

M. Sig. Hold the head well back and allow three or four drops to enter the nares on either side and repeat two or three times during the day.

M. Leopold Cheaveau states that when acute coryza is the cause of nasal obstruction in the newborn he has found the above to be very efficient. —*Practitioner.*

To Prevent Loosening of the Teeth.

R. Acidi tannici	.....ʒii	8
Tinct. iodi	.....ʒi	4
Potassii iodidi	.....gr. xv	1
Tinct. myrrhae	.....m. lxxx	533
Aque rose	.....ʒvi	192

M. Sig. A teaspoonful in water to rinse the mouth every two hours. —*Practitioner.*

Taenifuge.

R. Acidi salicylici	.....gr. viiss	4
Oleoresinae aspidii	.....gr. x	66
Olei cinnamomi	.....m. x	66
Gum arabici	.....ʒii	8
Aque	.....ʒii	64
Syrupi simplicis, q. s.	.....ʒiii	96

M. Sig. To be taken in two doses before breakfast. —*Phar. Post.*

Cleansing of Teeth.

R. Pulveris cereal	.....ʒiiss	10
Sodii boratis	.....gr. xxxvi	24
Potassii chloratis	.....gr. xv	1

M. Flavor with orris and menthol. Sig. For cleaning teeth. Dr. Fletcher, in the *Cincinnati Lancet-Clinic*, states that the object is to keep the saliva decidedly alkaline for some time after using and to counteract the ill effects of sweets. It is preservative and antiseptic and will retard decay.

Anemia With Dysmenorrhea and Constipation.

R. Ferratini	.....ʒii	8
Pulv. rhei radiceis	.....ʒiv	16
Sodii bicarb.	.....ʒii	8
Ol. feniculi	.....gt. xxx	2

M. Sig. Take a teaspoonful at night, in a wafer or dry on the tongue, and wash down with water. —*Med. Fortnightly.*

Ferratini is an organic compound of iron made from the liver of the hog.

Medicolegal.

May Refresh Memory on Question of Age.—The Supreme Court of California holds, in *People vs. Vann*, a prosecution for an assault with intent to commit rape on a female under the age of consent, that, where a physician was called as a witness and stated that he attended the mother of the girl at the time of the latter's birth, it was proper to allow him to refresh his memory as to the date of her birth, so as to show her age at the time of the alleged assault, by an entry in his cash book, he having testified that he made the entry at the time he attended the mother at the birth of the girl, and that by the entry he knew the date of her birth.

Number of Expert Witnesses Not Controlling.—Numbers in experts, the second appellate division of the Supreme Court of New York declares, in the same of *Simonsen vs. the Brooklyn Heights Railroad Company*, are not more controlling than numbers in ordinary witnesses. Where they advance two opposing theories, it is the function of the jury it says to decide between them. Nor is it concerned here about whether the jury thought that the opinions of the plaintiff's physicians were colored by professional partisanship, or were unfounded on the facts, or were exaggerated, or were those of alarmists, and that the opinion of the opposing physician was the wisest or was more warranted by the facts. There was conflicting evidence and there was clash of opinion, and the court holds that it was not called upon to upset the result by the test that, if it had been sitting as a jury, it would have returned a different verdict.

A Large Award for Injuries to Boy.—A boy 11 years of age, who lived with his widowed mother and was attending a public school in the neighborhood of her residence, was run over by a street car. He was so badly injured by the accident that he was compelled to suffer two amputations—the first, removing the lower portion of the left leg at a point about three inches below the knee-joint, and the second operation destroying the knee-joint and all below it. An action for damages followed, which resulted in a verdict for \$22,500. Complaint was made that this was excessive, but the second appellate division of the Supreme Court of New York holds otherwise, *Williamson vs. Brooklyn Heights Railroad Company*. In support of this, it says that it is manifest that the pain resulting from the injury and following the two amputations was extreme, and that the permanent disability arising from the loss of his leg will put the boy at a serious disadvantage, physically, when he arrives at manhood and enters into the competition of life. Besides, it says, as large verdicts as this for similar injuries to children have in some other cases been sustained.

Between Buyer and Seller of Medical Practice.—A physician contracted to deliver certain real estate and the good-will of his business, so far as such good-will could be delivered. To better accomplish this latter object, he agreed to form with

the purchaser a partnership for a stated period, to introduce him to his patrons, to send him to answer all calls possible, and to himself attend such cases as he might be personally insisted on attending. Now, these obligations of the seller, as to the real estate and the good-will, the Supreme Court of Illinois holds, case of Tichenor vs. Newman, were personal to the purchaser, and their non-performance vested a right of action in him. Consequently, he could sue, in an action at law, for a breach of contract, and need not resort to a court of equity for an accounting under the general rule that one partner can not sue another at law except for a balance struck and a promise to pay. Likewise, the seller having guaranteed that the earnings of the co-partnership would reach a specified sum, the court holds that guaranty enforceable in an action at law, and without any investigation of the state of accounts between the two as partners. But the purchaser, it holds, must allege compliance on his part with the obligations of the contract, or allege facts excusing such performance. And, the agreement making it incumbent on the purchaser to use his best efforts to promote the interests of the partnership, and the undertaking of the seller to guaranty that the earnings and receipts of the firm were injuriously affected, was competent based in part on compliance on the part of the purchaser with this agreement of his, the court holds that evidence tending to show that the purchaser did not use his best efforts to promote the interests of the partnership, or that he engaged in the transaction of other business, whereby the earnings and receipts of the firm were injuriously affected, was competent to be considered. Moreover, the court holds that the purchaser could not be permitted to testify to conversations which, as he alleged, occurred between himself and the seller prior to the execution of the contract as to the value of the practice of the seller, because all prior statements were merged, as it were, in the writing, and the guaranty incorporated therein became the measure of the liability of the seller with respect to the value of such medical practice. The court also holds that it was not essential to the right of the purchaser to maintain his action for breach of contract that he should affirmatively show that he held a license from the State Board of Health authorizing him to practice medicine and surgery in the state, because the relation of physician and patient did not exist between the parties, and the action was not for the recovery of the fees or the charges of a physician.

Classification of Consumption.—The Michigan statute involved in the case of *People vs. Shurry* requires that, "whenever any physician shall know that any person whom he is called to visit, or who is brought to him for examination, is infected with smallpox, cholera, diphtheria, scarlet fever, or any other disease dangerous to the public health, he shall give immediate notice thereof to the health officer of the township, city or village in which such person may be; and to the householder, hotel-keeper, keeper of a boarding-house, or tenant within whose house or room the sick person may be," etc. To recover the penalty prescribed for a violation of this provision this action was brought. On the trial it was agreed by counsel for the respective parties that the only question in the case was whether consumption was covered by this provision. The circuit judge ruled, for the purposes of the case, that the statute was not intended to cover consumption, and ruled out testimony offered to show that consumption is a disease dangerous to public health. The Supreme Court of Michigan holds that this was error, reverses the judgment of the lower court, and orders a new trial. The position of the defendant's counsel, as stated in his brief, was that the general clause, "or any other disease dangerous to the public health," was intended to include other diseases of the same degree of infectiousness or danger to life, though not specifically naming them; that the general clause would include yellow fever, leprosy, bubonic plague, and typhus fever. For, he said, it is common knowledge that those diseases partake of the same violent degree of infectiousness as those mentioned in the statute. And the supreme court says that the rule was correctly stated that where a statute, after enumerating specific cases, uses a general term to cover others, the latter are understood to be of

the same general character, sort, or kind as those specified. But, while it recognizes this rule, it says that it did not determine this case, for the reason that, if consumption is a disease dangerous to the public health, it is of the same general character, sort, or kind as those specifically enumerated in the sense in which the legislature characterized those diseases, i. e., diseases dangerous to the public health. If there was a distinct dividing line of danger, of which courts might take judicial notice, a different view, it suggests, might be held, but there is, it declares, no such line. The court cannot judicially know what are the varying degrees of infectiousness of different diseases. There is no line which can be drawn other than the line between diseases dangerous to the public health and those which are not. Wherefore, it holds that the question raised in this case of whether consumption is a disease dangerous to the public health was to be determined on evidence, and should have been submitted to the jury. Because this was not done, there must, it holds, be a new trial.

Current Medical Literature

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, October 13.

- 1 Hypertrophy of the Turbinate Bodies, and Their Relation to Inflammation of the Middle Ear, with Report of Fifteen Hundred Operations. (Continued.) Christian R. Holmes.
- 2 Dilatation of the Colon. H. G. Marxmiller.
- 3 *On the Employment of the Upright Position in Ether Operations Upon the Nose, Throat and Ear, Thomas B. French.
- 4 *The Present State of Our Knowledge Concerning the Cause, Nature, and Treatment of Asthma. (To be Concluded.) Walter A. Wells.
- 5 The Future of Specialties. Charles B. Kelsey.
- 6 *The Etiology of Pulmonary Tuberculosis, Its Cause and Termination. S. A. Knopf.

Philadelphia Medical Journal, October 13.

- 7 General Summary of the Cases of Typhoid Fever Treated in the Johns Hopkins Hospital for Ten Years. William Osler.
- 8 *A Review of the History of Cardiac Pathology, with Special Reference to Modern Conceptions of Myocardial Disease. Alfred Stengel.
- 9 *Fracture of the Carpus. G. G. Ross and M. I. Wilbert.
- 10 *Some Phases of the Tuberculous Problem in Colorado. S. G. Bonney.
- 11 Rupture of Symphysis Pubis During Parturition, with Report of Case. G. A. Himmelsbach.
- 12 *Concerning Calentura. Frank W. Foxworthy.
- 13 Appendicitis: Pin in Appendix—Abscess of Liver—Purulent Peritonitis—Death. E. H. Trowbridge.

Boston Medical and Surgical Journal, October 11.

- 14 Modification of Milk in Milk Laboratories. T. M. Rotch.
- 15 Breast Feeding. A. Worcester.
- 16 *Home Modification of Milk. Charles W. Townsend.
- 17 Lesion of Chiasm: Temporal Hemiplopia, Optic Atrophy; Probable Pituitary Tumor, with Giantism and Defective Development (Preliminary Report). S. A. Lord.

Medical News (N. Y.), October 13.

- 18 Cocain Anesthesia by Lumbar Puncture: Two Cases of Hysterectomy. J. Riddle Goffe.
- 19 *A Consideration of Finger Infection with Special Reference to the Joints and Tendons. Ellsworth Eliot, Jr.
- 20 *The Prevention and Treatment of "Colds." W. Scheppgrell.
- 21 *Treatment of Rheumatism and Some Phases of Indigestion: Gouty Diathesis. Charles E. Page.

Medical Record (N. Y.), October 13.

- 22 *Medullary Necrosis (Corning's Method): Its History and Development. L. Marcus.
- 23 *The Modern Treatment of Pulmonary Tuberculosis. M. J. Brooks.
- 24 *A Consideration of the Anatomical Construction Predisposing to Unguinal and Femoral Hernia, and the Measures to be Taken in Securing their Radical Cure. Irving S. Haynes.
- 25 *Light as a Remedial Agent. J. W. Kline.

Cincinnati Lancet-Clinic, October 13.

- 26 *The Curability of Inebriety by Medical Treatment. T. D. Crothers.
- 27 Formaldehyde as Represented by the Preparation Known as Cystogen in Genito-Urinary Diseases. Henry J. Scherck.

St. Louis Medical Review, October 13.

- 28 *The Curability of Inebriety by Medical Treatment. T. D. Crothers.
- 29 Subarachnoid Injection of Cocain as a Substitute for General Anesthesia in All Operations Below the Diaphragm. Edward Wallace Lee.

American Practitioner and News (Louisville, Ky.), October 1.
 30 Iritis: Causation, Diagnosis, Prognosis and Treatment. M. E. Coomes.
 31 The Use of Normal Salt Solution in Medicine and Surgery. Ed. Smith.
 32 Gunshot Wound of the Abdomen. J. V. Prewitt.
 33 Famous Physicians of the Past in Louisville. T. B. Greenley.
Virginia Medical Semi-Monthly, September 21.
 34 The Physician's Influence in Revaccination in Schools. Helen C. Putnam.
 35 The Late Drs. L. A. Sayre and Hunter McGuire. A. M. Phelps.
 36 The Physician's Home—Why Needed and Why Worthy. Jno. S. Harris.
 37 *The Diagnosis of Ectopic Pregnancy Before Rupture, Based on Eleven Cases. J. F. Baldwin.

Medical Age (Detroit), October 10.
 38 *Formaldehyde as a Milk Preservative. A. G. Young.
 39 Neurasthenia; with Report of Cases. F. S. Smith.

Illinois Medical Journal, October.
 40 Rectal Fistula. A. E. Halstead.
 41 *Nephritis with Report of Three Cases. J. W. Kelly.
 42 *Chronic Gastritis. Jas. Brayshaw.
 43 Sterility in the Male. Emil Ries.
 44 The Spanish-American War as Seen by the Military Surgeon. Allen A. Wesley.

Medicine (Detroit), October.
 45 *Some General Considerations in the Treatment of Hysteria and Neurasthenia. E. C. Loveland.
 46 *An Etiological and Clinical Consideration of Graves' Disease (Exophthalmic Goiter). Frank P. Norbury.
 47 Examination of the Stomach Contents. F. A. McGrew.
 48 *Longevity of the Liferary Female. E. C. Spitzka.

Pennsylvania Medical Journal, October.
 49 Address before the Medical Society of the State of Pennsylvania. George W. Guthrie.
 50 Address in Medicine. Thomas Turnbull, Jr.
 51 Medical Education. Edmund W. Holmes.
 52 A Case of Jamaica Ginger Amblyopia. Edward Stieren.
 53 Diarrheal Affections of the Summer Season. F. C. Stahlman.
 54 On the Relation of Diseases of the Eye to those of the Teeth. N. J. Weill.
 55 Bright's Disease. R. F. Brubaker.

Ophthalmic Record (Chicago), September.
 56 *The Prenatal Degeneracy of the Eye. Lee Wallace Dean.
 57 Chip of Iron in Eye. Examination with Fluoroscope Negative. With Sideroscope Positive, Eye Enucleation. Sympathetic Ophthalmitis Sixteen Days Later. Recovery. Exhibition of Sideroscope. Wm. C. Bane.
 58 Total Ectectomy. M. F. Weymann.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), October.
 59 *The Etiology and Pathology of Malignant Diseases of the Skin Affecting the Epithelial Tissues. M. B. Hartzell.
 60 *Recurrent Epididymitis. Charles H. Chetwood.
 61 *The Treatment of Malignant Diseases of the Skin. Francis Shepherd.

Journal of Experimental Medicine (N. Y.), October 1.
 62 *Proliferation and Phagocytosis. F. B. Mallory.
 63 A Contribution to Staining Methods. F. B. Mallory.
 64 *A Study of the Neurofibrils in the Ganglion Cells of the Cerebral Cortex. Stewart Paton.
 65 *An Experimental Study of Oxaluria, with Special Reference to Its Fermentative Origin. Helen Baldwin.
 66 *Serum-Globulin and Diphtheritic Antitoxin—A Comparative Study of the Amount of Globulin in Normal and Antitoxic Sera, and the Relation of the Globulins to the Antitoxic Bodies. Philip M. Hias, Jr., and James P. Atkinson.
 67 *The Fractional Precipitation of the Globulin and Albumin of Normal Horse's Serum and Diphtheria Antitoxic Serum, and the Antitoxic Strength of the Precipitates. James P. Atkinson.
 68 *Refactory Subcutaneous Abscesses Caused by Sporothrix Schenckii. A New Pathogenic Fungus. Ludwig Hektoen and C. P. Perkins.
 69 Pathologic Report of a Case of Dermatitis Venenulo-Bullosa et Gangrenosa Mutiansi Manuum (Dührung), with a Consideration of the Relations of Vascular and Nervous Changes to Spontaneous Gangrene and Raynaud's Disease. William G. Spiller.
New Yorker Medicinische Monatschrift, September.
 70 Trophische Störungen bei Leugentherenulose; ein Beitrag zur Symptomatologie dieser Erkrankung. Henry Herbert.

Occidental Medical Times (San Francisco), October.
 71 The Diagnosis of Empyema of the Accessory Nasal Cavities. Robert D. Cohn.
 72 Clinical Lecture Plague. Wm. Watt Kerr.
 73 Two Cases of Myotonia, or Thomsen's Disease, Occurring in the Same Family. Jno. T. Jones.
 74 Glomerular Nephritis With Membranous Vulvitis—Post-mortem Findings. Elizabeth E. Keya.
 75 The Treatment of Pneumonia. Edward N. Ewer.

76 Some Experiences of a Volunteer Surgeon in the U. S. Army. W. J. Hanna.
 77 The Treatment of Pulmonary Tuberculosis. G. W. Fuller.
American Journal of the Medical Sciences (Philadelphia), October.
 78 *Primary Splenomegaly—Endothelial Hyperplasia of the Spleen—Two Cases in Children—Autopsy and Morphologic Examination in One. David Bovard, Jr.
 79 *Primary Echinocecus Cysts of the Pleura. Charles Cary and Irving P. Lyon.
 80 Sarcoma and Cirrhosis of the Liver. W. W. Ford.
 81 Report of a Case of Melema Neonatorum Due Apparently to an Infection by the Bacillus Pyocyanus. William R. Nicholson, Jr.
 82 Distortion of the Aorta in Pott's Disease. Thomas Dwight.
 83 *The Value of the Pedicle Flaps in Injuries of the Hand. W. E. Schroeder.
 84 *Internal Hydrocephalus Following Cerebrospinal Meningitis. Elliott P. Joslin.
 85 A Critical Summary of the Literature on the Diagnostic and Therapeutic Value of Lumbar Puncture. Alfred Hand, Jr.

Kansas City Medical Record, September.
 86 Smallpox. E. E. Gilmore.
 87 A Study of the Diagnosis and Pathology of Tabes Dorsalis in Synopsis. S. Grove Burnett.
 88 Posterior Cortical Cataract. Hugh Miller.
 89 A Familiar Clinical Picture. Milton P. Creel.

Brooklyn Medical Journal, October.
 90 *Observations on the Obstetric Surgery of Pelvic Contraction. Chas. Jewett.
 91 The Medical Faculty as Factors in History—An Address Given April 17, 1900. Homer L. Bartlett.

Indiana Medical Journal, October.
 92 Medical Practices in Relation to the Law. J. B. Kenner.
 93 Notes from the Pathologic Laboratory of the Central Indiana Hospital for the Insane. John S. Briggs, Jr.
 94 Abscess of Brain Without History of Symptom Before Entrance to Hospital. Walker Schell.

St. Louis Courier of Medicine, September.
 95 *Contribution to Our Knowledge of Hemolysins. C. Fisch.
 96 The Bladder as a Cause of Dysocia. Armand Derivaux.
 97 Report of a Case of Purpura Rheumatica. M. A. Bliss.
 98 The Use of the Angiotribe; Or, The Removal of the Uterus and the Appendages Without Ligatures. C. R. Dudley.
 99 Coxa Vara. J. A. Steele.

Texas Medical and Surgical Reporter, October.
 100 Report of a Case of Spasmodic Asthma and Bronchitis. David P. Jackson.
 101 Reflex Neurosis from Disturbed Visceral Mechanism. The Dominating Influence of the Genitals. Byron Robinson.
 102 The Palliative Treatment of Hemorrhoids. H. G. Thomas.

Medical Council (Philadelphia), October.
 103 *Common Food Adulterations. A. H. P. Leuf.
 104 The Telephone in Country Practice. J. Beverly Desbazo.
 105 Preliminary and Minor Railway Surgery. J. M. Saimon.
 106 On Suggestive Therapeutics, Magnetic Healing and Osteopathy. T. H. Line.
 107 Treatment of Diseases of the Nose, Throat and Ear by the Family Physician. E. B. Gleason.

Providence Medical Journal, October.
 108 The Medical Library as a Factor in Medical Progress. George D. Hersey.
 109 The East Providence Filter. Charles V. Chaplin.
 110 Tetanus. Arthur Hollingworth.
 111 Electricity as a Therapeutic Agent. Francis B. Carleton.
 112 The Hand as an Index in Disease. Edward E. Pierce.
 113 A Brief Account of the Work of the Providence Lyng-In Hospital During the Fifteen Years of Its Existence. Hal sey De Wolf.

Cleveland Journal of Medicine, October.
 114 *The Use of the X-Ray and Electromagnet in Locating and Removing Foreign Bodies from the Vitreous Humor. Albert B. Baker.
 115 Polypi in the Nasopharynx. J. M. Ingersoll.
 116 *The Surgical Treatment of Hemorrhage Occurring in Ulcer of the Stomach and Duodenum. Ralph J. Wenner.
 117 *Right Subclavian Artery Passing Behind the Trachea and Esophagus. Other Anomalies. C. A. Hamann.
 118 A Case of Hemorrhagic Diathesis. F. P. Russell.
 119 Dissecting Aneurysm of the Aorta With Rupture Into the Pericardial Sac. W. T. Howard, Jr.

New England Medical Monthly (Danbury, Conn.), October.
 120 The Essential Factors for the Cure of Inguinal Hernia in the Male. Henry O. Marcy.
 121 Non-Penetrating, Penetrating, Contusive, Lacerating and Gunshot Wounds of the Rectum. Thomas H. Manley.
 122 Treatment of Diarrhea of Children. Wm. H. Dukeman.
 123 A Unique Hysterectomy. Frank Blalodell.
 124 Chronic Nasal Catarrh. W. E. Weed.
 125 Observations on the Technique of Lavage. John T. Howell.
 126 Psychiatrics. Charles P. Robbiss.
 127 Favorable Effect of an Intercurrent Disease on Meningeal Inflammation. J. B. Stair.

Medical Standard (Chicago), October.
 128 Typhoid Fever. Its History and Etiology. J. T. Moore.
 129 Tertiary Syphilis. William S. Gotthell.

- 130 Bromid of Ethyl. Aime P. Heineck.
 131 Herpes Zoster and Acne Rosacea. A. Memelsdorf.
 132 Some Acute Respiratory Affections. Wm. F. Wauhan.
 133 The Modern Treatment of Pulmonary Tuberculosis. M. J. Brooks.

International Journal of Surgery (N. Y.), October.

- 134 Treatment of Appendicitis. James B. Morgan.
 135 Organotherapy in Gynecologic Therapeutics. Harvey P. Jack.
 136 A Brief Note on Anesthetics and Analgesics, When Utilized in Traumatism of the Extremities. Thomas H. Manley.
 137 The Surgeon and the Army. Ira P. Smith.
 138 Cervix Surgery. J. E. Liggett.
 139 The Technique of Surgical Gynecology. (Continued.) Augustin H. Golet.
 140 Regional Minor Surgery. (Continued.) George G. Van Schaick.
 141 Epithelioma of the Tongue. Chas. N. Dowd.
Hot Springs Medical Journal, September.
 142 Address on the Dedication of St. Vincent's Infirmary. Little Rock, Ark. James T. Jelks.

Atlanta Journal-Record of Medicine, October.

- 143 A Passing Notice of the Therapeutic Application of Psychology. Willis B. Parks.
 144 The Present Status of Electricity in Medicine. William B. Snow.
 145 Treatment of Infantile Convulsions. J. W. P. Smithwick.
 146 An Experience With Chloroform in Cholera Morbus. Edwin B. Reed.

AMERICAN.

3. **Upright Position in Anesthesia.**—French describes a chair apparatus, in which the patient is fastened during operations, that can be tilted back or set upright as the case may require and illustrates its use by pictures. He speaks especially of its use in operations with ether upon the nose, throat and ear, and sums up its advantages as follows: 1. The very considerable reduction in the amount of blood lost. 2. The reduction of the chances of ear complications, by securing complete drainage of the nasopharynx of blood. 3. The ease, thoroughness and accuracy with which operations can be done in the shortest time, by the retention of the usual relationship between operator and patient.

4. **Asthma.**—In this article, the first portion of which only is included in the present number, Wells describes the theories of asthma that have been held, the vasomotor theory, the uric-acid theory, etc., and toward the close notices certain peculiarities of the disease which seem to indicate that strong mental effects act at least in producing its modifications. He thinks that in theorizing as to its origin we will have to call in psychology and suggests that many of the phenomena are strikingly suggestive of the yet imperfectly understood condition known as hypnotism.

6. **Tuberculosis.**—Knopf describes the methods of infection and their avoidance and notices particularly predisposition, both hereditary and acquired, and maintains that tuberculosis is eminently a curable disease, and that if we can get an abundance of good air and good food, so that it produces new fibrous connective tissue and increases the phagocytic powers of the blood and secretions, the course of the disease will be favorable. So long as the stomach holds out there is hope for the patient and on the general success in this direction depends the cure.

8.—See abstract in THE JOURNAL of July 7, p. 52.

9. **Fracture of the Carpus.**—Ross and Wilbert's article illustrates the possibilities of fracture of the carpus from a study of fifty-two cases as shown by radiograms, and questions the rarity of the trouble. They illustrate the different types by diagrams, the scaphoid seems to be the part most often affected. There are two forms of arthritis that are apt to be mistaken for that which follows fracture of the carpus. These are rheumatoid arthritis in which the previous history is of great importance and the X ray will clear up the diagnosis, and arthritis following prolonged immobilization of the wrist-joint or other injury of the bone above. In fracture of the carpus there is seldom any displacement, and consequently no replacement is necessary. The recognition of the injury is of great importance, however, for the purpose of preventing the consequences that may follow. The wrist must be kept quiet for two or three weeks, then careful massage must be used.

This is of special importance in fracture of this part as inducing the absorption of inflammatory exudates.

10. **Tuberculosis in Colorado.**—Bonney asks whether the actual necessities justify the extreme professional stand and the somewhat intolerant popular tendencies that have been shown. He thinks that the percentage of deaths from tuberculosis is a very unfair criterion of the cases developed in Colorado. The occurrence of the disease in the state is by no means evidence that it originated there. He shows from statistics that there has been a very slight increase in the deaths from consumption in Colorado; in fact, there has been a decrease in proportion to the population, notwithstanding the inherited susceptibility of many of the natives. The influx of consumptives into the state has been a matter of some economic importance, and he thinks that compulsory notification and legislation, not meaning personal restriction or isolation, would be an excellent thing. The interference with marriage and the liberty of the consumptive is at present both impracticable and unwarranted. The education of the public as to the hygienic measures and reinforcement of resisting powers will be the proper course to pursue.

12. **Calentura.**—Calentura in the tropics means any kind of fever, but should be limited, according to Foxworthy, to that fever which occurs usually during the months of December, January and February with symptoms of simple, continued fever and a very slight mortality. He describes it as he has noticed it in the Philippines and endeavors to eliminate the possibility of its being malarious. It somewhat resembles dengue, is rarely fatal and is generally of short duration. He says "whether this fever will be recognized as one of the obscure varieties of malarial fever or will be known as a distant relation of influenza which it simulates often in the epidemic forms, or whether it will continue to be one of the many unclassified fevers of the tropics, time and the microscope will decide."

16. **Home Modification of Milk.**—Townsend's conclusions are as follows: 1. The modification of cows' milk, with a knowledge of the percentages, is preferable to guesswork feeding of infants. 2. Percentage feeding can be carried out by a milk laboratory or by home modifications. 3. Milk laboratories are unavailable to many by reason of their absence or on account of the expense. 4. Laboratory modifications do not, in the experience of the writer, agree with infants as often as home modifications. 5. Laboratory modifications are necessarily subjected to more handling and transportations than home modifications. 6. Milk that is fresh, clean, and from cows free from tuberculosis is preferable uncooked, or, in other words, pasteurization and sterilization, although sometimes essential, are to be avoided if possible. 7. The method of home modification and of calculating percentages should and can be made extremely simple, and such modifications are sufficiently accurate and uniform. 8. The addition of cereals to the milk in the form of barley or oatmeal water is generally advisable after the seventh month, and is desirable before that age in some cases as an aid to the digestibility of the milk.

19. **Finger Infection.**—The subject of traumatic infection of the finger is quite thoroughly discussed by Eliot, who points out the pathologic conditions and progress of the infection and speaks of the advantages of the conservative method of treatment. When there is a certainty of stiff finger, it is a question for the patient to decide whether or not amputation is to be performed. Stiff-finger may be useful if properly treated and placed in a suitable position for work. He reports a number of cases illustrating his views.

20. **Colds.**—Scheppegrell's article treats of the subject of colds commonly so-called, and shows that whatever influence cold has, it is certainly not the most important factor in the production of coryza. Prophylaxis is of first importance; over-heated rooms especially those heated by steam and hot water which do not provide sufficient change of air are to be avoided. The clothing should not be too heavy and warm, and he calls special attention to the fact that excessive clothing induces perspiration which extracts heat, hence the necessity of

removing wraps when entering a warm room. One of the most useful methods of preventing colds is the use of the cold shower bath, which accustoms the system to sudden changes of temperature. Another important point is keeping the nasal passages in a normal condition. As regards the constitutional treatment there is hardly any subject on which there are so many fallacies, among these the use of quinin, which he thinks has really very little effect. Very few internal constitutional remedies are of much use; a brisk saline purgative if taken within the first twenty-four hours is one of the most useful remedies and the most available for all cases. He speaks also against the local use of drugs, particularly cocaine, which is often inducive of habit. The simplest and most beneficial treatment is to bathe the nostrils with a warm normal salt solution, which soothes the mucous membrane, washes it free of acrid secretions and is absolutely uninjurious. It should be used gently with only sufficient pressure to allow it to pass through the nostrils. With the ordinary precautions he has never seen any ear trouble produced by its use.

21. **Rheumatism and Indigestion.**—Page reports a case in which he has treated rheumatism with piperazin water, a combination of phenocoll and piperazin, with strikingly good effects. He has also employed it in cases of chronic dyspepsia, with little modification of diet and with very remarkable beneficial effects.

22. **Medullary Narcosis.**—Marens gives the history of this method, which is now coming into favor, giving due credit to Corning and attributing to Bier its introduction into surgery and to Tuffier the perfection of its technique. It was first used in obstetrics by Kreis, and he credits to Marx the first extensive report and application of the method in obstetrics in this country.

23. **Tuberculosis.**—Tuberculosis is a disease occurring from crowded, unsanitary, uncleanly, malnutritious and generally bad hygienic surroundings. The bacillus, according to Brooks, is only the histologic exponent, not the whole of tubercle, much less the disease. Pure local tuberculosis is afebrile; it is only the mixed infections that produce fever, the streptococci being chiefly to blame. As regards treatment it is evident, he says, quoting Brieger, that a specific serum can not meet the indications furnished by mixed infection. It has been noted that the leucocytes and their alexins play a lesser part in this infection than in any other disease. As for drugs, the much vaunted creosotes and guaiacol are inefficacious, climate also is non-essential. Successful treatment resolves itself into the rational application, conversely, of its rudimental causative factors, the diametric antithesis of its so-called predisposing etiology, plus, to use the words of Moeller, "the summation of many minor curative measures, each of which, perhaps, if taken by itself, has a slight effect but collectively are productive of the greatest good." These are supplied by sanatorium treatment, and he maintains that inhalation of antiseptic or medicated atmosphere during the night's rest, hydrotherapy, diet, systematic treatment and, more than anything else, the competency and sincerity of the physician in charge are the essentials of success. In conclusion he says success of treatment is connected with early recognition of the disease, and that it may be diagnosed even without bacteriologic examination is held by high authorities. Treatment must be commenced early.

24. **Hernia.**—The points emphasized by Haynes, whose paper is illustrated by figures in sections, are: 1. We should know the construction of the normal inguinal and femoral regions. 2. We should know the changes which take place when a hernia has occurred at either of these regions. 3. In attempting a radical cure we should seek to reproduce the natural construction of the parts. 4. Nothing but absorbable suture materials should be used. 5. Every precaution for obtaining primary union should be utilized and carefully followed. 6. A truss should be applied to preserve the effects of the operation. If a radical cure has been done a truss is unnecessary; if it has not been done, a truss will not prevent the return of hernia.

25. **Light as a Remedial Agent.**—Kime gives illustrations of his method of photographing through the human body with examples of his success and gives as the principles on which the therapeutics of light is based: 1. The germicidal action due to the violet end of the spectrum. 2. The irritant action of the chemical rays. 3. The power of light to penetrate the tissues of the body. 4. The chemical action of light on the blood itself while circulating through the parts bathed in the powerful light. He remarks that he has treated a number of cases of tuberculosis of the lungs with the light treatment as shown in his first illustration of photographing through the human body, and he reports several cases of cutaneous tuberculosis successfully treated.

26. See also ¶28.

28. **Inebriety.**—Crothers remarks in regard to the gold cure that its day has passed, and analyzes some of the statistics of its results, finding that after ten years no more than 2 to 4 per cent. of the cases "cured" have continued temperate. This compares closely with the results of temperance revivals. In contrast, he points out how scientific treatment has furnished a much larger percentage of success. The chief causes of inebriety are noticed. He emphasizes the fact of the possible self-limitation of inebriety and discusses its relation to various diseased conditions, the policy of the sudden withdrawal of alcohol, the drug treatment, etc. The main point of his paper is the importance of the medical rather than the moral treatment of habitual drunkenness. See also ¶26.

37.—See abstract in THE JOURNAL of September 29, p. 841.

38. **Formaldehyde in Milk.**—This paper appears to be the result of a series of questions sent out to the secretaries of state boards of health and departments of health in the United States. In only one case was the answer returned favorable to the use of formaldehyde, and Dr. Young's views, aside from the findings of experimental work and clinical observation, lead him to advocate that it should be prohibited. He says that: 1. It is the question of encouraging or abetting the addition of a potent chemical to a food-supply by ignorant and slovenly individuals. 2. The absence of legal prohibition will enable slovenly and dishonest persons to put dirty and unwholesome milk upon the market. 3. There is no real advantage in using chemical preservatives in milk, if we are careful and cleanly. 4. The fact that one man or a few take antiseptized milk without apparent harm does not warrant the deduction that babies may be frequently doctored with it. 5. In former years, boric and salicylic acid have been deemed innocuous, but it has been found since that they both have bad effects if taken continuously. One of the correspondents, while not advocating formaldehyde seemed to think that it evaporated quickly. This, however, is a mistake according to the experience of those that have had much to do with it. Another correspondent suggested that it might be allowed under a law establishing a legal maximum. Dr. Young thinks that this would be equivalent to a complete surrender to the adulterators. The results of his examination of all the available printed and other reports regarding the action of formaldehyde seem to justify and require the following conclusions: That, used as a preservative, it tends at least to impair the nutritive value of milk; that its tendency is also to interfere with the digestive processes—in either case it is only a question of dosage, and the limit of safety is difficult to determine; that, though the inhalation of formaldehyde gas is much less dangerous than the breathing of the other gaseous agents much used as disinfectants, the results of tests upon animals and one case of accidental poisoning of a human being, indicate that formaldehyde taken into the digestive system may produce dangerous and even fatal results; that it would be unwise and unsafe to encourage or to suffer the use of formaldehyde in the public milk-supply, even under any possible restrictive regulations; that in every state, as there are now in many, there should be a law prohibiting with effective penalties the use in milk of any chemical preservative whatsoever. These, at present, are the only rational and safe conclusions. If new light arises in the future we can take our hearings anew, and correct our course if need be.

41.—See abstract in THE JOURNAL, xxxiv, p. 1333.

42.—Ibid.

45. **Treatment of Hysteria and Neurasthenia.**—Loveland divides the special points which he makes in regard to the treatment of this condition into five heads. 1. Correct errors of physique. In many cases of both neurasthenia and hysteria we find a debilitated general condition. We should look for evidences of lithemia, malaria, syphilis, etc. Any disease affecting the nutrition, or any irritation producing nerve-waste should be corrected. The means to be employed may vary. The free use of water should be enjoined and the diet regulated so as to be unstimulating and wholesome. 2. The surroundings should be looked after; if they are depressing, they should be changed. Exclude everything that is not cheerful, induce exercise and avoid if possible the wheelchair and hammock habit or anything that will tend to inactivity. 3. Hydrotherapeutics and calisthenics are powerful agents for good; he mentions the methods and includes in this treatment massage. The mental attitude of the patient must also be attended to. The moral treatment is especially important; it is the secret of the success of faith cures, "Christian Scientists," etc. He would not throw aside medicine. Even a more thorough examination than the physician might think necessary will have a good effect in increasing the confidence of the patient. The medicines that are mentioned are often overrated. Strychnin comes first as a nerve tonic, but it should not be used so that it will be felt by the patient. Mild, harmless sedatives like valerian, camphor and hyoscyamus, judiciously used are also serviceable. Laxatives may be needed, in which case phosphate of soda is one of the best. Other medicines may suggest themselves. The latter part of the paper is taken up with reports of cases.

46. **Graves' Disease.**—Norbury describes the symptoms of Graves' disease, of which those referable to the heart are the most characteristic, and discusses the theories. So far as clinical facts go, he believes the theory that the disease is one of the cervical sympathetic nerves and that it is the result of the irritation of the vasomotor dilator nerves and of those nerves of the head and heart that have their origin in the medulla. He is convinced as to the nervous origin of the disease.

48. **Longevity of the Literary Female.**—The first paper of Spitzka's reviews a number of curious facts in regard to literary women, especially that their marriage relations are more unfortunate than the average. Of 60 literary women, several married twice and a few three times, so that there were 77 unions represented. Of these, 22 became dissolved by separation or divorce—by apparently a typographic error it is said that 57 husbands were survived by four widows. Of 382 cases of female poets, scientists and journalists, 280 were found to be married and to have sufficient data existing relative to them to be useful for the present inquiry. Of these 61 married twice, 3 a third time, and one a fourth time, making a total of 345 husbands to 280 wives. Of this number 230 were not divorced from their first husbands, and of the latter 175 survived their partners. He found that the ratio of surviving widows to surviving husbands, among these literary women is that of 100 to 26; the ordinary ratio of widows to widowers being about 2 to 1. This shows an immense discrepancy against the husbands of literary women. If to make a fair proportion he had allowed those who had been divorced from their second husbands to remain in the columns of the surviving, the ratio would have been only 100 to 21. The statistics direct attention to the fact that marriages between literary females and non-literary males contrast unfavorably with those where both members are literary, and that this exhibits itself in the earlier mortality of the male partner, and that the literary female is less adequate to the duties of a wife and mother than the average woman. As regards divorce, he finds that 75 out of 290 with accessible records have been divorced or otherwise separated from husbands, and that so large a proportion of these repeated this performance, that no less than 82 husbands figured in divorces from 75 wives.

56. **Prenatal Degeneracy of the Eye.**—Dean first remarks on the general conditions of degeneracy and reports cases in which he has found ocular symptoms indicating this tendency. Of these, retinitis pigmentosa seems to be the most frequent, is also accompanied with other stigmata, often hereditary, and is very frequently associated with consanguinity of parents. The other forms which he mentions particularly are the presence of persistent hyaloid accompanied with congenital absence of Mueller's muscle, and congenital glaucoma, both of these being examples of persistent fetal conditions associated with degenerative taints. Coloboma and aniridia were also found in several cases with bad family histories.

59. **Etiology of Malignant Diseases of the Skin.**—The etiology of carcinoma is reviewed by Hartzell, who concludes that we can regard it as fairly well demonstrated that it results from some profound and more or less permanent alteration of the mechanism of cell division. The alteration may in his opinion result from long-continued irritation of a mechanical or chemical kind, including under the latter the micro-organic toxins. The immediate causes of cancer, therefore, are probably multiple. Xeroderma pigmentosum is obscure as to its causation, but he holds that, owing to the early age at which it appears and the frequency of its occurrence in members of the same family, there is an inborn skin defect. He suggests also, in view of the rapidity of growth and malignancy of melanotic growths, that it is quite possible that the pigment exercises some toxic effect on the epithelium, producing a profound disturbance in the processes of the cell division. As regards Paget's disease, age and sex are the two most important etiologic factors; it is rarely found in men and before the age of 40. Of the direct causes we know nothing. The pos-opsomal theory of Darier has been thrown out as unfounded, and Hartzell thinks that it is likely that the irritation and injury to the nipple during nursing plays some part in the production of the diseased condition of the epidermis producing the cancerous affection.

60. **Recurrent Epididymitis.**—After a review of the subject and brief reports of a number of cases Chetwood concludes as follows: 1. Surgical resection of the testicular ducts, which obliterates the lumen entirely and positively prevents an ascension of the spermatozoa into the urethra, also prohibits the descent of inflammation from the urethra into the epididymis. 2. The pathologic occlusion of the ducts by inflammatory process only accomplishes this result partially, since it is clearly in evidence that many of the cases having had double inflammatory epididymitis still continue to suffer from a recurrence of inflammatory attacks in the epididymis, and since it is also proved that some of these individuals continue to have vital spermatozoa in their seminal discharges and to retain the capacity to impregnate their wives. He is not aware that this point has been clearly demonstrated before this writing.

61. **Treatment of Malignant Diseases of the Skin.**—Cancer being a local disease, its treatment must necessarily be local, and constitutional measures other than those needed to support the patient are useless. Of the local treatment there are two methods; caustic and excision. The former, while it has its advocates, has a weak point in that it postpones the removal of the lymphatic tissues and glands in the neighborhood. Shepherd holds that there may be affection of the glands without apparent symptoms, and that in all cases, to be on the safe side, all the neighboring glands and lymphatic tissue should be excised, especially when the disease occurs in such parts as the tongue, lips and genital organs. The results of excision, so excellent of late years, have been due to the recognition of the facts that cancer is a local disease and therefore must be removed early, and that it spreads by the lymphatics. He admits that there are certain malignant ulcers of the skin which, if seen early, may be successfully removed by caustics, especially those slow growing forms seen in regions somewhat removed from the glands, such as in the nose, forehead, cheeks, temples, etc. In rodent ulcer, in cases of slow growth and when the glands are not rapidly affected and where the ulceration

is superficial, other means than excision may be employed. Caustics are also most useful when the disease has affected the bone. He has grounds to think that there is a medium to be found between the practice of physicians and that of surgeons in the treatment of this condition. If caustics were properly applied instead of being used only by quacks, many patients would be better off than is now the case. The use of toxins obtained from cancerous growths, advocated by Adamkiewicz in 1893, has been practically discarded. The erysipelas toxins of Coley have been rather more successful. The different caustics such as arsenic, caustic potash, and their action are here mentioned, as is also electrolysis, advocated by Dr. G. B. Massey. In skin sarcoma, when single and localized, early and complete excision is the best treatment. In cases of malignant multiple sarcoma, hypodermic injections of arsenic have been successful in many cases and attacks of erysipelas have actually caused sarcoma to disappear, hence the suggestion of Coley, who has reported success. Shepherd has himself tested these toxins but without good results.

62. Proliferation and Phagocytosis.—Mallory first describes the different phagocytic actions observed from various infections, and in conclusion suggests the question whether the processes he has described are due directly to the action of toxins or reparative. In repair, cells proliferate for definite purposes—to cover denuded surfaces: to replace loss of tissue; form new blood-vessels, etc. The cells, however, which proliferate under the direct action of toxins, multiply greatly in excess of need and show lack of definite purpose. They may exert some more or less beneficial action, possibly produce antitoxins, but they must not be regarded as reparative and may do great harm, block up lymphatics, produce necrosis, be carried to the liver as emboli and otherwise interfere with the organic economy. The phagocytic cells are phagocytic beyond all bounds of necessity and destroy great numbers of active, useful cells. They are all abnormal and, to a certain degree, malignant.

64. Neurofibrils of the Ganglion Cells.—Paton has studied the special neurofibril structure of the cortical ganglion cells, using a special modification of his own of Apathy's method. He hopes still further to improve this method in future research. As regards the nature of neurofibrils, he disputes their being artefacts, showing that they undergo rapid degeneration after death. In one of his sections the visible network of fibrils is not within, but is superimposed upon, the cell and its processes, and he thinks this extracellular network is that which Held has described as the pericellular network of terminal axones, also the reticulum surrounding the nerve cell described by Golgi. After a careful study of the development of the ganglion cell, he has come to the conclusion that the presence or absence of "gemmules" is dependent upon the existence or non-existence of fibrils. A gemmule is formed by a silver deposit at the point where the nerve filament or fibril enters the nerve process. This is also found if the fibril is simply lying on the process. They are found either at the point of entrance or at a simple contact of the fibril with the protoplasm of the cell process.

65. Oxaluria.—The conclusions of Baldwin's experimental study are as follows: 1. As varying amounts of calcium oxalate may be held in solution in the urine, conclusions based on the presence or number of calcium oxalate crystals found therein are of no real value as an indication of the quantity of the oxalic acid present. 2. Unless the utmost care is exercised, the results obtained by quantitative estimation of oxalic acid are subject to large percentages of error. This is especially true in the use of Neubauer's or Shultzen's methods, in which the calcium oxalate is precipitated in an alkaline solution. 3. An ordinary mixed diet regularly contains traces of oxalic acid or its salts. 4. A portion of the oxalic acid ingested with the food may be absorbed and reappear unchanged in the urine. 5. The normal daily excretion of oxalic acid in the urine fluctuates with the amount taken in the food, and varies from a few milligrams to two or three centigrams, being usually below ten milligrams. 6. In health, no oxalic acid, or only a trace,

is formed in the body, but that present in the urine has been ingested with the food. 7. In certain clinical disturbances which in some of the cases studied above were associated with absence of free hydrochloric acid from the gastric juice, oxalic acid is formed in the organism. 8. This formation in the organism is connected with fermentative activity in the alimentary canal. *a.* Prolonged feeding of dogs with excessive quantities of glucose, together with meat, leads eventually to a state of oxaluria. *b.* This experimental oxaluria is associated with a mucous gastritis, and with absence of free hydrochloric acid in the gastric contents. *c.* Oxaluria and accompanying gastritis are referable to fermentation induced by the excessive feeding with sugar. *d.* Experimental gastritis from fermentation is associated with the formation of oxalic acid in the gastric contents. 9. The symptoms attributed to an oxalic acid diathesis, with the exception of those due to local irritation in the genito-urinary tract, do not appear to be due to the presence in the system of soluble oxalates, but are more likely to depend on other products of fermentation and putrefaction.

66. Serum Globulins and Antitoxin.—From a series of experiments Bliss and Atkinson conclude that the amount of antitoxin substance obtained by precipitation with magnesium sulphate from the blood-serum of the horse, corresponds as nearly as can be determined in full to the protective power of the serum from which it is obtained. Equal amounts of precipitate with magnesium sulphate from immunized and non-immunized horses act differently toward toxin, thus the proportion of protective substance to the precipitate from non-immunized serum is exceedingly small as compared with the proportion of antitoxin from the precipitate from the serum of immunized horses. The average precipitate from the latter is more abundant than that from the serum of non-immunized horses, and before immunization the serum gives less abundant precipitates than afterward. The proportion of increase per unit of antitoxic strength for the same or different horses is not constant. This may be due to the increase of inactive substance or to imperfect methods of determination. They do not feel warranted in considering any parts of these precipitates as anything else than globulin, but do feel warranted to conclude from the fact that globulins of normal serum do not protect or only in comparatively large amounts, against diphtheria toxin, that new globulins are formed, or rather greatly increased in the serum of immunized horses and that these globulins protect against the toxin. Every animal has its physiologic and pathologic history, hence absolute conformity in the results obtained is not expected.

67. Antitoxic Strength of Globulins.—Atkinson has carried out some investigations as to the fractional precipitation of globulin and albumin of normal horses and diphtheria antitoxic serum and the antitoxic strength of the precipitates, from which he deduces the following: 1. The globulins of both normal and diphtheria antitoxic serum exhibit chemically toward reagents the same reactions, being precipitated by magnesium sulphate and split up into fractions in precisely the same way. 2. All the diphtheria antitoxic power of both normal and immunized serum is always carried by the globulin and its fractional precipitates. 3. During the fractional precipitation of the serum-globulin of horses immunized from diphtheria toxin and horses not immunized from diphtheria toxin, some of the globulin is lost, likewise at the same time some of the antitoxic power of the globulin of the immunized serum is lost. 4. These reactions, considered in connection with the fact that different observers as well as the author have found diphtheria antitoxic power in normal horse's serum and that this antitoxin separates with the globulin, strongly inclines him to consider "diphtheria antitoxin" a form of globulin. 5. The reactions of globulin, previously separated from the serum by magnesium sulphate, with sodium chloride lead one to think that there is a formation of globulin salts. 6. Since serum albumin in a magnesium sulphate solution gives fractional precipitates at definite temperatures, it seems not improbable that the albumin is precipitated in the form of albumin salts.

68. *Sporothrix Schenckii*.—Hektoen and Perkins describe a case of refractory subcutaneous abscess similar to those noticed by Schenck in an article in the *Bulletin of the Johns Hopkins Hospital* for December, 1898. Dr. Hektoen was unable to see any distinguishing difference either culturally or morphologically between the fungi of Dr. Schenck and those of their own observation. A characteristic clinical feature in the human cases that have been found is the refractory character of the subcutaneous abscesses.

78. This article will be noticed editorially.

79. *Echinococcus of the Pleura*.—Cary and Lyon describe a case which they consider of interest from its rarity and from the peculiar type of degeneration of the cyst wall which, according to them, is described here for the first time. The wall became a thin, hyaline structure which was derived by the process of degeneration from the cuticular walls of the parasite itself and not from the tissues of the host.

83. *Pedicle Flaps in Injuries of the Hand*.—Schroeder describes the method of restricting contracted cicatrices of the hand by the pedicle-flap method and illustrated by cases. For covering the thumb, dorsum or palm, flaps may be taken from the chest or abdomen; where the palmar surface of fingers is destroyed it is much better to have double pedicles and they can be best obtained from the hip. The advantages are: 1. mobilization; 2. elasticity; 3. certainty of taking.

84. *Hydrocephalus*.—After reporting a case of internal hydrocephalus following cerebrospinal meningitis, Joslin gives a résumé of the literature of such cases, description of the pathologic symptoms, prognosis and treatment of the condition. He notes especially the very long duration and the large mortality, though it would appear that the prognosis is better than has been supposed. As regards treatment he sees little benefit from tapping.

90. *Obstetric Surgery of Pelvic Contraction*.—It is generally believed that pelvic contractions or deformed pelves are more common among Europeans than among Americans. While Jewett seems to doubt the absolute truth of this, he admits that it is much less common, though not as rare as usually assumed. There is a lack of statistics of pelvimetry in this country which has been noticed by European authors, and he gives here the simplest methods of measurements. External mensuration has the advantage of being least uncomfortable to the patient and most easily done. The only external diameter essential for the purpose is the external conjugate, and this is best measured, not from the spine of the last lumbar vertebra, but from the depression immediately below it to a point on the pubic surface a little below the upper margin of the symphysis. With the external conjugate at or below 6 or 6½ inches, the pelvis is invariably contracted. With one at or above 8 inches it is almost surely ample. Between these two figures the matter is in doubt and should be determined by other measurements. Of the internal measurements the diagonal conjugate is the most important and it should not be less than 4½ inches. Allowance may be made for the variations in depth, thickness and inclination of the symphysis, but these are less important in diagnosis of deformity than in determining its degree. Some usual indications of pelvic contractions at labor are: 1. Failure of the head to engage during active labor. 2. Failure to engage by well-directed suprapubic pressure. This often may be employed to advantage as a test in a few weeks immediately preceding labor. 3. Failure of tentative traction with forceps. In partial engagement of the head the latter should always be tried with the aid of the Waleher posture before resorting to surgery. He speaks favorably of symphysiotomy, believes that it still holds an important place in obstetric practice and does not believe that it leaves any permanent enlargement of the pelvis. It is of value in cases of slight contraction and is simpler than Cesarean section. Considering Cesarean section he remarks that the disposition of the uterus is important, but the ethical side of the question must be considered; except when demanded in the in-

terest of life, the surgeon can not assume the right to remove it without the patient's consent.

95. *Hemolysins*.—Fisch notices the results of Ehrlich and Morgenroth, who find that hemolysins which will act on other animals and other individuals of the same species will not act on individuals producing them. The autolysin seems to be undiscovered. He reports his own experiments, which bring out nothing special other than that found by Ehrlich and Morgenroth, and says that it seems most probable to explain the phenomena by the absolute absence of receptors in the tissues of an animal for the haptophorous groups of its own corpuscles.

103. *Common Food Adulterations*.—In this second article, Leuf notes the adulteration of extracts, vanilla for example, which is very largely made up of tonka bean and others of various fruits are manufactured of compound ether, coloring matter, sugar or glucose, and water. Both the natural and artificial extracts usually contain preservatives, the commonest of these being salicylic acid. Lemonades are manufactured from oil of turpentin and tartaric acid with sugar. Milk and cream are adulterated with water and preservatives. Canned goods are usually pure. The only adulterant of coffee is chicory, and this is only possible when it has been ground. The public is very often imposed upon by getting a poorer grade than it pays for, but it always gets coffee if it buys the bean, and does its own grinding. Very little good tea comes to this country. It is a common belief that vinegar is merely dilute sulphuric acid, but its production is so cheap that it would not pay to adulterate it. Vinegar may be diluted, and a so-called vinegar essence is sold consisting simply of concentrated acetic acid or crude pyroigneous acid. Cocoa and chocolate are deteriorated by the abstraction of the fat before being ground and are also diluted with varying proportions of cereal starches and ground cocoa shells. The adulteration of wines, beer, etc., is also noticed.

114.—See abstract in THE JOURNAL, xxxiv, p. 1418.

116. *Surgical Treatment of Ulcerations of the Stomach*.—Wenner reports two cases of gastric ulceration treated by operation, and from a study of these and of others gathered from the literature of the past years he considers the following conclusions justified: 1. That the severity of the hemorrhage does not indicate the degree of ulceration. 2. That the time of vomiting bears no constant relation to the location of the ulcer. 3. That repeated small hemorrhages or recurrence of a second grave hemorrhage demand operation. 4. That after careful medical treatment extending over a period of two months, without amelioration of symptoms, an operation should be advised.

117.—See abstract in THE JOURNAL, xxxiv, p. 1624.

135. *Organotherapy in Gynecology*.—Jack reports several cases in which organotherapy was employed, and concludes: 1. Thyroid extract is one of our most reliable vasomotor constrictors. In gynecology it should be limited to hemorrhages, especially those in which epithelial elements of the endometrium are concerned. 2. Mammary extract controls the hemorrhages from fibromata and reduces the size of the tumor; in some cases causes their disappearance and in such disorders it should be preferred to thyroid extract. 3. Parotid extract is the best remedy yet brought out in the treatment of dysmenorrhea; it softens pelvic exudates, regulates menstruation, and relieves nervous symptoms. 4. Ovarian extract is indicated in nervous symptoms of the menopause or when from any reason it is desirable to increase the flow. He believes in its function of internal secretion and thinks it the best ovarian stimulant.

FOREIGN.

The Lancet, October 6.

Aneurysm of the Renal Artery. HENRY MORRIS.—Two varieties of aneurysm of the renal artery are known after injuries: 1. Small saciform aneurysm, the walls of which are formed by some or all the coats of the artery. 2. Large, false aneurysm, the walls of which are composed of the con-

densed fibrous tissue developed around the extravasated and coagulated blood, and with which the surrounding organs and tissues become more or less firmly matted. False aneurysm sometimes reaches an enormous size and may be due to the giving way of the small true aneurysm, to the yielding of a thrombus, which temporarily closed a ruptured artery, and to immediate outpouring of blood from a ruptured artery. True aneurysm may also be associated with an extravasation of blood and also with the false aneurysm and both may be the result of some accident. Morris gives accounts of cases of various types of this accident and discusses the etiology. Of 19 cases 12 were traumatic and 7 spontaneous. Of the 12, 2 were saciform, 9 false and 1 doubtful. Males appear to be particularly susceptible as 10 out of the 12 were of that sex. The spontaneous cases were associated with malignant endocarditis with multiple embolism, cancerous degeneration of the arterial coats, nephritis, and probably embolism and thrombosis. Small saciform aneurysms when unruptured produce no distinct changes in the kidney. False aneurysm is associated with pressure changes and numerous symptoms, tumor, hematuria, etc. As regards the diagnosis the small saciform aneurysm giving rise to any symptoms may be unrecognized during life. The tumor caused by false aneurysm is especially difficult to diagnose and may be confused with renal new growths, hydro or hematemphrosis, etc. Its prognosis is most unfavorable. The only rational treatment is nephrectomy and the removal of the whole or greater parts of the aneurysmal swelling. The operation will generally have to be commenced as an exploratory one, and when the tumor is recognized the incision should be enlarged, the pedicle secured or renal artery ligated, at any rate before attempting to amputate or remove the sac. The risks are hemorrhage and shock. In exposing the sac it is advisable to incise it and remove a little of its solid contents. If hemorrhage occurs the opening should be immediately packed with gauze. The adhesions may unite the wall of the aneurysm with the peritoneum and bowel, and if the adhesions are tough and firm it may be impossible to remove the whole of the sac wall. As much of the wall as possible should be removed and the rest left and drained.

British Medical Journal, October 6.

Some Problems of Tropical Medicine. WILLIAM MACGREGOR.—In this address on tropical medicine MacGregor gives some interesting particulars as to the introduction of old diseases among the tropical race as well as regards the special indigenous diseases themselves. Typhoid fever, for example, was unknown in Polynesia, and also in British New Guinea until introduced. The disease of yaws, however, is one that almost everyone in the tropics will come in contact with, and is considered by the natives as inevitable. While not very contagious to Europeans it is loathsome and troublesome when caught. It is much more mild in the African and Papuan than the Polynesian, and MacGregor generally found it not very readily curable; as regards its eradication, situated as he was in New Guinea, he thinks he might as well have tried to arrest an earthquake. Venereal disease was unknown to the Pacific Islanders until introduced and seems to take a specially active course among them. The same is true of measles, which destroyed about one-third of the Fijians when first introduced, giving a remarkable example of the exuberance of a new disease among a new people. It was not more surprising in Fiji, however than the itch in New Guinea. This malady, introduced in some old clothes, spread like a tidal wave, affecting thousands of the population; but after a while it finally declined to a level, at which it will probably always keep in a community where clothes are common property and itch attacks the human face. Dysentery was unknown in British New Guinea and Fiji before the advent of Europeans, and its mortality has been exceedingly high in the Polynesian Islands. The man who will work out an effective means of dealing with it will be the greatest benefactor of the tropical races. Malaria is the most important matter to both the student of tropical diseases and the tropical resident. Since the discovery of the mosquito's agency we will have to take measures heretofore neglected: mosquito nets, protection of pools and reservoirs

from insects and avoidance of exposure through the means of clothing, etc. drainage and many other matters are suggested. In the tropics the population going half-naked complicates the situation. Civilized Europeans will not wear low-necked dresses in malarial regions if they have learned to take proper care of themselves, nor will they sit with their feet under the table with their ankles exposed, excepting for silk stockings. Elephantiasis is another mosquito-borne disease, and though of minor importance, is an interesting subject. Diphtheria, cancer, and tetanus appear to be all introduced diseases in New Guinea and the Polynesian Islands. Erysipelas was also unknown there. Tinea imbricata is a very evident disorder. Ankylostomiasis is indigenous in the Pacific without doubt. The exclusion thus far of rabies from the Australasian colonies is a most important matter, and with the habits of the wild and domestic native dogs its introduction would be a very serious one. The government measures for excluding this disease are, it is hoped, taken effectually for all time. Other subjects mentioned are the jigger, which is comparatively unimportant; leprosy; quarantine, which is not an English favored method, and the need of medical men being experts on the question of drinking-water especially.

A Discussion on Subdiaphragmatic Abscess.—The discussion is opened by Godlee, who first notices the anatomy of the subject, and then passes on the classification as proposed by Maydl. When an ulcer of the stomach bursts in the general cavity the subdiaphragmatic portion of the collection of fluid must not be regarded as a separate abscess, but occasionally the effusion is localized, and then we have essentially an acute sub-diaphragmatic abscess. It is generally limited to the right by the falciform ligament of the liver, its other limitations will vary with different cases. Occasionally the rupture occurs on the posterior aspect of the stomach, giving rise to a collection in the small sac of the peritoneum and this may also be called a subdiaphragmatic abscess. The abscesses resulting from gradual rupture of an ulcer where adhesions are previously formed, are very different, and may set up processes in various directions. They may also be accompanied with collections of serous fluid in the pleura. Rupture of an ulcer of the duodenum or transverse colon may cause subdiaphragmatic pneumothorax, a collection of pus and gas pushing the diaphragm up sometimes quite high and reaching down a long way into the abdomen. A simple opening of the abscess may effect a cure, but occasionally it may be possible to reach and close the perforation. Those resulting from appendicitis often track up along the ascending colon and cause a collection between the liver and diaphragm. General peritonitis is not infrequently associated with the formation of pus around the liver and spleen. Suppurating hydatids of liver and spleen may lead to enormous collections of pus beneath the diaphragm, which may be mistaken for empyema, and many abscesses of the liver erupt into the subdiaphragmatic space. Acute suppurative of the gall-bladder may also be accompanied by sub diaphragmatic abscess, though more frequently it is situated farther down. Perirenal abscesses, while they usually point in the loin, may be purely subphrenic. They are not like those hitherto considered, peritoneal, but separate the peritoneum from the diaphragm. They are generally associated, however, with a certain amount of plastic peritonitis with its usual symptoms. The diagnosis is somewhat obscure, though the treatment is not difficult when once diagnosed as a rule. Cases are recorded of abscess in this situation following injuries unaccompanied by wounds. Godlee thinks that these depend on the rupture of some previously existing ulcer. That cases may occur after wounds is generally understood. Metastatic abscess is mentioned, but he does not understand just what is referred to, and has no personal experience with such. Caries and necrosis of the ribs may give rise to subphrenic abscess, which hardly deserves the name because the suppuration is really in the muscle and if it exists downward will be found along the layers of the abdominal muscle. It is conceivable that it may burst inwardly, but it is more likely to point externally. Any collection of pus in the thorax may make its

way down to the space below the diaphragm, but this is much less common than for a collection of matter below to work upward. Actinomycosis so frequently affects the liver that it almost deserves a special heading, but its progress is so slow, however that there is always time for adhesion to occur before the suppuration extends beyond the capsule of this region. Two other possible causes are mentioned, tuberculous peritonitis and diseases of the pancreas, including calculi and pancreatitis.

A Discussion on the Methods at Present Available for the Treatment of Simple (Subcutaneous) Fractures. WIRLIAM H. BENNETT.—Bennett sums up his conclusions in regard to the treatment of simple fractures in the following statements: 1. The treatment of simple fractures at present, although less stereotyped than hitherto, is still conducted generally too much on lines which are traditional rather than rational. 2. The use of splints for long periods is disadvantageous, especially in the form of irremovable appliances such as plaster of paris and the like. 3. Speaking generally, the earlier movements of the joints above and below the fracture in a long bone are used the shorter is the time occupied in recovery. 4. The legitimate scope of the operative treatment of simple fracture is limited, and should be confined to cases which are otherwise unmanageable; special cases such, for example, as certain spiral and oblique fractures, mainly of the tibia, and certain fractures near joints, notably of the humerus at the elbow. 5. The operative treatment of recent fracture of the patella is by no means so generally satisfactory or so free from risk as published cases would tend to show; and further, in cases in which the separation of the fragments does not exceed half or even three-quarters of an inch, as good results for practical purposes are obtainable without operation although less rapidly. 6. The use of massage and passive movements immediately in simple fracture when the circumstances of the patient and of the practitioner admit of it either in its entirety or with modifications is, in the majority of cases, the best means of effecting a rapid and useful recovery. 7. The tendency of late has been to exaggerate the degree of disability and diminution in wage-earning capacity following upon simple fractures. 8. Although no pains should be spared in obtaining perfect apposition of the fracture ends, moderate displacement, provided that it is not rotatory, is not necessarily followed by any disability if care be taken by the use of early movements to prevent any matting of the parts around the fracture; in other words, the disability which follows in certain cases in which the position of the united fragments is not ideal is due, not to the bony deformity, but to the adhesion of the soft parts around, which is easily preventable. 9. Having regard to the unavoidable modifications which must be dictated by the circumstances, social and otherwise, of the patient, and by the facilities possessed by the practitioner, no one method of treatment for simple fractures can be insisted upon for routine use even in cases in which the local conditions are precisely alike. To the discussion of the methods in regard to simple fracture he adds in tabulated form the information obtained from submitting a series of questions to 300 physicians of London and other parts of Great Britain.

Annales de la Soc. Med.-Chir. de Liege, July.

Granulation Through Gauze. ROFESCH.—The gauze applied in dressing a large burn on a child was left when the dressing was renewed. Granulation was so intense that the tissue proliferated through the gauze and a layer of granulations formed on the external surface. They became painful and suppurated; the gauze rotted and the entire surface of the wound had to be scraped, after removal of the large flap of gauze with granulations still adherent on both sides.

Presse Medicale (Paris), September 22, 20, October 6.

Epididymo-Testicular Tuberculosis and Ligature of the Spermatic Cord. P. MAUCLAIRE.—Suppuration and a prostatic lesion are the signs of tuberculous epididymitis. The absence of a discharge excludes gonorrhoea, and syphilitic infection is usually localized on the testis, which becomes flattened and completely insensible even to strong pressure. Mauclair treats epididymo-testicular tuberculosis by ligating the spermatic

cord in two places, 2 cm. apart, close to the inguinal canal, and severing the cord between them. The testis soon establishes collateral circulation by adhesions with the neighboring parts. The advantages of this method are manifold. It retains a "moral" testis, separates a tuberculous focus from the rest of the organism, isolates it from the prostate and is possibly able to prevent infection of the other testis, which is not always accomplished by castration. His results have been extremely encouraging. The testis may swell at first but by the end of a month atrophy commences, or it may retain its normal size for six months, but sooner or later it becomes transformed into a painless bunch. He sutures the wound completely after cauterizing.

September 20.

Simple Primary Hyperchlorhydria. L. SANSONI.—Forty-seven years' experience as a specialist in gastric troubles has only confirmed Sansoni's previous conviction that what we call hyperchlorhydria is in reality merely an exaggerated specific sensitiveness of the gastric mucosa to the hydrochloric acid, which is not necessarily in excess. His chief arguments in favor of this view are that perfectly healthy persons may have an exaggerated gastric secretion or hyperchlorhydria without disturbances, and that this exaggerated secretion may persist or even increase after complete recovery from what we call classic primary hyperchlorhydria. Also the existence of a normal or subnormal gastric secretion in persons exhibiting all the symptoms of primary hyperchlorhydria, and the efficacy of the usual means of cure in such cases. He therefore proposes for the affection the more accurate and descriptive term "digestive hydrochloric hyperesthesia." He adds that it is impossible to determine the exact figure representing the normal hydrochloric secretion of the stomach, and that the alterations in this secretion are unable, alone, to originate morbid phenomena. The specific hyperesthesia of the gastric mucosa for hydrochloric acid is also liable to cause a reflex spasm of the pylorus and hence retention of the food and, secondarily to this retention, a continuous secretion of gastric juice. These phenomena are proved by the abolition of the spasm and evacuation of the contents of the stomach after ingestion of sodium bicarbonate to neutralize the hydrochloric acid, or by soothing the hyperesthesia with atropin or hot water; also by the coincidence of the spasm with the acme of digestion, when the secretion of hydrochloric acid is at its height. The success of various remedies is probably due to their action on the gastric sensibility, and not on the secretions, as hitherto assumed. Lavage of the stomach with tepid alkaline water, hydrotherapy, climate, suggestion and electricity all act in the same way, curing the neuropathic hyperesthesia. It is possible that continuous gastric succorria might be due to a primary and fundamental disturbance in the secretion, but in Sansoni's experience he has found in every case in which the symptoms indicated continuous gastric succorria, remains of food in larger or smaller amounts in the fasting stomach, even in the morning.

October 6.

Varicellie Rashes. L. CERE.—About the only positive differentiating symptom between a varicellie rash and scarlet fever is the pink stripe observed in the center of the white band that follows linear pressure with the nail or point of a pencil on a patch of the eruption in scarlet fever. Varicellie rash may occur anywhere on the body, but the eruption in variola usually first occurs as "bathing trunks." The scarlet-fever eruption always scales in time, while nothing of the kind occurs in a varicellie rash.

Gouty Angina Pectoris. L. BRODER.—The pathologic action of gout on the cardiac plexus is well illustrated in the case described, in which the attacks of angina pectoris from this cause alternated with joint troubles. No lesion of the aorta nor constriction of the coronary arteries was found at the autopsy, but the myocardium was altered and the right heart dilated.

Semaine Medicale (Paris), October 3.

The Pupil Danger Sign in Bromid Treatment of Epilepsy. GILLES DE LA TOURETTE.—The most successful, in fact

the only treatment we have for essential epilepsy is with the bromids. They should be administered for two or three years with the most scrupulous vigilance in the exact doses ordered by the physician, using always the same spoon or medicine glass to ensure accuracy in the dose, which must be graduated to the individual case. A distinct advance in the treatment of epilepsy is the discovery of a sign which enables the exact individual dose to be determined for each patient. In the course of bromid treatment when the drug is well tolerated the pupils are normally dilated. They react as usual to light and accommodation. If the dose is increased, a moment arrives when the pupils become dilated and respond lethargically to light and accommodation. With a still larger dose the pupils are dilated to the maximum and do not react at all. When the reactions first become sluggish there is a general sensation of slight physical and mental depression. The patient feels heavier and tired, with less aptitude for mental and physical labor and with an inclination to sleep during the day. The appetite fails, with constipation in some cases. These symptoms in combination with the pupil sign indicate that the adequate individual dose has been reached. This condition is harmless and should be maintained, the dose of the bromids increased or diminished according as this condition varies. If the adequate dose is unmistakably attained at the end of two three-week periods—which represent a month and a half of treatment—it is seldom necessary to increase it more than 2 or 3 gm. during the remainder of treatment. Even in epileptics extremely sensitive to bromid intoxication it is possible to cautiously reach and keep up the adequate dose without general accidents of intoxication if the pupils are watched and the patient kept under surveillance. If exaggeration of the general symptoms and gastric disturbances occur, the bromid must be immediately suppressed and the patient purged and put on a strict milk diet with squills and digitalis to stimulate the heart and kidney action for three to four days. The bromid can then be recommenced in small doses until the adequate dose is reached once more. The seizures are liable to recur if the adequate dose of bromid is surpassed, the same as when too little is given. The local accidents are less easy to handle. They may coexist with the general, but are usually independent. They occur as cutaneous manifestations, chiefly in subjects predisposed to acne. A few slight patches of acne are trivial, but when a confluent eruption occurs it may interfere with the occupation and oppose an obstacle to efficient treatment. In case of absolute intolerance, the bromid can be administered by the rectum, using 1 or 2 gm. more than by the mouth. It is possible to determine the adequate dose by the pupil sign, the same as when bromid is taken by the mouth. In these cases it is sometimes possible to combine a small amount by the mouth with the rectal injection. The formula found most effective is a combination of 40 gm. of potassium bromid and 12 gm. each of sodium and ammonium bromid and sodium benzoate, in 1000 c.c. of boiled or distilled water. This is equivalent to 1 gm. of the combined bromids to a tablespoonful, which is taken after the first breakfast and on retiring. If the seizures are known to recur at certain hours, it is best to give two-thirds of the dose for the day just before the hour. The main features of the treatment described are the determination of the adequate dose and the maintenance of this dose until all accidents have disappeared, then saturating the system by maintaining the adequate dose at its maximum for a year longer, then gradually diminishing by a gram at each three-weeks' period under careful supervision, and resumption of the maximum adequate dose at any indication of trouble. The patient should be warned that if the proper dose is neglected and a seizure or vertigo occurs after six months, all the benefits of the course are lost and it will have to be commenced over again. Pregnancy is no contraindication to its continuance, nor a slight, transient, intercurrent affection. Charcot's method of administration is followed, increasing the dose by 1 gm. a week for three weeks and then diminishing at the same rate for three more, and then recommencing. In women the periods should range for four weeks, with the maximum corresponding to the menstrual period. The patient

takes 3, 4 or 5 gm. of the bromids during three weeks and is then seen again or not until the end of the sixth week. The condition then gives an indication of the tolerance for the drug and suggests an increase or decrease of the maximum. Children frequently tolerate as much as an adult. In all cases the prompt determination of the adequate dose and its maintenance at this point, with treatment for two and one-half years, are the main points, commencing to diminish the dose about a year after the last symptoms.

Centralblatt f. Chirurgie (Leipzig), September 29 and October 6.

Indirect Sounding. KUHN.—Four years have passed since Kuhn first described his sounds made of a spirally-wound wire, inside which a stiff sound is introduced. The spiral prevents injury while the stiff sound affords the desired information. Experience has confirmed the value of this combination, and he now relates instances in which a correct diagnosis had been impossible until this indirect sounding was resorted to. It has all the advantages of both a soft and a stiff sound, while its worm-like and rotating movements enable it to discover an eccentrically located lumen. It is peculiarly adapted to the exploration of the biliary passages and fistula.

October 6.

Successful Disinfection of the Hands. J. HAHN.—While others have been laboring to evolve a method of thorough disinfection of the hands and proclaiming the failure of the usual methods, Hahn has been quietly following the technique which he described in the *Monatsschrift f. Geb. u. Gyn.*, v. 5, nearly four years ago. It attracted no notice at the time nor since, and yet it has proved unfailingly reliable in his experience, as a series of 136 operations without a single instance of even the slightest operative infection fully demonstrates. The hands and forearms are scrubbed four times in succession with soft soap and fresh water at 40 C. They are then washed for four minutes in 1 per thousand alcohol solution of sublimate and the forearms left wet. The hands are then rinsed in 1 to 2 per thousand aqueous solution of sublimate until all the alcohol is removed and dipped again into the sublimate-alcohol for a minute or two before and after the blouse is put on. Bacteriologic and other tests indicate that this method combines all that can be expected from disinfection of the hands.

Dermatologisches Centralblatt (Berlin), September.

Iodin Parotitis. K. GROEN.—A young man under treatment for syphilis at various intervals took potassium iodid at least sixteen times. Eight times he reacted with an acute swelling of the parotid gland. Quinin had no effect in preventing the parotitis, but potassium bromid administered with the iodid on one occasion possibly co-operated in preventing the glandular lesion.

Dermatologische Zeitschrift (Berlin), September.

Urethral Pouch in Boys. J. V. BOKAY.—The fourteen cases of true urethral diverticula that have been observed in boys impress the benefits of prompt surgical intervention in these cases. In six the operation resulted in a complete cure, and in two others a small fistula persisted. In the three personal cases described by Bokay the diverticulum was accompanied by severe bladder and kidney affections, and all terminated fatally. One was 2 weeks, the other 3 years old. The pouch had been noted in infancy in six cases. In only 3 out of the 14 was there a perceptible valve-formation or stricture to which the development of the diverticulum could be ascribed. Consequently Bokay is inclined to attribute all the cases to congenital malformation, although it may not have caused disturbance, nor even attracted the patient's attention for years. The treatment consisted in sitting the urethra and cutting an ellipse out of the pouch, suturing en masse or in tiers, or packing the cavity with gauze and allowing the wound to heal by granulation. He also describes a single case of a false pouch due to a calculus.

Lupus Extirpation. E. LANG.—In this review of the 85 cases of lupus operated on by Lang, in only 58 could the results be followed to date after an interval of more than six months. Of these 39 have had no relapse during the six months to seven years since the operation; 19 have had slight

recurrence, but some refuse further operation, and only 12 have been operated on a second time.

Deutsche Medicinische Wochenschrift (Leipzig), Sept. 27 and Oct. 4.

Diagnosis of Tubercular Peritonitis. H. LOEHLIN.—One of the minor aids in diagnosing is the difference between the left and right hypogastrium on palpation and percussion. In case of tubercular ascites there is distinct dullness left of the median line, above the iliac fovea, while the sound becomes clearer on the right side in proportion to the distance from the median line. The explanation is probably in the retraction of the affected mesentery toward its root, drawing the intestines toward the right side of the abdominal cavity, while the effusion is localized more on the left. A still more important aid in differentiating is the discovery of small tubercles on the serous membrane of Douglas' pouch, palpated through the rectum. Loehlein advises frequent investigation of these tubercles in case of progressing recovery as the best indication of a cure. He also advocates posterior colpocelectomy for diagnostic purposes, with excision of a fragment for microscopic investigation. This intervention has also a direct therapeutic value. He describes a case in which tubercular peritonitis was complicated by retraction of the bladder simulating a cystic neoplasm. The remote results have proved even more favorable than was anticipated at first, and he finds that a vaginal is as effective as an abdominal incision.

Peculiar Case of Rheumatic Purpura. P. EDEL.—A severe case of rheumatic purpura was distinguished by the fact that in each of the seventeen attacks the left side of the body was first affected. Profuse sweats were also noted, with increased numbers of blood plates, stomatitis and hemorrhages in the skin raised above the surrounding level. The patient was a man of 41, previously well, but addicted to alcohol.

Multiple Typhoid Periostitis. H. CONRAD.—It seems evident that the typhoid bacillus causes only local suppuration when it has lost its specificity. In the case of multiple periostitis six months after typhoid fever, reported in this communication, there was no agglutination reaction. The modified microbes may persist harmlessly in the organism for months and years until some new infection or traumatism restores their former specific activity, when an acute osteomyelitis results.

Treatment of Malaria With Anilin Blue. A. IWANOFF.—Experiences are described in this communication which suggest that the efficacy of methylene blue in the treatment of malaria is not due to its chemical composition, and that other dyes have the same action. A number of striking curves are given showing the prompt cessation of the attacks and constant drop in the temperature with disappearance of the parasites on the administration of .3 anilin blue three times a day.

Naphthalan for Hemorrhoids. M. RAUCH.—The writer accidentally discovered that naphthalan has a remarkable effect in contracting and curing hemorrhoids, in many cases rendering an operation unnecessary. He uses a 20 per cent. suppository in a mixture of cocoa butter, 1.5, with yellow wax, .5. The preparation relieves the pain at once, arrests the hemorrhage and the nodules subside partially or entirely.

Diagnosis and Treatment of Gonorrhoeal Prostatitis. A. ROTHSCHILD.—The realization of the necessity of revising our diagnostic methods is the chief progress accomplished in the last five years, Rothschild observes, after reviewing the literature of the last decade on the subject of gonorrhoeal prostatitis. The significance of prostatitis in the pathology of the urinary passages and for the diagnosis of gonorrhoea is becoming better and better recognized. The importance of prophylaxis is more generally appreciated and the necessity of careful antiparasitic treatment of fresh infection of the anterior portion of the urethra. This local treatment requires the personal attention, guidance and supervision of the physician more than has been hitherto appreciated.

October 4.

Epidemic Dysentery in Germany. W. KRUSE.—Dysentery or "Ruhr" had quite disappeared in Germany, but of late years it has occurred more or less frequently in certain locali-

ties. In Barmen, for instance, where not a case had been known for twenty years until recently, there were 600 cases and 66 deaths during 1899. Kruse made a careful study of this epidemic and announces that the chief feature of the disease is a diphtheritic process on the surface of the colon. He found a bacillus constantly in the twenty-four cases examined, which does not form gas and resembles the typhoid bacillus. The serum of patients had marked agglutinating power. The revival of this supposed extinct epidemic disease is a discouraging commentary on modern preventive methods.

Transformation of Albumin and Elimination of Sugar. T. RUMPF.—In some experiments on particularly large and strong dogs, Rumpf succeeded in demonstrating that during diabetes induced by the administration of phloridzin, the albumin proved the essential source of the elimination of sugar at first. Later, however, a period ensued in which the albumin no longer sufficed to account for the amount of sugar eliminated. During this last period traces of acetic acid appeared in the urine, increasing progressively until the death of the animal. The amount of sugar eliminated can not possibly be attributed to the destruction of albumin alone. In one dog, weighing 120 pounds, about 9 gm. of phloridzin were given during the last five days, with a diet of bacon, with a little ham, and the sugar increased from 15 gm. a day at the beginning of the experiment to 47, 90, 68, 54 and 63.411. The proportion of sugar to the nitrogen increased from 9.7 to 12.2 to 1 of nitrogen. There were no indications of nephritis when the animals were killed to which the retention of nitrogen might have been attributed.

Blackwater Fever. H. ZIEMANN.—Long experience in Cameroon, one of the worst foci for hemoglobinuria in the world, has shown that it is liable to occur in the course of a new malarial attack, with or without quinin, or from the use of quinin alone in persons predisposed by previous malarial infection, although no parasites can be discovered in the peripheral blood at the time. The natives have blackwater fever without ever having taken quinin. In one case Ziemann observed that the hemoglobin in the blood diminished 50 per cent. in two days. His experience confirms the fact that by the cautious administration of quinin, even with extreme idiosyncrasy against it, and coexisting malarial infection, it is possible to accustom the organism to the quinin and cure the malaria in time. He mentions one case as unique, in which .01 gm. quinin invariably induced hemoglobinuria and .004 albuminuria.

Treatment of Douglas' Abscesses in Perityphlitis. J. ROTTER.—An abscess in Douglas' pouch should always be opened from below, through the rectum in men and virgins and through the vagina in suitable cases, although the rectum is really preferable for all. If resistance is still felt after evacuation it indicates a second abscess not communicating with the first. This is reached through an abdominal incision. By proceeding in this manner infection of the abdominal cavity is prevented and the course of healing accelerated, as the lesion is drained at the lowest point. All the twenty-five cases thus treated have been promptly cured. The rectal wall is first punctured and then a small pair of forceps with pointed ends, made to fit close over the needle, are applied and, guided by the needle, are pushed through the rectal wall into the abscess. Spreading the branches to enlarge the opening, the pus escapes through the anus. The folds of the rectal wall seem to form a valve over the small opening, which prevents the passage of fecal matters into the abscess. No drain nor dressing is applied, but the wound left to heal spontaneously, with two or three weeks' rest in bed. In 45 collected cases of Douglas' abscesses, 3 died out of 9 operated on through the abdomen, while only 2 have died out of 35 in which the intervention was made from below as described.

Memorabilien (Heilbronn), October 2.

Indian in Urine and Sweat. BETZ and AMANN.—Indicanuria may be hereditary. The indican is most readily detected in the urine during ammoniacal fermentation. The second writer recently observed a case in which the body and

bed-linen were spotted with tiny specks of blue, which proved to be indican eliminated through the skin. The urine in this case contained 45 mg. indican to the liter.

Wiener Medizinische Wochenschrift, September 25 and October 2.

Ankylosis in Spinal Affections. A. KUEHN.—The attempt to classify ankylosis-inflammation of the spine as a distinct morbid entity has failed. A case is described which differs from the Struempell-Marie type only in the involvement of the smaller joints, without ankylosis. The patient is a girl of 12 years, with rhabdomyositis and hereditary rheumatic antecedents, and the affection is evidently a pronounced case of arthritis deformans, distinguished by the formation of tongues and bridges of bone, ankylosis and ossification of ligaments and tendons.

Dissemination of Cancer. F. REICHE.—A special study has been made of the occurrence of cancer at Hamburg, and in this article statistics are tabulated which demonstrate that the dissemination of cancer has no appreciable connection with the supply nor the quality of the water, nor with the density of the population, wealth or poverty, nor with the higher or lower elevation above the river of different portions of the city. The figures also show that cancer of the chiefly affected organ, the alimentary canal, has not increased during the last twenty-eight years out of proportion to the rest. This fact disproves the recently advanced theory that the general increase in the spread of cancer is due to the more abundant meat diet. This theory is also controverted by the fact that cancer does not occur predominantly in gouty subjects.

Traumatic Spondylitis. M. OBERST.—The cases diagnosed as traumatic spondylitis are shown by radiography to be in reality fractures from compression, with none of the assumed rarefying osteitis. Oberst illustrates three cases of a slight prominence of two or three of the spinal processes in normal subjects. If a traumatism had preceded, this prominence might have been the basis for the mistaken diagnosis of traumatic spondylitis if functional disturbances due to a fracture had followed.

October 2.

Investigation of the Stomach in Chlorotics. O. ROSTOWSKI.—Gastroparesis was not a constant accompaniment of the chlorosis in the fifty patients examined, but was found in only 26 per cent. Out of this number nearly every patient had commenced to wear corsets before 14 or 15 years of age. In investigating the position of the stomach an inflated loop of intestine frequently lay in front of the stomach and simulated a misplaced organ.

Cure of Spina Bifida. C. HENNEMANN.—A 2-year-old child was cured of a spina bifida by aspirating the fluid and injecting Lugol's solution into the pocket. The tumor filled again with fluid to the size of a fist in six days; the contents were again aspirated and the iodine solution injected. The tumor required aspirating a third time a week later, when it was the size of a child's head, and 600 c.c. of clear fluid was removed. Since that time the irritation induced in the cavity has caused retraction and the tumor has not recurred.

Treatment of Habitual Luxation of the Shoulder. J. MUELLER.—Permanent cure of habitual luxation of the shoulder can only be attained by energetic intervention. If the bony parts are intact all that is necessary is to make the capsule smaller. If the bony apparatus is not intact, resection of the head of the humerus is indicated.

Wiener Klinische Rundschau, August 12, September 16, 28 and 30.

Therapeutic Value of Lumbar Puncture. M. HIRSCH.—

The cases of meningitis that have been actually and permanently cured by lumbar puncture are rare. The improvement frequently mentioned is usually transient. Hirsch describes a case in which intense headache, delirium and fever persisted, the patient was a young man with no previous ear or nasal affection and no record of an infectious disease of any kind. Six months previously he had been hit on the side of the head with a stone. The condition became progressively worse, with paresis of the facial nerve and of the abductor on the other

side, etc. Lumbar puncture and the removal of 25 c.c. of cerebrospinal fluid was followed by the permanent lowering of the temperature, which occurred abruptly during the night, and subsidence of all the symptoms. The patient was dismissed completely cured except for a slight paresis of the abductor, which persists still, several months later.

September 16.

Instruments for Endovesical Operations in the Female. W. LATZKO.—The principle of Latzko's improved instrumentarium is the separation of the cystoscope from the catheter, curette, etc. He claims that the curette and catheter are best inserted separately, before the cystoscope, and that the slender stem is not in the way. His sound is graduated by centimeters, and thus frequently affords valuable information as to the distances of the objects seen through the cystoscope. He applies the same principle to catheterization of the ureters, using a flexible tube fitted into the handle, which holds the curette, tube or sound at an angle of about 120 degrees. The ureter catheter is inserted in the tube, which is then introduced into the bladder and later the cystoscope. The chief advantage of the improvement is the facility of endovesical operations even in inexperienced hands and the suppression of the channel in the cystoscope, which is difficult to sterilize without injury to the instrument. The rest of the instruments can be boiled.

September 23.

Vaccin Infection of the Lips. A. JUNGSMANN.—Two cases of extravaccination pustules are related, one a nurse, who became inoculated with pustules on the lips while tending a vaccinated infant. In the other case a fragment of the vial containing the lymph broke off and alighted on the physician's nose, with the formation of a pustule at the spot.

September 30.

Sympathetic Irritation of the Eyes. BAECK.—It is impossible to distinguish between the sympathetic irritation which is merely transient congestion and that which is the preliminary stage of sympathetic inflammation. Baeck elucidates the primarily affected eye in such cases when the symptoms of the sympathetic irritation persist longer than three days in spite of instillations of cocaine, etc. If vision is already lost he enucleates at once.

Wiener Klinische Wochenschrift, September 27 and October 4.

Elevation of the Uterus. H. LUOWIG.—A large cyst developing in the abdomen of a girl of 12 carried the uterus up with it, detaching it from the vagina, with dehiscence of the cervix. The only other instance of the kind Ludwig has been able to discover in the literature was caused by a dermoid cyst in a child 3½ years old.

Hyperglobulia and Splenomegalia. V. COMINOTTI.—An enormous spleen was removed from a patient in whose blood the reds varied from 6,500,000 to 7,500,000, with 6000 to 7200 whites, and hemoglobin 70 to 80 per cent. The reds were pale and of variable diameter. Increase in the number of hematoblasts was noted and eosinophilic cells and isolated transition forms, but no pigment nor parasites. The reds stained poorly. The patient succumbed to sepsis fifty-two days after the splenectomy. In another patient, nine years after splenectomy had been performed for malarial tumefaction, the reds numbered 5,500,000 to 7500 whites, with 60 per cent. hemoglobin. The erythrocytes were poor in hemoglobin, with slight coin-roll formation; the small mononucleated were predominant, the eosinophilic cells increased and there was marked increase in the hematoblasts. The polymucleated leucocytes numbered 40 per cent., the large mononucleated 1, small mononucleated 47, transitional forms, 2, and eosinophilic cells 10 per cent. This patient was in the sixth month of pregnancy and complained of headache and gastric oppression, with a darting pain in the left hypochondrium for the last few months.

Pseudo-Membrane Formation After Tonsillotomy. L. HARMER.—After every tonsillotomy a pseudo-membranous layer develops on the wound within twenty-four hours, more or less rudimentary. It consists of fibrin, leucocytes and necrotic fragments from the wound. Bacteria abound in it, principally cocci, and they are probably involved in its produc-

tion. A bacillus is also constantly found resembling the pseudo-diphtheria micro-organism. In times of epidemic diphtheria tonsillectomy should be postponed.

October 4.

Movement Phenomenon in Mouth and Throat Sign of Insufficiency of the Aortic Valves. H. SCHLESINGER.—The sign described consists in the pulsation and rhythmic movement or displacements observed in the portions of the mouth and throat most exposed to the influence of the aortic pulsation, especially the tonsils and root of the tongue.

Gazzetta Degli Ospedali (Milan), September 16, 23 and 30.

Cutaneous Oxyuriasis. P. BARBAGALLO.—The invasion of the skin around the anus by the oxyuris has been reported three times. The writer adds a fourth case in which the parasites colonized all over the region, favored by the scratching of the patient to relieve the pruritus caused by the worms.

Pyloroplasty. G. B. SEGALÉ.—To obviate some of the defects of gastroenterostomy while securing its advantages, Segalé proposes an operation in case of stenosis of the pylorus which consists in a curved incision extending longitudinally above and below the constriction. The two lips of the incision are then pulled in opposite directions and the constriction twisted at the same time. The wound is then sutured in this position. The operation has been done twice on man and with eminently satisfactory results in each case.

Large Malarial Spleen Reduced With Iodin. V. PIGA.—A syringeful of one part iodine to two parts potassium iodide in 100 parts water was injected hypodermically in the left hypochondrium in a severe case of malarial infection and much enlarged spleen. Ten injections were made in all and the spleen gradually returned to normal.

September 23.

Success of Salophen in Sciatica. A. GHETTI.—Two rebellious cases of sciatica in women 37 and 50 years of age were relieved of pain with six hypodermic injections of salophen in alkalized water. Thirty injections induced a permanent cure.

Treatment of Cutaneous Tuberculosis With Guaiacol. G. B. BURZAGLI.—The surface of the cutaneous tuberculous lesion in the case described was painted with a mixture of guaiacol and olive-oil, each 40 gm. in 10 gm. of 60 per cent. alcohol. The ulcerations were located on the leg and were first evacuated and scraped. Cicatrization was complete in twenty-eight days of the guaiacol treatment.

Best Method of Using Gelatin for Hemorrhage. F. S. ROCCHI.—Experimental tests with gelatin testify that the most effective means of administering gelatin to arrest hemorrhage is by the rectum, injecting 50 gm. of a hot 2 per cent. solution. Its action is manifest in five to ten minutes and lasts for six hours. This method obviates dilatation of the cervix in hemorrhagic endometritis and menorrhagia while it is fully as effective as direct local applications.

September 30.

Pneumococcus Conjunctivitis. G. CONSALVO.—An epidemic of conjunctivitis was observed by the writer and the pneumococcus found constantly in the secretions. It is a contagious affection, attacking persons of all ages. The acute attack terminates in about ten days. It has a tendency to become chronic, but remains benign and rarely compromises the integrity of the eye.

Grece Medicale (Syra), September.

Resection of the Vagi in Dogs. R. NICOLAIDES.—A portion of the cervical pneumogastric nerve, 5 cm. long, was resected in three dogs, first on one side and, forty-seven to fifty-seven days later, on the other. Simultaneous bilateral resection kills the animals, but with this interval the disturbances were comparatively slight and the dogs were eating with good appetite in five days, and are still alive, several months later. The number of respirations gradually diminished the day after each operation, but soon returned to the previous condition.

St. Petersburgers Medicinische Wochenschrift, September 22.

Operative Treatment of Extroversion of Bladder. E. GRAUBNER.—Extremely satisfactory results were obtained by

a Maydl operation on a girl of 16 who suffered from congenital extroversion of the bladder and total incontinence. The ureters were implanted in the sigmoid flexure. Continence is complete; the patient is robust and nothing during the eighteen months since the operation indicates a tendency to ascending pyelonephritis or paralysis of the sphincter ani.

Books and Pamphlets.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

A DICTIONARY OF MEDICAL SCIENCE.—Containing a Full Explanation of the Various Subjects and Terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Diagnostics, Pathology, Bacteriology, Surgery, Ophthalmology, Otology, Laryngology, Dermatology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, etc. By Robley Dunglison, M.D., LL.D., Late Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. Twenty-second Edition, with Appendix, Thoroughly Revised and Greatly Enlarged, and with the Pronunciation, Accentuation, and Derivations of the Terms, by Richard J. Dunglison, A.M., M.D. Cloth. Pp. 1376. Price, \$7.00. Philadelphia and New York: Lea Brothers & Co. 1900.

AN AMERICAN TEXT-BOOK OF PHYSIOLOGY. By Henry P. Bowditch, M.D.; John G. Curtis, M.D.; Henry H. Donaldson, Ph.D.; W. H. Howell, Ph.D., M.D.; Frederic S. Lee, Ph.D.; Warren P. Lombard, M.D.; Graham Lusk, Ph.D.; F. R. S., (Edin.); W. T. Porter, M.D.; Edward T. Reichert, M.D.; Henry Sewall, Ph.D., M.D. Edited by William H. Howell, Ph.D., M.D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Second Edition, Revised. Vol. I. Blood, Lymph, and Circulation; Secretion, Digestion, and Nutrition; Respiration and Animal Heat; Chemistry of the Body. Cloth. Pp. 598. Price, \$3.00. Philadelphia: W. B. Saunders & Co. 1900.

A MANUAL OF SYPHILIS AND THE VENEREAL DISEASES. By James Nevins Hyde, A.M., M.D., Professor of Skin, Genito-Urinary, and Venereal Diseases, Rush Medical College, Chicago, and Frank Hugh Montgomery, M.D., Associate Professor of Skin, Genito-Urinary, and Venereal Diseases, Rush Medical College, Chicago. Second Edition, Revised and Enlarged. With 58 Illustrations in the Text, and 19 full-page Lithographic Plates. Cloth. Pp. 594. Price, \$4.00. Philadelphia: W. B. Saunders & Co. 1900.

A BOOK OF DETACHABLE DIET LISTS. For Albuminuria, Anemia, and Debility, Constipation, Diabetes, Diarrhea, Dyspepsia, Fevers, Gout or Uric Acid Diathesis, Obesity, Tuberculosis, and a Sick-Room Dietary; Compiled by Jerome B. Thomas, Jr., A.B., M.D., Instructor in Materia Medica, Long Island College Hospital. Second Edition, Revised. Cloth. Price, \$1.25. Philadelphia: W. B. Saunders. 1900.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In Twenty Volumes. Volume XX. Tuberculosis, Yellow Fever, and Miscellaneous, General Index. Cloth, Pp. 906. Price, \$5.00. New York: William Wood & Co. 1900.

RHINOLOGY, LARYNGOLOGY AND OTOTOLOGY AND THEIR SIGNIFICANCE IN GENERAL MEDICINE. By E. P. Friedrich, M.D., Privatdocent at the University of Leipzig. Authorized Translation from the German. Edited by H. Holbrook Curtis, M.D., Consulting Surgeon to the New York Nose and Throat Hospital. Cloth. Pp. 348. Price, \$2.50. Philadelphia and London: W. B. Saunders & Co. 1900.

PRACTICAL MANUAL OF DISEASES OF WOMEN AND UTERINE THERAPEUTICS FOR STUDENTS AND PRACTITIONERS. By H. Macnaughton-Jones, M.D., M.Ch., Master of Obstetrics (Honoris Causa), Royal University of Ireland. Eighth Edition, Revised and Enlarged with 60 Illustrations and 28 Plates. Cloth. Pp. 935. Price, \$5.00. New York: William Wood & Co. 1900.

TEXT-BOOK UPON THE PATHOLOGIC BACTERIA FOR STUDENTS OF MEDICINE AND PHYSICIANS. By Joseph McFarland, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia. With 142 Illustrations. Third Edition, Revised and Enlarged. Cloth. Pp. 621. Price, \$3.25. Philadelphia: W. B. Saunders & Co. 1900.

HEART DISEASES IN CHILDHOOD AND YOUTH. By Charles W. Chapman, M.D., D.Ph., M.R.C.P., Lond., Physician to the National Hospital for Diseases of the Heart. With an Introduction by Sir Samuel Wilks, Bart., M.D., F.R.S., Physician Extraordinary to H. M. the Queen. Cloth. Pp. 98. Price, 3s. 6d. London: The Med. Publishing Co., Ltd.

A TEXT-BOOK OF THE DISEASES OF WOMEN. By Henry J. Garrigue, A.M., M.D., Gynecologist to St. Mark's Hospital in New York City. With 367 Illustrations. Third Edition, Thoroughly Revised. Cloth. Pp. 756. Price, \$4.50. Philadelphia: W. B. Saunders & Co. 1900.

BACTERIOLOGY AND SURGICAL TECHNIQUE FOR NURSES. By Emily M. A. Stoncy, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill. Illustrated. Cloth. Pp. 190. Price, \$1.25. W. B. Saunders & Co. 1900.

A SHORT PRACTICE OF GYNECOLOGY. By Henry Jellett, B.A., M.D., B.Ch., B.A.O. (Dublin University), F.R.C.P.I., L.M., Late Assistant Master, Rotunda Hospital. With 123 Illustrations. Cloth. Pp. 436. Price, \$2.63. London: J. & A. Churchill. Philadelphia: F. Blakiston's Son & Co.

THE ATTAINMENT OF WOMANLY BEAUTY OF FORM AND FEATURES. THE CULTIVATION OF PERSONAL BEAUTY BASED ON HYGIENE AND HEALTH CULTURE BY TWENTY PHYSICIANS AND SPECIALISTS. Edited by Albert Turner. Cloth. Pp. 256. Price, \$1.00. New York: Health-Culture Co.

ULCERATION OF THE BLADDER: Simple, Tuberculous, and Malignant. By E. Hurry Fenwick, F. R. C. S., Surgeon of the London Hospital. Cloth. Pp. 85. Price, \$1.75. London: J. & A. Churchill. Philadelphia: F. Blakiston's Son & Co.

IBERNIA: Its Etiology, Symptoms and Treatment. By W. McAdam Eccles, M. S. (Lond.), F.R.C.S. (Eng.), Assistant Surgeon West London Hospital. Cloth. Pp. 231. Price, \$2.50. New York: Wm. Wood & Co. 1900.

TRANSACTIONS OF THE COLORADO STATE MEDICAL SOCIETY. Thirtieth Annual Convention. By-laws and List of Members. Cloth. Pp. 446. Denver: Published for the Society.

PAMPHLETS.

A SIMPLE OPERATION FOR DIVERGENT STRABISMUS. CHANGE OF REFRACTION FROM COMPOUND HYPERMETROPIC ASTIGMATISM TO COMPOUND MYOPIC ASTIGMATISM—GLAUCOMA. IMPLANTATION OF A GLASS BALL INTO THE ORBITAL CAVITY. ICHTIS: ITS TREATMENT. STRABISMUS: MULES' OPERATION. EPIPHORA; LACHRYMAL ABSCESS; CONGENITAL ABSENCE OF LACHRYMAL PUNCTAE; STRICTURE OF THE LACHRYMAL DUCT. By L. Webster Fox, A.M., M.D., Philadelphia. Reprints.

A CASE OF TRAUMATIC VARIX OF THE ORBIT IN WHICH LIGATION OF THE LEFT COMMON CAROTID ARTERY WAS SUCCESSFULLY PERFORMED. A CLINICAL AND HISTOLOGIC STUDY OF A CASE OF MELANOTIC SARCOMA OF THE CHOROID PRESENTING SYMPTOMS OF SECONDARY GLAUCOMA. CLINICAL STUDY OF THE OCULAR SYMPTOMS FOUND IN SO-CALLED POSTERIOR SPINAL SCLEROSIS. GUMMA OF THE IRIS AND CILIARY BODY. RECOVERY WITH NORMAL VISION. RECOVERY OF VISION BY AN IRIDECTOMY; WITH REMOVAL OF LENS-DEBRIS IN A CASE OF BLINDNESS OF MORE THAN THIRTEEN YEARS' DURATION. By Charles A. Oliver, A.M., M.D., Philadelphia. Reprints.

CATAPHORESIS IN TRACHOMA. REPORT OF A CASE OF DOUBLE MASTOIDITIS—OPERATION—RECOVERY. By Geo. F. Keiper, M.D., Lafayette, Ind. Reprints.

COMPOUND FRACTURES. EXCISION OF HIGH RECTAL CARCINOMA WITHOUT SACRAL RESECTION. By N. Senn, Ph.D., LL.D., Chicago. Reprints.

MALFORMATION OF THE UTERUS. By Frank T. Andrews, M.D., Chicago. Reprinted from Amer. Gyn. and Obs. Jour.

MEYERHAFER. By Nathan Heiman, M.D., Baltimore, Md. Reprinted from Md. Med. Jour.

STUDIES IN PANCREATIC DIGESTION. Made with Pancreatic Juice. By B. K. Rachford, M.D., Professor of Therapeutics, Medical College of Ohio. Paper. Pp. 99. Cincinnati, Ohio: Cincinnati Lancet Press. 1900.

SPECIAL CLASSES FOR MENTALLY DEFECTIVE SCHOOL CHILDREN. By Walter Channing, M.D. Reprinted from Charities Review.

SUCCESSFUL TREATMENT OF VARIOLA AND IMPROVED METHOD OF VACCINATION VACCINOID. By V. Lehmann, M.D., Hanville P. O., La. Reprinted from N. O. Med. and Surg. Jour.

SUMMARIZED REPORT OF FOURTEEN YEARS' WORK IN ABDOMINAL SURGERY. By F. F. Lawrence, M.D., D.Sc., Columbus, Ohio. Paper. Pp. 11.

THE COMPARATIVE VALUE OF ENUCLEATION AND THE OPERATIONS WHICH HAVE BEEN SUBSTITUTED FOR IT. By G. E. de Schweinitz, A.M., M.D., Philadelphia. Paper. Pp. 44.

TRANSACTIONS OF THE FLORIDA MEDICAL ASSOCIATION FOR THE YEAR 1900. Held at Orlando, Fla., April 11 and 12. Paper. Pp. 113. Jacksonville. Pla.: East Florida Printing Co. 1900.

Change of Address.

- James Alderson, 562 Julien Ave., to 135 Delph St., Dubuque, Iowa.
- R. Bellamy, Newport, R. I., to 35 W. 31st St., New York City.
- A. H. Barr, 1265 Esplanade Ave., to 2722 St. Charles Ave., New Orleans, La.
- E. M. Brewer, Rankin, to 103 W. Front St., Bloomington, Ill.
- W. H. Booth, Chicago, to Sidell, Ill.
- E. W. Baum, 1129 14th Ave., Chicago, to Morocco, Ind.
- C. E. Case, Tacoma, to Seattle, Wash.
- J. W. McCreedy, 81 E. 116th St., New York City, to Sewickley, Pa.
- C. C. Carroll, 21 E. 24th St., to 251 5th Ave., New York City.
- J. S. Conway, Streator, Ill., to Joplin, Mo.
- J. B. Dickinson, Jersey, O., to Cobham, Va.
- M. Dovidoff, 214, to 249 E. Broadway, New York City.
- F. M. Dyer, 457 Cumberland St., to 689 Congress St., Portland, Maine.
- M. A. Duncan, Buxton, to Chanute, Kan.
- L. E. Flannagan, Charlottesville, Va., to Napoleonville, La.
- A. T. Finch, Clarksville, to Boynton, Va.
- J. R. Garner, 302 2nd Ave., to 7 Livingston Pl., New York City.
- T. W. Greenley, Loon Lake, to Saranac Lake, N. Y.
- E. Chas. Hughes, Times Bldg., Racine, to Iron Bldg., Milwaukee, Wis.
- J. N. Harrison, Eagle Bldg., to Hooper Bldg., Salt Lake City, Utah.

- J. A. Hart, Geneva, N. Y., to Colorado Springs, Colo.
- F. Hiltz, Humbolt, Kan., to City Hospital, Kansas City, Mo.
- E. J. Heinig, Michigan City, Ind., to Killbuck, Ohio.
- S. R. Herring, Ingalls, to Warren, Ark.
- C. C. Jones, 2117 Market St., Galveston, to Brook, Texas.
- P. L. Jermaine, Grandin, Mo., to Holton, Kan.
- J. E. Johnson, Leadville, to 315 W. 12th St., Denver, Colo.
- B. Kinsell, 825 Market St., Galveston, Tex., to 110 Honore St., Chicago.
- J. E. King, Centreville, to 24 S. 9th St., Richmond, Ind.
- R. R. Loomis, Brook, Mo., to Colusa, Ill.
- R. Lull, 3907 Prairie Ave., to 173 51st St., Chicago.
- V. F. Marshall, 782 to 810 College Ave., Appleton, Wis.
- V. F. Mueller, Metropolitan Bldg., to 3rd and Prairie Sts., Milwaukee, Wis.
- E. S. McKee, 639 W. 7th St., to 2112 Grand St., Cincinnati, O.
- P. McCaffrey, 1506 Superior St., to 215 Lake St., Cleveland, O.
- E. W. Meigs, Myersville, to Holy Cross, Iowa.
- J. W. Montgomery, Landos, to Toledo, Mo.
- M. H. Mack, 3000, to 3505 Indiana Ave., Chicago.
- C. M. Nichols, Philadelphia, Pa., to 29 N. Ohio Ave., Atlantic City, N. J.
- W. J. Nix, Bateaville, to Aragon, Ga.
- D. W. Owens, Colorado Springs, Colo., to Hersman, Ill.
- L. W. Rowell, 45 Loomis St., to 479 Dearborn Ave., Chicago.
- A. J. Strange, Edgard, to 841 N. Hampart St., New Orleans, La.
- W. E. Traxell, Ehrenfeld, to Lilly, Pa.
- A. C. VanDyyn, 52nd and Cottage Grove, to 4760 Champlain Ave., Chicago.
- J. H. Van Eman, 1326 Forest Ave., to 1233 Grand Ave., Kansas City, Mo.
- A. W. Vanneman, 1060 Maple Ave., Los Angeles, Cal., to Hermosillo, Sonora, Mexico.
- S. S. Willis, 782, to 810 College Ave., Appleton, Wis.
- Elizabeth White, Romney, to Parkersburg, W. Va.
- P. N. Wilson, 24 W. 5th St., to 98 Central Park West, New York City.
- J. P. Welch, Cottonwood, to Awltman, Ariz.
- C. A. Werner, Harcourt, to 1118 27th St., Des Moines, Iowa.
- J. H. Wood, Champaign, Ill., to Hammond, La.
- C. E. Weber, 4304 Grand Boul., to 155 E. 25th St., Chicago.
- W. M. Woods, Denver, to Aylmer, Colo.

The Public Service.

Army Changes.

- Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Oct. 4 to 10, 1900, inclusive:
 - Charles N. Barney, acting asst.-surgeon, member of a board at Fort Monroe, Va., for the examination of officers for promotion, vice Leigh A. Fuller, lieutenant and asst.-surgeon, U. S. A., relieved.
 - William C. Borden, captain and asst.-surgeon, U. S. A., member of a board at Washington, D. C., to examine medical officers of the army for promotion, vice E. L. Munson, captain and asst.-surgeon, U. S. A., relieved.
 - Harry A. Cossitt, acting asst.-surgeon, previous orders, directing him to proceed from Morris Plains, N. J., to San Francisco, Cal., for assignment with troops going on foreign service, revoked.
 - James H. Hyell, major and surgeon, U. S. V., former orders revoked; he will report to the commanding officer, Department of Eastern Cuba, for duty as chief surgeon of that department, to relieve Major Lawrence C. Carr, surgeon, U. S. V.
 - Burke L. Johnson, acting asst.-surgeon, relieved from duty in the division of the Philippines to report to the Surgeon-General at Washington, D. C., for instructions; leave of absence granted.
 - Frank H. Keefer, captain and asst.-surgeon, U. S. A., member of a board at Fort Monroe, Va., for the examination of officers for promotion, vice R. M. O'Reilly, lieutenant-colonel and deputy surgeon-general, U. S. A., relieved.
 - Louis S. Tesson, major and surgeon, U. S. A., to report to the commanding general, Department of the Columbia, for duty as chief surgeon of the department in addition to his duties as surgeon, Vancouver Barracks, Wash.
 - William R. Van Tuyl, acting asst.-surgeon, from Jefferson Barracks, Mo., to post duty at Fort Thomas, Ky.
 - Nelson W. Wilson, acting asst.-surgeon, leave of absence granted.
 - A. A. Woodhull, lieutenant-col. and deputy surgeon-general, U. S. A., leave of absence granted.
- Navy Changes.
- Changes in the Medical Corps of the U. S. Navy for the week ending Oct. 13, 1900:
 - P. A. Surgeon T. W. Richards, detached from the *Indiana* and ordered to the *Albatross*, Oct. 16.
 - P. A. Surgeon L. Morrill, ordered to the Naval Academy.
 - Asst.-Surgeon D. H. Morgan, detached from the *Fernant* and ordered to the *Pensacola* navy yard.
 - Asst.-Surgeon J. A. Murphy, detached from the *Pensacola* navy yard and ordered to the Asiatic station for duty on the *Don Juan De Austria*, to report at San Francisco, Cal., Oct. 30, for passage on the *Salace*.
 - Asst.-Surgeon H. H. Haas, detached from the *Don Juan De Austria*, and ordered home and to wait orders.

Orders Issued by Commander-in-Chief of Asiatic Station.

P. A. Surgeon G. A. Laug, detached from the *Monocacy* and ordered to the Cavite naval station.

Asst.-Surgeon J. C. Thompson, detached from the *Monocacy* and ordered to the Cavite naval station.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ending Oct. 11, 1900:

P. A. Surgeon W. G. Stimpson, granted fifteen days' extension of leave of absence.

Asst.-Surgeon W. C. Hobdy, granted leave of absence for one month from Oct. 3.

Asst.-Surgeon G. M. Corput, relieved from duty at Mullet Key Detention Camp, and directed to proceed to St. Louis, Mo., and report to the medical officer in command for duty and assignment to quarters.

A. A. Surgeon S. B. Hunter, granted leave of absence for seven days.

A. A. Surgeon J. C. Rodman, granted leave of absence for seven days.

Hospital Steward S. W. Richardson, upon expiration of leave of absence, to rejoin station at St. Louis, Mo.

Surgeon G. W. Stoner, granted leave of absence for seven days. Surgeon C. E. Banks, four days of leave granted by department letter of June 5, revoked.

Surgeon J. H. White, granted leave of absence for one month.

Surgeon R. M. Woodward, detailed to represent the service at the meeting of the American Public Health Association, at Indianapolis, Ind., Oct. 22-26.

P. A. Surgeon J. O. Cobb, to proceed to El Paso, Texas, on special temporary duty.

Asst.-Surgeon H. C. Mathewson, relieved from duty at Philadelphia, Pa., and directed to proceed to San Juan, Porto Rico, and assume command of the service, relieving Asst.-Surgeon C. H. Lavinder.

Asst.-Surgeon C. H. Lavinder, on being relieved from duty at San Juan, Porto Rico, to proceed to Washington, D. C., for orders.

Asst.-Surgeon R. L. Wilson, relieved from duty at San Francisco, Cal., and directed to proceed to Honolulu, H. I., and report to Surgeon Carmichael for duty.

A. A. Surgeon F. M. Clarke, granted leave of absence for twenty days from Oct. 15.

A. A. Surgeon P. W. Goldsborough, granted leave of absence for one day.

A. A. Surgeon Fay Tuttle, granted leave of absence for thirty days from Oct. 24.

Hospital Steward C. C. Allen, granted leave of absence for six days from Oct. 22.

Hospital Steward F. A. Southard, granted leave of absence for fifteen days from Nov. 5.

APPOINTMENT.

Harrington Marr, of Tennessee, appointed acting asst.-surgeon.

RESIGNATIONS.

Asst.-Surgeon Elmer R. Edson, Sept. 22, 1900.

Acting Asst.-Surgeon A. G. Greenstreet, Sept. 30, 1900.

Hospital Steward C. P. Crowley, Sept. 4, 1900.

Acting Asst.-Surgeon Richard Douglas, Oct. 7, 1900.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Oct. 12, 1900:

SMALLPOX—UNITED STATES.

Alaska: Nome, Oct. 7, 1 case (in barracks).

Kansas: Wichita, Sept. 29-Oct. 6, 1 case.

Ohio: Cleveland, Sept. 29-Oct. 6, 10 cases.

Pennsylvania: Philadelphia, Sept. 29-Oct. 6, 4 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Sept. 8-15, 1 case.

Brazil: Pernambuco, Aug. 24-31, 4 deaths.

England: Liverpool, Sept. 15-22, 1 case; London, Sept. 15-22, 2 cases.

France: Paris, Sept. 15-22, 3 deaths; St. Etienne, Sept. 1-15, 1 case, 1 death.

Germany: Koenigsberg, Sept. 8-15, 2 cases.

Mexico: Vera Cruz, Sept. 22-29, 1 death.

Russia: Odessa, Sept. 15-22, 11 cases, 2 deaths; St. Petersburg, Sept. 8-15, 9 cases, 5 deaths.

Scotland: Glasgow, Sept. 21-28, 22 cases, 3 deaths.

Yukon Territory: Dawson, Sept. 8, present.

YELLOW FEVER.

Colombia: Barranquilla, Sept. 16-23, 1 death; Cartagena, Sept. 1-14, 3 cases, 3 deaths.

Cuba: Havana, Sept. 22-29, 19 deaths.

Mexico: Vera Cruz, Sept. 22-29, 10 deaths.

PLAGUE.

Paraguay: Asuncion, July 21-28, 2 deaths.

Scotland: Glasgow, Sept. 15-22, 3 cases, 2 deaths.

Wales: Llandoff, Oct. 9, 1 death (imported from Rosario).

CHOLERA.

Straits Settlements: Singapore, Aug. 11-25, 1 death.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

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CHICAGO, ILLINOIS, NOVEMBER 3, 1900.

No. 18

Original Articles.

ACUTE SENILE ENDOMETRITIS.

CASES AND PATHOLOGY.*

L. H. DUNNING, M.D.

INDIANAPOLIS, IND.

Professor Diseases of Women, Medical College of Indiana, University of Indianapolis.

Since the publication of Skene's notable¹ article in 1894 on "Senile Endometritis," the lesion has attracted considerable attention, and text-books now include this form in the classification of endometritis. The disease as described by Skene is essentially a chronic one, and while his exposition of the subject is true and graphic, it can not be made to include cases of the type of those, the histories of which I shall present to-day.

In his admirable² article entitled "Post-Climacteric Endometritis," Sexton treats of the same lesion described by Skene and calls it a chronic inflammation. His cases were in one particular different from those here presented, in that there was no hemorrhage; indeed, he emphasizes the fact that there is an absence of hemorrhage.

Mundé, in his article³ read before the American Gynecological Society in 1896, wrote very clearly on the clinical history of this class of cases, but he does not attempt to add to our knowledge of the pathology of the lesion.

The author believes the pathologic findings in his cases clearly indicate that those described by Mundé, as well as his own, are at the onset acute in character and must, if properly classified, be denominated acute senile endometritis. The sole object of his paper is to endeavor to demonstrate this fact.

It has seemed to the writer that the histologic study of endometrium in senile endometritis has been limited to microscopic examination of scrapings, and he deems himself fortunate in being able to present the results of a microscopic study of the endometrium in two cases in which the uterus has been removed by hysterectomy.

So important has the writer deemed this subject that he has been minute in his descriptions of the histories of his cases and the pathologic findings, at the risk of subjecting himself to the charge of being tedious.

CASE 1.—Mrs. M. M., aged 63 years, was referred to me by Dr. J. S. Sherfee, of Fairland, Ind., Jan. 22, 1900.

She presented the following history: She had never borne children, though married since early womanhood.

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

¹ Trans. American Association of Obs. and Gyn., Vol. viii, pp. 314-319.

² New York Gyn. and Obs., June, 1891, p. 611.

³ Gynecological Transactions, Vol. ii, p. 29.

Her health had always been good until the time of menopause, which occurred at 40 years of age. At that period she was confined to her bed for six months on account of illness, the nature of which I am unable to ascertain; but subsequently she enjoyed fairly good health until six months ago, when without apparent cause she began having a seropurulent discharge from the uterus.

In spite of general and local treatment this discharge continued, and finally became bloody and exceedingly offensive. She complained of backache, pain and soreness through the pelvic organs and inability to walk or stand many minutes at a time. She had lost several pounds in weight and was noticeably anemic.

The sanguineous discharge was not profuse, but was of dark color and exceedingly offensive. A physical examination showed a small, short vagina, here and there in patches, eroded and quite sensitive to the touch. The cervix uteri was atrophied and was but slightly invaginated. The uterus was small and retroverted, though not adherent. There was no difficulty in passing a uterine sound. The withdrawal of the sound was followed by the discharge of probably two drams of dark, offensive fluid. The left Fallopian tube and ovary could be easily palpated. They were thought to be enlarged. Their palpation caused a great deal of pain.

My diagnosis was senile endometritis and inflammatory lesions of the left tube and ovary. Hysterectomy was recommended. It was performed at the Deaconess Hospital, Jan. 23, 1900. The operation was an easy one and the patient made an excellent recovery.

The left tube was considerably thickened but was not distended, and the left ovary contained two or three small cysts. Unfortunately before I saw the importance of a microscopic examination of the tube, it was lost. There were found evidences of a slight, recent, pelvic peritoneal inflammation manifested by adhesion of the diseased tube and ovary.

With the aid of my assistant, Dr. R. L. Ritter, a critical and microscopic study of the uterus was made, with the following results: In general appearance, it exhibited the characteristics one would expect to find in the uterus of a woman at the age of the patient. The organ was pale and perceptibly smaller than a sexually active one. It measured $2\frac{1}{2}$ inches in length, $1\frac{3}{4}$ inches in width at its widest points, and about $\frac{3}{4}$ inch at its thickest portion anteroposteriorly. The cervix was short, quite dense; the external os was rather flaring, the cervical canal patulous. There was no evidence of laceration of the cervix. There was absolutely no sign of disease of the organ to be seen externally, with the exception of a thick, dark-colored, granular material which exuded from the external os on pressure. On splitting the organ longitudinally the walls were found to be firmer or denser than the muscular tissue of a functioning uterus, and the muscular tissue somewhat paler in color. The walls were about $\frac{3}{8}$ inch in thick-

ness. Covering the entire mucous surface and filling the uterine cavity was the same material which could be forced out of the cervical canal by pressure. Part of it was breaking-down, liquefying blood-clot, diluted with what seemed to be pus colored by liberated hemoglobin of the clot. This material was thick and sticky, but could be scraped off easily, leaving a roughened, reddened endometrium below. The cervical mucosa did not seem to be greatly affected. When this material was thoroughly washed off, the surface of the mucous membrane was seen to be studded apparently with little nodules resembling somewhat the skin of a frog's back.

Thin sections stained with hematoxylin and eosin, photomicrographs of which are herewith submitted, show an endometrium thickened, densely infiltrated with leucocytes and highly vascular. All the superficial epithelium is lost, the roughened surface being covered

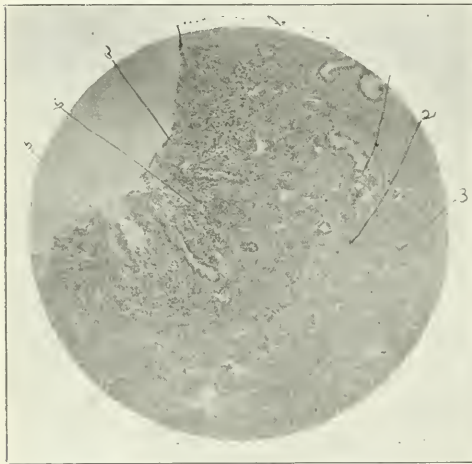


Figure 1.

Case 1.—Section showing mucosa and a portion of the muscularis. 1 Endometrium. *a*. Free surface of mucosa. *b*. Degenerating and disintegrating glands of mucosa. 2. Upper layers of muscularis, showing round-celled infiltration. 3. muscularis.

with a layer of material composed of granular debris, epithelial cells and leucocytes of various kinds, chiefly of the small mononuclear variety, "lymphocytes," and polymorphonuclear or pus corpuscles.

The epithelial cells are found chiefly near the orifices of the glands. These latter are greatly diminished in number, their course is quite tortuous and their epithelium in many cases is desquamating, filling the lumen of the gland with a mass of granular debris and cells in all stages of degeneration. There is no sharp-dividing line between the intact mucous tissue and the material on the surface. The minute blood-vessels with which the endometrium is abundantly supplied often run to the surface and seem to end at the surface. From these changes I am led to believe that there exists a purulent inflammatory process in this endometrium, subacute in character, or else at the time the organ was removed there was an acute exacerbation of a more chronic process. I believe the hemorrhage which had evidently taken place from the mucosa was due to the erosion of the minute blood-vessels described and whose blind ends may be seen at the surface. It has been a direct hemorrhage rather than a diapedesis.

The musculature of the organ shows evidences of atrophy such as normally takes place after menopause. The arteries found chiefly in the middle layer of muscle also show degenerative changes. Their tunica intima is markedly thickened and consists of a rather homogeneous structureless material showing here and there a few small, shrunken, free-lying nuclei evidently of degenerated subendothelial connective-tissue cells. All the changes I have described are found best shown in the body of the organ proper.

In conclusion I would say, we have a uterus showing decidedly the atrophic changes of senility, yet with a mucosa the seat of an active persistent inflammatory process.

CASE 2.—Mrs. V., aged 63 years, was referred to me by Dr. Theodore Potter, Dec. 5, 1899. She gave the following history: She had been married 42 years and was the mother of 8 children, the youngest 24 years

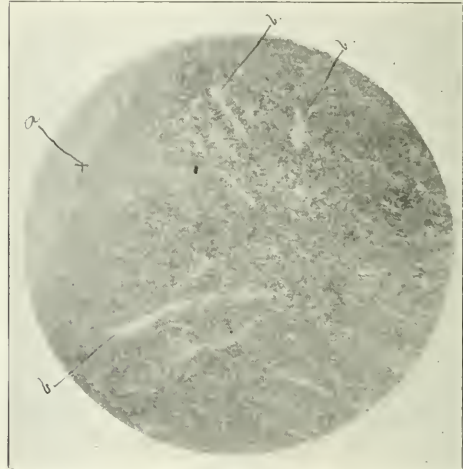


Figure 2.

Case 2.—Endometrium. *a*. Free surface of mucosa. *b*. Remains of glands.

of age. She passed the menopause twenty years ago. Her health had always been good. She had the first leucorrhoeal discharge of her life four weeks ago.

One week later, viz., three weeks previous to my examination, a bloody discharge appeared. It was slight at first, but had gradually become more abundant. This discharge had an offensive odor from the first. The discharge was thick and dark, and seemed to me to be pus stained by the coloring matter of blood. On examination the vagina was found small but elastic. The upper portion was slightly reddened and showed slightly ulcerated patches. The uterus was in normal position, the cervix short, and gave evidence of having been lacerated bilaterally. The external os was of sufficient size to admit the end of the small finger. The internal os, while not patulous, permitted the easy passage of an ordinary uterine sound. There seemed to be a considerable cavity in the body of the uterus and the uterine walls were thin and elastic.

A considerable amount of dark-colored sanguinopurulent fluid flowed out of the os on withdrawal of the sound. A small, sharp curette was introduced into the uterine cavity and an effort made to remove portions of tissue for microscopic examination. Only small shreds

of tissue and dark-colored blood-clots and débris were obtained. I was inclined to believe that we had to deal with a case of incipient cancer. Dr. Potter assented to this view, and we agreed upon a hysterectomy.

The operation was done at St. Vincent's Hospital, Dec. 22, 1899. No neoplasm was found in the uterus. The appendages were removed. The right ovary and tube showed the atrophic changes incident to the age of the patient. The left ovary contained a small cyst not larger than a hazel-nut. There was no pelvic peritonitis.

On examination the uterus was found to closely resemble the preceding one in appearance. There was the same thickened endometrium densely infiltrated with small round cells. This infiltration involved also the upper layers of the muscularis. The superficial epithelium normally present was entirely gone, and the surface covered with an indefinite layer of a confused mass of small round cells, larger connective-tissue cells,

The writer greatly regrets not having procured a bacteriological examination of the contents of the uterine cavities in these cases and the loss of the diseased tube and ovary in the first case.

Fortunately in Case 2, one tube and ovary were still attached to the uterus and were examined microscopically. The endometrium surrounding the entrance of the tube into the uterine cavity showed marked inflammation. While it was impossible to pass even a bristle through the uterine portion of the tubal canal, yet on microscopic examination its lumen was shown to be pervious. For a short distance away from the horn of the uterus the mucous membrane of the tube showed round-cell infiltration and other slight evidences of inflammation. This the writer regards as important, as it demonstrates the spread of the inflammation by continuity and clearly indicates the necessity of the extirpation of the uterus, tubes and ovaries in cases of

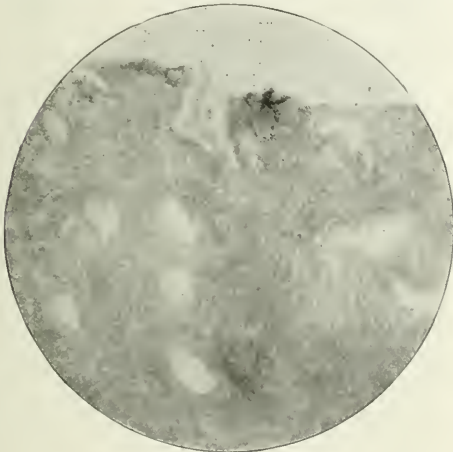


Figure 3.

Case 2.—Endometrium.



Figure 4.

Case 2.—Opening of Fallopian Tube into uterine cavity. Thick section, to show merely patulous condition.

polymorphonuclear leucocytes, commonly called pus-corpuses, and epithelial cells, the latter more numerous in the vicinity of the mouths of the glands. The glands were greatly diminished in number and there were very few which do not show some pathologic changes.

In some, the epithelium was exfoliated and the lumen of the gland filled with a granular mass containing many of these epithelial cells, and often "pus corpuses." Others appeared to be disintegrating and appeared merely as little islands or masses of epithelial cells buried in the mucosa. Still others deep in the mucosa showed a dilated lumen with an epithelium intact. The arteries of the muscularis show the same thickened intima of the first uterus and even more of the hyaline material in their walls.

There was evidently here a very acute inflammatory process or an acute exacerbation of a chronic inflammatory process. There could hardly be a chronic inflammatory process of any long standing without development of connective tissue unduly in the mucosa, though in this specimen the infiltration of the mucosa by small round cells is so dense as to obscure almost entirely the structure of the mucosa, yet any pronounced increase of connective tissue would be apparent as it would to a certain extent limit the infiltration.

senile endometritis where there are evidences of involvement of the appendages.

The writer will not attempt to discuss the etiology of the lesion in these cases further than to say he believes that gonorrhœal infection can be excluded in both. The histories of the cases, together with the pathologic findings, will, I think, justify me in making the following summary and conclusions:

1. The lesion found in both uteri was an acute inflammatory process. It may be properly denominated acute senile endometritis.

2. The characteristic pathologic features of the inflammation are: *a*, A thickened endometrium, the free surface of which is devoid of its epithelial layer; *b*, increased vascularity with peculiar arrangement of small blood-vessels; *c*, small round-celled infiltration; *d*, diminished glandular elements: while a few glands are to be distinctly seen in many of them, their epithelium is desquamating and their lumen filled with granular débris; they may be said to be functionless glands; *e*, degeneration of the coats of the arteries of the muscular layer of the organ; in one specimen (Fig. 2) this degenerative process is distinctly hyaline; *f*, in not one section examined from various parts of the organ could there be found any increase of connective tissue.

3. The mucosa of both the cervix and body is involved in the inflammation, but is most marked in both cases in the body of the uterus.

4. The small round-celled infiltration extends into the upper muscular tissue, though the inflammation is more marked in the mucosa.

5. In both cases one uterine appendage was diseased: in one the ovary was cystic; in the other, one ovary cystic and the Fallopian tube inflamed. In this case there were slight recent peritoneal adhesions.

6. The microscopic appearance in these cases bears but slight resemblance to that found in case of interstitial endometritis.

7. In one case the acute inflammation seems to have developed without any preceding chronic inflammation.

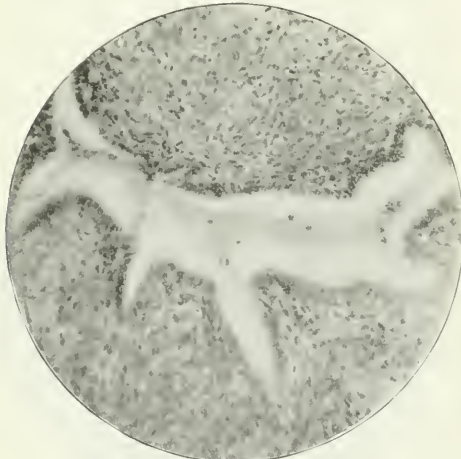


Figure 5.

Case 2.—Cross-section isthmus of Fallopian Tube, showing slight round-celled infiltration of mucosa and some desquamation. Remaining portion of tube perfectly normal.

In the other case the acute attack may have been an acute exacerbation of a chronic inflammation.

8. In one case there was marked retroversion of the uterus, in the other the uterus was in normal position, and in neither case was there marked stenosis of the internal os; yet there was a considerable accumulation of fluid within the uterine cavity.

9. The presence of diseased appendages in both cases, and of pelvic peritonitis (mild) in one, seems to indicate that the inflammation is prone to extend beyond the limits of the uterus, and if such extension is demonstrable by combined examination, an extirpation of the uterus and appendages is probably the best form of treatment.

Iodoform Intoxication.—A 20 per cent. emulsion of iodoform and glycerin was injected into a cold abscess below Poupert's ligament in a male patient 30 years of age. The amount injected was 80, 90 and 100 c.c. at intervals of two to four months. The temperature rose after the third injection, the patient became confused, comatose, and the nose was remarkably swollen and red, while acne pustules appeared on the skin of the face and trunk, and dry, brown scabs obstructed the mouth and nose. Death followed in ten days. The autopsy disclosed total tuberculous caseation of the suprarenals, although there had been no clinical manifestation of this lesion. The communication in *Beitrag z. Klin. Chir.* xxviii, 1, describing this case states that it is the first on record in which iodine acne has been observed from iodoform intoxication.

DISEASE OF THE FALLOPIAN TUBES.

WITH SPECIAL REFERENCE TO SPECIFIC INFECTION.*

J. R. GUTHRIE, M.D.

DURBUQUE, IA.

No structure of equal pathological interest and of such vital clinical importance to the medical profession was so long and so persistently neglected as the Fallopian tube. In the older medical literature it received only the briefest mention, and then the reference was most superficial. Little attention was given its anatomy or physiology, while its histology was wholly neglected. Nothing was known of its pathology and no symptoms were attributed to diseases of this important structure. What a marvelous development in pathological interest and clinical importance during recent years! Careful research will disclose the fact that generations ago the clinicians described disease in the Fallopian tube, but through lack of both anatomical and pathological precision their teaching made practically no modification in either the medical thought or practice of the day.

Perhaps the first well-authenticated account of a discussion of the Fallopian tube and its diseases was in the year 1665, and may be well epitomized in this statement "that occlusion of the tube is one of the most fruitful causes of sterility." Nearly a century later, in 1742, Josias Weitbrecht, the great anatomist of St. Petersburg, described the obliteration of the tube in a woman with one child and who was subsequently sterile. In 1766 Astuc gave considerable attention to the Fallopian tube and afforded perhaps the first accurate description of its diseases. He clearly describes hydro-salpinx, pyosalpinx and tubal pregnancy. But, as frequently happens, his teachings seemed for a time to be forgotten, or at least neglected. Nothing new on this subject is found in medical literature for nearly a century. In the writings of that able French observer, Columbat, as translated by Charles D. Meigs in 1845, there is found only a brief mention of this organ, and he practically describes only one disorder of the tube, atresia. Investigation was imperfect, reports contradictory, and knowledge of slow growth.

In 1854, Charles D. Meigs published his brilliant work. He likewise refers to atresia of the tube and to its effect in producing sterility. He speaks of a most remarkable death from what would to-day be diagnosed as a case of pyosalpinx. Acute observer that he was, scholarly and progressive in his field, yet he devoted only five pages to the tube, including its anatomy, physiology, pathology, clinical history and methods of treatment. T. Gaillard Thomas published his work on diseases of women in 1869. He was a bright light in his special field for nearly a generation, and yet he gives only two pages to a discussion of the tube and its diseases. In brief, an examination of older medical works and journals of all kinds, home and foreign, will show absolute want of literature on this important subject.

The medical man of to-day is well informed on all phases of disease of the tube and of the different views of tubal disease, its origin, pathology and methods of treatment. The causes of inflammation are numerous. When the tube is considered as a continuation of the structure of the uterus, the cause of the inflammation is easily understood. Any cause which may produce inflammation of the uterine structure may, by simple extension, cause an inflamed tube. Disease of bacterial

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

origin may readily affect the contiguous structure. Among the exciting causes are those producing endometritis or metritis; direct injury, sudden checking of the flow, pelvic hyperemia, infection with staphylococcus, streptococcus and gonococcus. Of these causes, gonococcus infection is most frequent and important.

Authorities differ widely as to the importance of the gonococcus as an etiologic element in production of tubal diseases. The question regarding this feature is important and difficult to determine. All will agree that the gonococcus is a frequent cause and should demand most earnest attention, and that the profession must be alive to prevent a trouble which, when established, we are so powerless to cure. We all too often meet cases like the following: young lady of good family and personal history, with menstruation regular and painless, who marries; wedding trip is taken and the bride returns home an invalid. She suffers from pelvic distress, and all the usual symptoms of specific infection are plainly evident.

A latent gleet in the male may be the cause of a fresh infection in the mucous membrane of the vagina. There is much speculation in regard to the gonococcus of Neisser as to its possible origin, the manner of its acquiring specific functions, how it may be possible by culture methods to rob it of its specific character, etc. The infectious character of the germ and its peculiar action on mucous membrane is as yet imperfectly understood. The germ is cultivated in laboratory and changed from media to media until it is theoretically sterile, yet deposited on mucous membrane its growth is luxuriant. Only a few germs may be present, yet the development is of almost incredible rapidity. A woman with latent gonorrhoea for years imparts a virulent ophthalmia to her new-born child. This organism has a wondrous grasp upon life, so wondrous, in fact, that one is almost ready to accept the doctrine of Noeggerath, "once infected always infected"; at least one is ready to accept this as a safer rule than that gonorrhoea is no more to be thought of than a common cold. Practical experience and bacteriologic research agree that the gonococcus is tenacious of life in the human tissues.

Bumm transplanted the 20th generation into healthy mucous membrane and produced a virulent gonorrhoea. Warren states that suppurative inflammation of the tube is largely due to the gonococcus. Bernutz's investigation coincides in the opinion. The findings of Noeggerath and Sanger are along the line—the two latter find pyosalpinx in 33 per cent. of women suffering from gonorrhoeal infection.

Goel, after an extensive research, says he was able to discover the gonococcus after a latency of six years. Neisser in 143 cases extending over a period varying from two months to eight years, found the germ in 80 cases. The observation of Wertheim is in the same direction. He reports the finding of the gonococcus in a chronic salpingitis of two years' duration. Neisser insists upon the value of microscopic examinations and makes a strong point of the necessity of frequent tests. Some observers failing in this have much underestimated the frequency of gonorrhoeal infection in diseases of the tube. One must not be satisfied with one or two examinations, but must insist upon repeated careful tests, and the perseverance will frequently be rewarded by the establishment of a positive diagnosis. The failure of some observers to frequently discover this germ in tubal disease is to be attributed to either faulty methods or a lack of perseverance in making investigations. While this germ is practically unlimited as to time, it is very cir-

cumscribed as to tissue invaded. It is limited to usually the epithelial layer. That it may occasionally affect the deeper tissues is denied, yet this is undoubtedly very rare. The cervix stands second in point of the pregnancy of infection and first as to chronicity. By simple extension the tube becomes diseased. The gonococcus finds the epithelial layer of the mucous membrane its favorite habitat, and here multiplies with unaccountable rapidity. There, its irritating effect soon becomes manifest in increased blood-supply, edema, and an enormous leucocytic exudate, followed by round-cell infiltration. This infection may lead to a simple salpingitis or to suppurative disease of the tube, depending on the virulence of the germ and the antimicrobial power of the tissues. There are various modes of infection: sexual intercourse, infection by use of douche tubes, by the careless use of gynecological instruments and by carelessness in making examinations. Has sufficient emphasis been placed on this as a cause of pyosalpinx, confessedly a most serious condition? Has the profession made clear and positive its position in regard to the baneful far-reaching effect of this infection on the health and life of the women of our land?

This is a serious question and one not to be pushed lightly aside, but demands our careful attention. That the profession has not fully appreciated the serious far-reaching effect of this infection, I fully believe. As one of the results of this apathy and indifference, is it any wonder that the laity regard gonorrhoea as a trivial affection? At the meeting of this Association, at Columbus, Ohio, a committee was appointed to investigate and report on ravages produced by syphilis on women; a similar committee should be appointed to investigate and report on the baneful effects of gonorrhoea on the female. While syphilis slays its thousand, gonorrhoea slays its ten thousand. When fully impressed with its true character the conscientious physician will do all in his power to prevent a trouble which when fully established he is powerless to cure. Prevention is the glory of modern medicine—certainly here is a fruitful field for its exercise.

I am convinced that the profession is not impressed with the magnitude of this evil, yet the truth is taught with more or less clearness by leading American authorities. Kelly, Garrigue, Penrose, Baldy, Price, Skene, Dudley and Henrotin mention the gonococcus as an important agent in pyosalpinx. I have had correspondence with a large number of physicians of Iowa and adjacent states, and find there is considerable diversity of opinion, yet the majority place the gonococcus as an important agent in pyosalpinx. From facts collected from fifteen of the chief cities of Iowa, I find 70 per cent. the average estimate of the cases of tubal disease due to gonorrhoea. From correspondence with physicians in small towns and rural districts, I learn of the infrequency of tubal disease in females. An examination of the records of three hospitals doing a good share of work shows a large number of cases of suppurative disease of tube of specific origin. Individual experience is only of value in determining a proper understanding of this question. In my experience during the last year I find 80 per cent. of the cases due to specific infection.

I am of the opinion, therefore, that the importance of gonorrhoea in causing tubal disease has not been properly emphasized; that the question is a serious one and worthy of our careful investigation, and that as earnest physicians imbued with the idea of prevention we should make ourselves felt in behalf of these unfortunate sufferers.

TUBERCULAR PERITONITIS.*

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There are a great many truths in surgery and medicine in which a satisfactory explanation of the manifested phenomena has never been discovered. The explanations of how tubercular peritonitis is cured by a peritoneal opening are many, but none are satisfactory; hence I trust I may be pardoned if I add another, which to me is original.

It would seem from the findings in most of these cases that there was not a local focus from which the disease spread, or if so, that focus was overshadowed by the later and more widespread process. The nodules have been about equally distributed over the peritoneum in most of my cases, both visceral and parietal. Inoculation experiments have demonstrated the extreme susceptibility of the peritoneum to tubercular invasion. This membrane can resist the inroads of most of the pus microbes better than the tubercle bacilli.

Most of my cases have been in females, and as the anatomical conditions are the same in both sexes, except the opening through the Fallopian tubes, this would indicate a causative factor situated at this point. In quite a percentage of the diseased tubes removed by myself there has been a tubercular disease of these ducts, yet it is a remarkable fact that none of my tubercular Fallopian tube cases had a perceptible peritoneal invasion at time of operation. This would seemingly negative the tubes as a source of a general peritoneal infection. The resistance of this membrane may be increased by the presence of the usual pelvic inflammatory complication in tubercular tubes.

A primary tubercular peritonitis may be induced by the presence of tubercle bacilli in the blood, the bacilli being lodged in capillaries on the surface of peritoneum. A remarkable immunity of other organs of the body must exist in these cases, as many subjects of tubercular peritonitis are entirely free from pulmonary or other complications. This freedom from constitutional invasion may be explained by the more or less complete walling in of every little point of infection by the building of a tubercle in which the bacilli are isolated. This coagulation necrosis will not supply nutriment to the bacilli, hence many nodules are sterile, and this may be one of the methods of nature's cures. The cheesy masses may or may not contain living bacilli, but most of them at an early date contain spores capable of reproduction if planted in fertile soil. These tubercles of the peritoneum may, after undergoing this cheesy change, be robbed of their moisture and ultimately become calcareous masses enclosed by a layer of dense connective tissue.

It is universally admitted that the tubercle bacilli are not pus-producing germs. The liquid, turbid or otherwise, in tubercular abscesses is not purulent unless a mixed infection be present. As a result of the intense hyperemia and blood-stasis of the peritoneum, red as well as white corpuscles may escape from the vessel; in that event the fluid becomes sero-sanguinolent. This is usually an evidence of an active, or recently active, stage of the disease. The absorptive powers of the peritoneum are in a measure in abeyance during this acute stage. The lymphatics are more or less compressed and blocked by the escaped blood-cells. The withdrawal of

the fluid and operative manipulations by a laparotomy relieve these conditions interfering with free absorption and thus act as a stimulus to the absorbents to renewed activity both in the destruction of the bacilli and the manufacture of antitoxin.

In those cases in which there exists a large collection of fluid, the intestines are usually free from adhesion and are the more amenable to treatment, surgically. The amount of fluid may vary from a few ounces to several gallons.

In many cases no fluid is found in the peritoneum. As a result of the outpouring of the white corpuscles and serum a false membrane is formed on the peritoneum this becomes organized and cements the intestinal coil together. The fluid in the dry or fibrinoplastic variety is absorbed, thus permitting the intestinal coils to come in contact and become adhered, in many cases producing intestinal obstruction or other obstructive symptoms in ureter, gall-duct, etc. These cases are the hardest to deal with surgically and promise little chance of a cure.

A conflict is waged between the various forms of bacteria and the white corpuscles: the fibrin coagulates and the exudate becomes more or less solidified, or if on the surface of a serous or mucous membrane a false membrane is formed. This organizes tissue through the projection of blood-vessels into the membrane. An adhesion thus formed may become a very serious complication of the original disease, while on the other hand it becomes a conservator of life by preventing the ever-present myriads of bacteria in the intestines from escaping into the general peritoneum, in case of a fistula bi-mucosa. In many cases the disease is not accompanied by any constitutional or other focus of infection symptoms. One author says that in 30 to 40 per cent of peritoneal tuberculosis the Fallopian tubes are affected. This has been my experience only so far as concerns the surface of the tubes. I have found the nodules on tubal peritoneum the same as on the intestinal or parietal layers. The pleura is more frequently involved than the other structures when the disease is located elsewhere.

The small multiple nodules of a widely disseminated cancer of peritoneum may lead to an error at time of operation, but a close scrutiny of all other organs will usually disclose a larger growth. The ascites as a rule in tubercular peritonitis is not as great as in cancer and the fluid is not as likely to be bloody in character.

A tumor may develop from this process by a slow rolling up of the omentum until it makes an oblong mass across the upper abdomen. This condition may easily be confounded with peritoneal cancer. This form of disease usually has little or no liquid in the cavity. The agglutination of coils of intestines may make a solid mass, feeling to the palpating hand like some form of tumor. A careful auscultatory and manual examination will detect intestinal sounds and movements into and through the mass.

In the disease known as *tabes mesenterica* the peritoneum is frequently the origin of the glandular infection, but in the great majority of these cases the infective area is within the bowel. Coils of adherent bowel may be diagnosed as enlarged mesenteric glands even at time of operating, unless a careful and experienced examination is then made. An intestinal ulcer may be found as the origin of the enlarged mesenteric glands. The omentum may retain its normal position and yet be extensively involved. As a rule, however, it

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soon adheres to some infected point and forms a mass of greater or less dimensions.

Mesenteric glandular disease—tubercular—may lead to an infection of general peritoneum by breaking down of the glands. Pain, while of frequent occurrence in these cases, is absent in many. The pains in my cases have been those simulating gaseous intestinal colic, coming on at irregular intervals, extending over a period of months. These have usually been relieved in a measure by a free bowel-movement. The cause of these pains is the tension produced by the gas on the constricting, tubercular, hyperemic, peritoneal coat of the intestine. In some cases the pain has acute exacerbations accompanied by tenderness and increased rise in temperature, indicating an acute or active stage of the disease, in fact, simulating an acute septic type of peritonitis, such as might extend from an appendicitis, yet not accompanied by the usual severe constitutional manifestations of the latter disease.

The temperature may remain subnormal for weeks at a time; yet in the majority of instances it is elevated at some time during the twenty-four hours. Discoloration of skin about face and breast is of common occurrence, and is due to action on the sympathetic nervous system. It has no special significance in diagnosis.

The temperature curve is a decidedly variable one, ranging from a subnormal morning temperature to 103 F. or higher in the morning. On the other hand, the temperature and pulse may be such as to lead to the erroneous diagnosis of typhoid or malarial fever. A careful blood examination for agglutination for the plasmodium of Laveran would aid in eliminating these two misleaders. The presence of ascitic fluid, general uneasiness or tenderness over abdomen and the protractedness of the attack favor the diagnosis of tubercular peritonitis. A careful physical examination eliminates pregnancy, ovarian cyst, etc.

The general health in the ascitic type of the disease may not be much impaired in the beginning. In fact, in some cases the patient may take on weight and become very fleshy. I have recently operated on a married woman 28 years of age, who two years ago weighed only 116 pounds, and who at the time of operating weighed 220, and was in appearance in good health. She had an elevation of 2 degrees in temperature and pulse of 90. Pains, colicky in character, occurred every few days, with exacerbations of acute symptoms of pain and tenderness, the attacks usually putting her in bed a week or ten days. At operation I found the peritoneum studded with miliary nodules and the cavity filled with a serosanguinolent fluid. She had quite an attack following the operation, lasting ten days. This subsided, and her recovery from the operation was not further interrupted. The result as to a cure remains to be seen.

Unless encysted, fluid gravitates to a dependent part of the cavity with change of patient's position. The sacculated variety may cause an error in diagnosis, the mistake usually made being that of ovarian cyst. A proper recognition of the pedicle or "diagnostic point," and location of dulness will prevent this error in most cases.

The focal point of all abdominal diagnosis should be reached by excluding other probable sources of symptom-producing pathology, as cancer of liver, spleen, kidney diseases, organic diseases of heart, etc., all producers of abdominal dropsy.

Painful micturition is mentioned by many writers as a prominent symptom, without giving any definite explanation of its cause. While this symptom has been

present in two or three of my cases it was not a marked feature in them.

Where a doubt exists in the mind of the surgeon of it being tubercular peritonitis a small amount of the fluid may be collected with a hypodermic syringe and inoculation practiced on guinea-pigs. All fluids in this disease do not have the bacilli, but in some they are present in abundant numbers; in such cases the diagnosis may be made absolute. This diagnostic test will often show presence of bacilli when the microscope has failed, as is the case in the urine of tuberculosis of the kidney.

My cases have been mostly in females between 20 and 30 years of age. None of them have been of the negro race, yet it is claimed that they are very prone to this form of tubercular disease. The absence of symptoms and the presence of seemingly good bodily nourishment are misleading and often prevent an early diagnosis. In two of my cases the disease was discovered after opening the peritoneum for the removal of an ovarian cyst. Recovery took place in both cases, and the patients have since remained well.

Typhoid fever is the one disease most likely to mislead, but a careful analysis of the presented symptoms will usually enable the physician to determine the actual disease present. The cases in which there is much fluid do not suffer very much, unless in the very acute or active stage of the disease. In the chronic variety diarrhea is a very prominent symptom and usually, if due to ulceration of the bowels, is an unfavorable sign. Tubercular family history is common in many cases, but not with a frequency to be of much value alone as a diagnostic helper.

Vague abdominal pains with no explainable cause, accompanied by irregular febrile attacks, and a gradual loss in weight with an increase in size of the abdomen, are of much value. Yet it must not be forgotten that many of these patients are well nourished. Pain has not been a marked feature in my cases. The suffering has been from gaseous distension of the bowels and the consequent stretching of its coats from the adherent intestines being impeded in their vermicular movements and rubbing of the surfaces infected.

Any pathologic process operated on that symptomatically disappears and remains so should be considered cured. If the disease be a constitutional one and local and distant points become invaded, it may not be a cure in the true sense of the word; yet if the point at which the original operation was performed remains well, the surgery should be considered successful. If a tubercular peritonitis is cured by a laparotomy and the patient dies in three or four years from pulmonary tuberculosis this fact should not be used as an argument against the justifiability of the operation.

Abbe has reported a number of very interesting cases coming under his care, one a child 3 years old, in whom the parietal peritoneum was filled with tubercular nodules, the membrane being one-half inch thick. A laparotomy cured the child. In another case the patient's general condition was such as to prevent an anesthetic being given. An incision was made under cocaine. The patient was cured, as was proved by an examination three years later while operating for a hernia.

According to Osler, in 346 cases, both sexes included, there were under 10 years 27 cases; from 10 to 20 years, 75; 20 to 30 years, 87; 30 to 40 years, 71; 40 to 50 years, 61; 50 to 60 years, 19; 60 to 70 years, 4; above 70 years, 2.

In Kelly's 29 cases, 18 were whites, 11 blacks; average age of white patients, all females, was 29.55 years; average age of black females, 25.63.

Abbe believes that the washing out of the peritoneum is followed by an acute engorgement of the tubercular nodules, followed by rapid envelopment of the nodules with a fibrous tissue, thus destroying the vitality of the bacilli and causing a retrograde metamorphosis of the neoplastic tissue. Weir believes the same process is brought about by the damage done to the peritoneal surfaces at the time of operating.

An exposed mesentery or any surface of peritoneum opened to light and air soon becomes hyperemic. The rapidity of the blood-flow is increased and the blood-vessels visibly become more numerous. This increased flow of blood is transient and in its stead a sluggish circulation is observed. The vessels are literally filled with white corpuscles; even at this time these scavengers are finding their way through the walls of the veins. Fluid exudes into surrounding tissue. If the process stops here we have the parts resuming their normal state. If an infection is added to this hyperemia the process changes to a more severe condition, infectious peritonitis.

The disturbance of circulation in an inflammatory process is slower in its appearance and is of longer duration than that accompanying a simple hyperemia, the exudation being much more pronounced in the former. Cabot's experiments disproved the presence of leucocytosis in tubercular processes, while in septic peritonitis it was usually present in a marked degree, a diagnostic symptom of no small import in suspected tubercular peritonitis. An aseptic hyperemia—inflammation—which is short of any death of the tissues may conserve in a reparative or curative process of the peritoneum in peritonitis of a tubercular character. Accompanying this hyperemia there is an increased flow of lymph, which acts as a diluent to the morbid tubercular product, exercising a more or less antiseptic power. The phagocytes are greatly increased and the attack on disease is more vigorous.

One of the evidences of putrefactive and other bacterial chemical action is the formation of coloring matter by chromogenic bacteria. In a number of the cases of tubercular peritonitis falling under my care there has been present on the face and other exposed parts of the body the brown spots—*chloasmata*—usually attributed by the layman to "diseased livers."

I am disposed to believe that an explanation of how these cases are cured from a surgical procedure may be found in the probable production of an antitoxin within the peritoneum owing to some unknown function of this great lymphatic. In no other way can we explain how a tubercular pleurisy is cured, as is often the case, by an incision into the peritoneum. I am sure I have seen cases of well-marked tubercular disease of the lung with pleural effusion symptomatically cured from the incision made at the time of operating on a similar process within the peritoneum. There exists within all healthy individuals a power of resistance to the invasion of most microbes. This immunity is brought about by some force or action within the body at this time not altogether understood. The theory of Metschnikoff of phagocytosis does not explain all the phases of this subject. I am firmly of the opinion that a chemical agent, call it toxin if you may, is being manufactured within the body constantly. This agent induces an immunity to the invasion of microbes; if this was not the case we would be in constant danger of destruction

from the bacteria that we eat and drink and breathe every day.

The bacilli that are present, it is presumed, are killed, cease to multiply or are held in abeyance in these cases that get well after a laparotomy. The operation stimulates the peritoneum to an increased activity in the production of an antitubercular toxin.

Bacteria that are not pathogenic within themselves—saprophytes—by their action on dead tissue or diseased structures may produce, by decomposition, poisons of a virulent character, the nature of which is not thoroughly understood. It is generally accepted that the product of these germs produces a destructive action on many forms of bacteria. This clinical change, says Pasteur, "may continue until the bacteria are all destroyed and the organic material is completely separated into the constituents of the atmospheric and mineral kingdoms."

An evidence that there is an antitoxin manufactured within the peritoneum in primary tubercular peritonitis is the fact that pulmonary complications are rare, a species of immunity to the disease in distant organs. All surgical treatment should be supplemented by a thorough antitubercular medicinal course.

In some cases the operative indications are for the relief of complications as a result of the original pathology, as abscess formation or intestinal obstruction. The report of cures in even the most unpromising cases from operation, should lend encouragement not to abandon any case as being hopeless. All diseased structures, when possible, should be removed at time of operation, as the Fallopian tubes, omentum, etc. Intestinal adhesions should be separated with great care, less numerous openings be made into the bowel. The usual median incision is made, the fluid is removed by sponging; if no fluid exist, adhesions are carefully separated, if pus is present the pocket is packed with gauze and drained; very rarely is it necessary to irrigate with saline or other fluids. I have in some of my cases used iodoform gauze to brush over the surface of the bowel and peritoneum. In a few of my cases I have used a glass drain, but the cases drained have not done equally as well. My cases were 18 in number in which the diagnosis was certain. Of these, 15 were operated on, with no death from the operation. Three were not operated on; of the latter one died of miliary tuberculosis, one is still under observation and has the disease well marked, the other case has symptomatically recovered, three years since the last evidence of the disease.

One of my cases operated on died eight months after operation, from abscess of the spleen. Another case died from pulmonary tuberculosis several months after operation. In this case three years prior to time of operating for the tubercular peritonitis I removed a large ovarian cyst from the patient; at that time there was no evidence of the disease under consideration. When operating the second time I found very extensive involvement of the intestines with the fibrino-plastic form of the disease. The agglutination was so extensive that I found it necessary to resect 27 inches of the small bowel. She recovered from this operation nicely, but died from the pulmonary complications eight months later. Of the 18 cases there were 14 females and 4 males. The average age of the females was 27 years. The average of the males was 28 years. There were married females, 7; married males, 1. The youngest patient was 14 years, the oldest 45 years. Two of the cases were very fleshy patients, both females. Two were pregnant at time of operating—about fourth month. One of these

cases had a large ovarian cyst. The other had extensive omental and intestinal adhesions binding the uterus in the pelvis. Both of these women went to full term, and were delivered of living children. One case was treated for eight weeks for a condition simulating typhoid fever—tubercular peritonitis active. This case I operated on several months later, doing an abdominal hysterectomy for a fibroid. Her symptoms have all disappeared. The peritoneum was studded with miliary nodules. One case had a large ovarian cyst as a complication. The case that died was a male, aged 45, disease being acute at time I saw him. A post-mortem verified this diagnosis.

In one case I operated for a tubercular peritonitis and three years later opened the abdomen for the removal of an ovarian cyst. No trace of the original disease could be found. Two of the cases were very fat women, yet a very extensive invasion of the peritoneum was found. In one case the operation was performed for an appendicitis. In this case I found the peritoneum filled with a fluid that coagulated as soon as the air came in contact with it. The fluid had the appearance of pus, but was tubercular. This case is entirely well. Pulmonary and pleural complications were noted in a few cases, the exact number my record fails to show.

In only one case was there evidence of Fallopiian tubal disease of a tubercular character. One case had as a complication a tubercular mesenteric cyst the size of a cocoon.

DISCUSSION OF PAPERS OF DUNNING, GUTHRIE AND CORDIER.

DR. PALMER DUDLEY, New York City—With the few moments allowed me to discuss Dr. Harris' paper, I simply want to say that I am doing conservative surgery as much as possible, and so far I have 145 consecutive operations without a death. In 25 of these cases pregnancy followed. I can describe only one case, and I will cite a typical one which will demonstrate the result of such work.

In 1898 a patient came to me with retroversion, double salpingitis, and cystic ovary. I performed a laparotomy, removing one-half of each ovary and tube. The tube was distended on the outer half, the ovary being involved, but the inner half of the tube was healthy. I removed one-half of the ovary and tube on each side, fastening the uterus to the abdominal wall by hysterorrhaphy. Five months afterward she came to me with what I supposed to be extrauterine pregnancy. She had every symptom; I operated and found a large hematocele on one side, involving the whole structure. The patient having asked me to leave some portion of the ovary, I did so. I lifted up the stump of the tube and ovary and found the silk with which I had circumscribed the mouth of the tube. It was still unabsorbed, and I removed it, scraping off the adhesions from the ovary, washed it thoroughly, touched it with carbolic acid, washed it off and returned the tube to the abdomen. The woman recovered, drifted from my care and I did not see her again until last Wednesday, a little over a year after the operation. She came with my office six months pregnant. I outlined the position of the fetus and could distinctly hear its heart-beat. That is one case to prove the theory which I am advocating.

Without drifting from conservatism, I will tell you a little of what I have done. In order to save the female from the reflex symptoms following total extirpation of the appendages, I tried some experiments. I have operated on five cases and previous to coming here I heard from them all. They have all menstruated with the exception of one. This latter is probably due to the fact that I implanted a portion of eirrhotic ovary, which was the best I had to work with. I removed the appendages, sewed over the stump with catgut, leaving a portion

of ovary to be implanted. Then securing the fundus of the uterus to the abdominal wall, I took out a portion of the inner surface of the structure, quickly cut this portion off, implanted it into the fundus and left one-half of the capsule of the ovary dependent in the uterine cavity. One of the cases claims that she has all the symptoms of pregnancy. She visited a physician in New York and he catheterized the uterus, removing the gestation. I have a record of all her menstruations. In none of the five cases was the ovary thrown from the uterus and not one of them had any of the reflex symptoms of total extirpation.

DR. G. I. McKELWAY, Philadelphia—I wish to endorse what Dr. Dudley has just said. Two years ago a lady came and asked me to attend her in her confinement. She told me that she could not understand how it was that she was pregnant as she believed she had no ovaries, as Dr. Barrows, of New York, had removed them. I wrote to him and he answered that he had operated in this way. He had removed the tube and ovary of one side in their entirety and finding a hematoma of the ovary on the other side he had removed a large portion of that ovary. After her delivery she removed from Philadelphia to Long Island, and within the last month I have had a letter from her husband saying she was again pregnant.

Four years ago, I had a patient from whom I removed a cyst of the left ovary, taking away the entire ovary and tube. At the time of operation I found she had a uterus bicornis septus. I left the tube and a small eirrhotic ovary on the right side. Since then she has had on the operated side a pregnancy, which aborted through the tubal end, and within the last three months she was cured, following a criminal abortion, for a pregnancy in the right half of her uterus.

These two cases and the others that have been cited emphasize the importance of leaving a part of the ovary and tube whenever possible.

DR. FREDERICK HOLME WIGGIN, New York City—In connection with the operation for tubercular peritonitis, I think Dr. Cordier was wrong in advising the use of sponges in removing the fluid from the peritoneal cavity. I have found it preferable to remove the fluid by irrigation with saline solution. I believe the use of sponges tends to cause mechanical injury to the parts, thus favoring the formation of adhesions and increasing the danger of intestinal obstruction, while the saline solution, some of which I have been in the habit of leaving in the intestinal cavity, I believe tends to mechanically separate the parts and thus lessens this danger.

I agree with Dr. Harris, that whenever the ovaries are not diseased they should be left; in fact if a portion only of one or both ovaries is healthy such should be left, only the diseased parts being removed. I have found that this can be done with great advantage in many instances. But occasionally, where there is a suppurative disease, it is not wise to do so, and I have, on some occasions, seen cases where secondary operations were necessary because the surgeon had been over-conservative.

DR. EDWIN RICKETTS, Cincinnati—In regard to the case reported by Dr. Cordier, where tubercular peritonitis followed ovariectomy, he says he sponged the fluid out of the abdominal cavity. I wish to ask whether those sponges, which he used in this particular case, were ever used in any other?

As to the plea for more frequent avoidance of excision of the ovary in connection with the diseased tubes, I wish to refer to a case following the delivery of a child four weeks after by a midwife. It was the fifth infection the midwife had on her hand. The patient's temperature had reached 105, pulse 130; there was distension of the abdomen. I saw her in consultation with the family physician. Her condition was bad. We were satisfied that there was fluid in the abdomen; the uterus was fixed. No abscess could be mapped out on either side of the uterus. The abdomen was opened and the fluid wiped out with carbolated gauze. Both ovaries were normal; the tubes were thick, but there was no accumulation of fluid. With my left index finger in the abdominal incision, I carried my right index finger into the vagina and uterus and forced out about two or three ounces of pus. As soon as the pus was evacuated, the peritoneum covering the fundus lay on my finger; we drained the uterus and abdomen with gauze and the patient

[The paper of Dr. A. P. Harris on "Plea for More Frequent Avoidance of Excision of Ovary in Connection with Resections of Diseased Tubes," has appeared elsewhere.]

made a satisfactory recovery. Strange to say her physician delivered her two years ago of a healthy boy baby at full term.

DR. A. H. GOELER, New York City—Senile endometritis is a subject in which I have been very much interested, and I am very glad to hear of the microscopic investigations made by Dr. Dunning. It puts a different light upon the subject. With Dr. Skene, I have been in the habit of regarding this as a degenerative process instead of an endometritis. I am satisfied however, that it is an exception when this condition is an acute inflammatory process. We may find it so in some cases, but usually it is simply a degenerative process following the menopause. In this connection I wish to enter an urgent plea in favor of investigation of all vaginal discharges, particularly of women at and after the menopause. It is a matter which ought never to be neglected. I have had a number of cases sent to me for the removal of the uterus and found nothing but a senile endometritis, a condition very easily cured. The great difficulty in the way of detection of the condition is that the family physician is too apt to disregard it, because of the age of the patient. He is averse to investigating the condition and oftentimes the patient is also averse to it. She believes that when she reaches the menopause she becomes immune to uterine disease. I have found senile endometritis frequently in unmarried women where not even an examination had been made, as in old maids, showing that infection could not have been carried in through the vagina.

Another difficulty about the diagnosis of this condition is its insidious character. It seldom gives rise to symptoms that direct attention to the uterus. But I make it a rule to insist on an examination in all cases where there is marked constitutional disturbance without any other ascertainable cause. Where the patient complains of restlessness, insomnia, nervous dyspepsia and general irritability, and where they have not been relieved by general treatment, I have never yet failed to detect a condition of senile degeneration of the endometrium as the cause.

There is one point in the paper which I wish to speak of. The author insisted that the condition existed in one of his cases where there was no occlusion of the canal, therefore he thought defective drainage was not responsible for the symptoms. But he admitted there was a marked posterior flexion, which would defeat drainage. A cure can be quickly obtained, by establishing free drainage from the uterus. It is just as important where there is a displacement as where there is actual occlusion of the canal.

I agree with Dr. Harris that our work should always be conservative whenever possible, and we should not precipitate a premature menopause when it can be avoided. I recall a case of senile endometritis in a young woman of 30 years, occurring three years after removal of the appendages. She was sent to me by a colleague who had failed to cure her of a very disagreeable discharge though she had been under his care for many months. By maintaining free drainage she was well in two months.

DR. G. J. ENGLEMAN, Boston—There is no longer any question as to the favorable influence of any particle of ovarian tissue remaining, provided it is active, and I wish to add to my testimony as to the result of such conservation and of conservative methods by a few striking cases. One was a case of very large double ovarian tumor; a very large colloid on the left side and a small pedunculated cystic tumor on the left. I removed the colloid, together with the tube, and took off the smaller tumor without any thought as to the possible importance of the pedicle. I certainly must have left a portion of this thin pedicle as it seemed unimportant and as I do not recall paying any particular attention, or in fact giving any thought to it. The patient did well and within five weeks after the time of her last menstruation she bled a little. I did not know what to make of it. Following this she menstruated regularly and then ceased, which I thought a natural sequence to the operation. The abdomen began to enlarge. I supposed the colloid mass to have been malignant and this to be a recurrence, but the physician in Kansas City gave very favorable reports as to her condition, and it finally proved to be a pregnancy. She was delivered of a healthy child and has

menstruated with perfect regularity ever since. The pedicle of the cyst I removed was about the size of a slate pencil. The distal portion removed was examined and showed bits of ovarian tissue. Now then, we have nothing but a stump of a tube on the left side, on the right side a little more, and that piece of tissue in the pedicle which remained active. The ultimate outcome of the case shows the effect of the smallest remnant of ovarian tissue, and also, what we know now, the possibility of the ovula passing through the stump of the tube, which becomes visible.

The other case, which I will cite, clearly demonstrates that the ovum may pass from one side to the other through the abdominal cavity. If a tube is on one side and the ovary on the other, impregnation may take place. The patient, with a double gonorrhoeal salpingitis, was brought to the hospital on a stretcher and remained confined to her bed for three or four months. For more than a year she continued in a very miserable condition constantly under treatment, but supporting herself and slowly improving. Several years later I saw her as the patient of another physician for a possible appendicitis, but I thought she had had a miscarriage. She admitted nothing, and we found no more enlargement than might be accounted for by long continued inflammation of the uterus; there was some blood, which she ascribed to menstruation. Post-mortem examination showed a tubal pregnancy on the right side, the right ovary a fibrous mass, with a corpus luteum on the left, and an impermeable left tube. In other words, the ovum came from one side, the left, and passed through the abdominal cavity to the other side, the right, and passing through the permeable right tube; the left was solid. The appendix was attached to the right ovary, and in the tube of that side was a small ruptured sac. The agglutination of the appendix was, of course, an unimportant complication.

The first case is a striking instance of the activity of small portions of ovarian structure, which I had looked on as nothing but connective tissue, and of the permeability of a ligated tube. The second shows the possibility of the ovum traveling from one side to the other through the abdominal cavity.

DR. G. BETTON MASSEY, Philadelphia—Some years ago we had a similar symposium on the inflammatory diseases of the female pelvis at the Philadelphia Pathological Society. I introduced the subject of inflammation of the uterus, and a member of the society complained that my paper was outside of the subject under discussion. He had forgotten that the uterus was a pelvic organ. There is a little bit of that forgetfulness with us at other times when we confine our discussions to inflammation of the ovaries and tubes, forgetting that the inflammatory diseases of mucous membranes necessarily take up their first chronic habitat in the cavity of the uterus. That endometritis may follow a vaginitis is a well-known fact. We should be interested in this endometritis, particularly as general practitioners rather than as surgeons. It is a little odd, but the medical world looks on inflammatory diseases as closely allied to microbic agencies, whereas surgeons and gynecologists look on them as the result of mechanical conditions. They speak of drainage curing endometritis, forgetting that possibly it was the means employed to secure drainage. They do not tell us that there was an accumulation when they began to drain. They seem to forget that, as a rule, it is a catarrhal disease of the interior of the uterus, which ultimately creeping up the tube, gives rise to the necessity for the operations mentioned this afternoon. I merely wish to direct attention to the wisdom of considering the uterus more than we do, and that we have a microbic condition and not a mere mechanical condition to deal with.

DR. WILLIAM R. PRYOR, New York City—Conservatism is a good term and the man who uses it will always receive a certain amount of consideration at the hands of his confrères and a large amount of applause from the laity. We all believe in conservatism and of two kinds, one of which seeks the preservation of an organ which is diseased and its restoration to a normal condition, and the other concerns the welfare of the individual as a whole by sacrificing a diseased organ which is jeopardizing health. Cystic ovaries, hemorrhages into the

ovaries, hydrosalpinx, ectopic gestation in the early weeks, adhesions and all those conditions which do not show the presence of active pathogenic germs, may be treated conservatively. But I must take issue with Dr. Dudley and those who advocate conservatism in a pus field. The thing to do is to carefully consider every bearing of the lesions before we operate, and when we operate, do it in such a way as to cure our patient. If I had my way I should never take out a pus tube due to gonorrhoea without taking out the tube on the other side as well. If you do not do this the patient will surely come back for a second operation. Practically applied, this belief of mine compels me either to do a purely evacuative operation for gonorrhoeic pus through the vagina or else do a radical operation through the vagina, removing all the organs. If you take out pus tubes, as in the case of Dr. Bóvč, that patient is not cured; you must take out every portion of pus focus, and if you do this by using ligatures you must place these entirely away from the pus field. In employing conservatism in pus foci you must use ligatures and sutures near the infected area. That is why I take issue as strongly as I can with every gentleman who has spoken here in advocacy of conservatism in the presence of pus. If you open the cul-de-sac and drain, that is an evacuative operation, and is not to be styled conservative.

DR. WALTER B. CHASE, Brooklyn.—Senile endometritis is very apt to be confounded clinically with malignant disease of the uterus. More than one case has come under my observation in which, if I were to make a diagnosis by the general or local symptoms and the character of the discharge, I would say at once that it is a case of malignant disease. Observation proves that there are a large number of cases which give these symptoms, but they are not malignant. If careful investigation is made and appropriate treatment adopted they can be cured. I feel positive that many a woman has lost her uterus after the menopause, because her adviser said she had a malignant disease, although it was not present. The profession should be on the lookout for just such conditions. We must not always adhere to the old theory that when a woman has a foul discharge it is due to malignant disease. Be careful, gentlemen, that it is before you operate.

DR. C. L. BONIFIELD, Cincinnati.—As a great many of the speakers have cited instances of conservative surgery, it is unnecessary for me to do so. The point I wish to make is that we must treat the patient that comes to us and not alone the condition of which she complains. I agree largely with what Dr. Pryor said, that the vast majority of these cases where we have pus to deal with and where we do conservative surgery, will have to be operated on again. There are exceptions to this rule, however. We occasionally have patients whose desire for children is so great that it is worth their while to take the risk of not being entirely well, or of having to undergo another operation at some future time, in order that they may remain in a condition in which pregnancy is a possibility. Most of us have had such cases who became pregnant and were delivered of children which were not freaks. In treating charity cases or others who can ill afford to lie in bed or to be operated on a second time, conservative surgery has no place.

DR. JOHN M. DUFF, Pittsburg.—In regard to conservatism after gonorrhoea, it is a very rare thing if you remove one tube and ovary that you do not have a subsequent operation. When you come to the conclusion that it is best to remove both tubes and ovaries at the first operation, you will have the assurance that your result is going to be a good one.

DR. JOSEPH PRICE, Philadelphia, Pa.—Puriform diseases, in about all cases, are due to gonorrhoea. It is the one disease decimating our women. The other infections are not common. Good physicians of to-day are clean. Most gynecologists in their public and private work are strictly clean, and are not guilty of infecting. The general practitioner is three more careful than he was many years ago, and I think you can fairly say that at least 94 per cent. of all pelvic suppurations are due to gonorrhoea. All of us are perfectly willing to say from personal experience that we have verified the observations of Noeggerath. It is all well enough to talk about conservative work and to pat the general practitioner and the

general community on the back. Few operators in this country or abroad having large experience have very few if any cases of pregnancy following unilateral operation for puriform disease. All of us have made an effort to save the tube and ovary on one side, but later it was necessary for the same or some other operator to remove the ovary and tube on the other side. I have repeatedly operated on my own as well as on the patients of other men, and I have yet to see the first woman to conceive through the tube I made the effort to save. Mr. Tait in Europe, and other men of rare good judgment and experience, tried what I repeatedly try, and they all fail. I wrote Mr. Tait shortly before his death that a patient had come to me from whom he had removed a pus tube and that I had repeated the operation on the opposite side. I do not see why men advocate conservative procedures when their patients go to others for relief afterward. It is a common thing for people to go to some one else for a second operation. They rarely go back to the original operator. I have patients in bed now that other men operated on and I had to repeat the operation on the other side. Pus disease is exceedingly common. Dr. Pryor's statement is correct, and you can not get around it. Clean work is required. We have a baby-show in our city every year. I am satisfied that the best-looking women in our city have had sections. If we had a woman-show in our city I could put up 100 women and win the prize. We have the best-looking women in our city and they have nearly all had their appendages removed. Sometimes when walking on the street I see a pretty woman. I look at her and she comes right up to me and says: "Doctor, don't you recognize me?" She then tells me that I operated on her some four years ago, etc. I know there are hundreds of cases like that in Philadelphia, and I sometimes think that it is a good thing to remove a woman's appendages in order to improve her appearance.

DR. RUFUS B. HALL, Cincinnati, Ohio.—I wish to emphasize the statement made by one or two of the gentlemen that conservative operation in these cases is what best serves the interest of the patient. I have experimented along this line somewhat, but in every instance where I tried to save one tube and ovary in a case infected by gonorrhoea I did not succeed in permanently curing the patient. In many instances they had to be operated on again by myself or some of my neighbors. It is a serious matter to subject a woman to an operation and then leave her in the condition where you must do it over again. In some cases it is desirable and advantageous to leave an ovary or a portion of it. I operated on a case of ovarian tumor eleven years ago. The patient was 32 years old, the mother of one child and exceedingly anxious to have another. Her greatest fear in having the operation done was that she might lose the other ovary; therefore, she begged of me to leave it if I possibly could. I operated and removed one large tumor on the ovary on the opposite side; there was a cyst of the ovary the size of a hen's egg. On top of this tumor there was a piece that we supposed to be ovarian tissue. It was about the size of the end of the little finger. It looked healthy. We cut away the cyst, leaving this little piece and the tube on that side, so that we could conscientiously say that we had not removed all of the ovary. Eleven months afterward she was delivered of a healthy boy baby. She has not conceived since, although she continued to menstruate regularly. This piece of tissue was left simply to gratify the wish of the patient, but illustrates what can be accomplished in some of these cases by saving even a small piece of ovarian tissue.

DR. L. H. DUNNING, closing the discussion.—I expected my colleagues to say more against the extirpation of the uterus in senile endometritis. I was sorry that I did not have time to consider that phase of the subject more than I did. When you read the pathological report you will find that the uterus was infiltrated with pus corpuscles and ordinary leucocytes. If you will examine the picture of the Fallopian tube which was removed, and which section was made from parts of tube taken three-quarters of an inch from the horn of the uterus, you will see it is densely infiltrated with leucocytes. I stated in the paper that it was impossible to pass a bristle through the Fallopian tube, although the microscope showed it to be patulous. Now we would expect to have trouble with the tube in a

case of that kind. The reason I advocated the extirpation of the uterus was that there was a distinct suppurative process going on within the Fallopian tube. That is the only class of cases in which I would recommend extirpation. I have several cases on hand all the time where there is a thin purulent discharge, which is easily cured by dilatation of the uterus, curetting and packing, or by an application of zinc chlorid or carbolic acid, followed by alcohol, and they give no more trouble. In the early stages of the class of cases of which the paper treats the onset is very acute and the patient is real sick. In one case I thought I had to deal with a malignant trouble in its very incipency. I extirpated and found an acute senile endometritis. These cases are not the only ones I have seen, but they are the only ones in which I have been able to obtain a careful pathological examination of the uterus. The specimens distinctly show an acute inflammation. Drs. Skene and Goelet tell us it is a degenerative and not an inflammatory process. The words are really synonyms. I would like to know what form of degeneration is present. My paper endeavors to answer this question. In one of the cases there was a slight mucoid degeneration, but we had all the features of an acute inflammation at the same time.

Dr. HARRIS, closing the discussion—The very limited time at my disposal will not permit me to make replies to all the gentlemen who have spoken. I wish to thank those who supported me in my claims. I selected the subject of my paper after attending a meeting in a physician's house about a year ago, where a friend had just been reading a paper on the removal of the tubes and ovaries. I came in just after he had finished his paper and, being invited to participate in the discussion, asked in what proportion of cases he removed the ovary when excising diseased tubes. He answered that he always removed the ovaries while removing the tubes. As this work is comparatively new, I must express my gratification at having received so much support to-day.

Regarding Dr. Pryor's case, I think the trouble more often comes from amputated and patent tubes than from the ovary. Of course, if the ovary is infected and suppuration goes on we may have to do a secondary operation, but the ovary is not the natural habitat for this inflammatory condition and not likely to continue suppurating.

In regard to Dr. Price's 100 most beautiful women in Philadelphia, it is interesting, but I dare say that most of these women were operated on a long time ago, because beautiful women are scarce, and we must operate on many to have left 100 of the most beautiful. If Dr. Price removed all their ovaries in recent years he greatly invaded their personal rights. As a class they are sadly lacking in some of the particular qualities of woman. I am free to say that if Dr. Price had all these women to operate over again he would leave many of their ovaries in.

I thank Dr. Engelmann for his demonstration of the migration of the ovum from one side to the other. That has been demonstrated in a very few instances and argues in favor of the more conservative practice advocated by my paper and endorsed by so many present.

Dr. COMIER, closing the discussion—I would like to correct the idea of Dr. Ricketts that we use secondhand sponges out in Kansas City. I have never used the same sponge twice in the last nine years. We never cleanse a sponge and use it again. The point I endeavored to bring out especially was that a factor in the cure of the disease was the cure of the peritoneum itself, pumping out the fluid from the peritoneal cavity and pumping in saline fluid and then removing that. The cavity has been filled with air, hydrogen, oxygen and other gases without any benefit. It is possible to cure these cases by opening the abdomen. I do not believe it is due to the sunlight, because the operation can be done just as well in the dark as far as the effect of light is concerned, provided the peritoneum receives the necessary stimulant to excite the latent function. I do believe it is necessary to produce more or less irritation. It

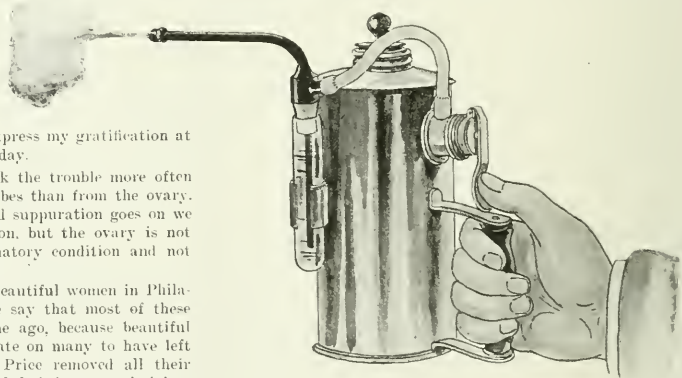
may be the injury to the sympathetic system, or the peritoneum itself that excited the manufacture of this antitoxin, which is no doubt the cause of hundreds of cures. In no other way can we explain how a tubercular pleurisy is often benefited by an incision into it. It undoubtedly attracts an increased amount of fluid to the part, and this in turn brings about an increased activity, the antitoxin is formed and the condition is eventually cured by it. That is the only explanation I can give.

PORTABLE COMPRESSED-AIR ATOMIZER.*

GEORGE F. COTT, M.D.

RUFFALO, N. Y.

This apparatus consists of a tank 6 inches high and 4 inches in diameter. It has a brass barrel running through the center and closed at the lower end by a cone-shaped piece of rubber having a slit in its lower extremity. The piston which runs up and down in the barrel admits air through the rod by drawing it up and is prevented from escaping by a valve which closes when the piston is sent home. The air is then forced through the slit in the rubber stopper and again prevented from returning into the pump, by closing hermetically, as it were. Thus, the cylinder or tank holds the air indefinitely, and a pressure of thirty pounds can be reached, which, however, is not necessary, as fifteen or twenty pounds is



amply sufficient for all ordinary purposes. A peculiarly arranged apparatus is attached immediately above the handle, which acts as an automatic shut-off, permitting just enough air to escape to cause a fine spray to form when forced into a specially-made bottle used as a spray-tube, which can be changed readily, as no cumbersome mechanism causes delay.

The atomizer sprays oil, water, glycerin or any substance ordinarily used for such purposes, and is so small that it can be carried in a small handbag. I have used one in my office, at the hospital and at patients' homes for two years and find it always ready in time of need. It may also be had in an oak case with half a dozen bottles for as many different solutions. The bottles can be changed in a few seconds. The instrument is designed for physicians who have no need of a more elaborate apparatus, or for patients who need a substantial atomizer for long use. Each bottle has a capacity of one-half ounce, which may be emptied with

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one filling of the tank; no ordinary spraying, however, requires so much liquid. One bottleful may be used a number of times before it requires refilling.

ESTIVO-AUTUMNAL MALARIAL FEVER.*

SOME TYPICAL CASES OF QUOTIDIAN AND TERTIAN FORMS,
WITH A STUDY OF THE TEMPERATURE CURVES AND
OF THE PARASITES OBSERVED IN THE BLOOD.

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In the following paper I have selected for description a number of typical cases of quotidian and tertian estivo-autumnal malarial fever studied by me in soldiers returning from Cuba, at the Josiah Simpson U. S. General Hospital, Fort Monroe, Va., in 1899. I have selected these cases from hundreds of malarial patients because they were studied for several days before quinin was administered, and thus all the typical phenomena of the paroxysm were exhibited. The quinin was withheld only when the patient consented, and in no case where the symptoms were urgent or suggested a pernicious character. From the charts shown it will be seen that the estivo-autumnal cases conformed to one of two types of fever, quotidian or tertian. In a previous contribution¹ to this subject I have shown that the estivo-autumnal or remittent malarial fevers present either quotidian or tertian paroxysms, and that each form is caused by a distinct and characteristic variety of the estivo-autumnal malarial plasmodia. As stated in that paper, my observations confirm those of Marchiafava and Bignami, who were the first to describe the forms of the malarial parasites mentioned. They gave the names quotidian and malignant tertian estivo-autumnal parasites to the organisms described, but it would seem to be preferable to simply designate them as the quotidian and tertian parasites, because, in reality, the term "inalignant" belongs rather to the quotidian than to the tertian form, as most of the pernicious cases of malaria which I have observed have been infected with the quotidian estivo-autumnal parasite.

I hope by the cases adduced to show the value of a careful study of our cases of malarial fever, both clinically and microscopically, and to demonstrate the occurrence of the two forms of the estivo-autumnal fever mentioned. I shall consider each case separately, giving the clinical history and describing the parasites found in the blood. The cases are arranged as follows:

1. Cases of quotidian estivo-autumnal fever.
2. Cases of tertian estivo-autumnal fever.

In considering the subject in this manner I have aimed to give the salient features, both clinical and microscopical, found in typical cases, but it should be understood that many cases occur which are not typical, where the temperature curve is more or less continuous; cases where there are mixed infections or infections with multiple groups of parasites, which it is impossible to describe in the limits of an article such as this. In such cases the clinical symptoms are often atypical and the temperature curves are most irregular and confusing. But no matter how typical a case of estivo-autum-

nal malaria we may have, it can be easily made atypical by the administration of small broken doses of quinin. Such treatment—far too common—will cause the most typical temperature curve, whether quotidian or tertian, to become irregular and often altogether unrecognizable as one of malaria, and is the most prolific source of the existing confusion regarding the forms of estivo-autumnal fever. In combined infections with both the quotidian and tertian estivo-autumnal parasites, a more or less continued or slightly remittent temperature curve is seen, while in cases in which quinin in unsuitable doses, at irregular intervals, has been given, an irregular, intermittent temperature curve is most common. Where, however, no combination of the two varieties of the parasites exists, and quinin is not administered, it will invariably be found that either a quotidian or a peculiar tertian temperature curve will be observed.

Cases of Quotidian Estivo-autumnal Fever.—There is nothing very peculiar about the temperature curve in this form of malarial fever; it very closely resembles an ordinary double tertian curve. It is a notable fact, however, that most cases of pernicious malarial fever which I have observed have presented this type of temperature curve, and the blood has shown the characteristic quotidian estivo-autumnal organisms. None of the cases described in this paper were pernicious in character, as I have purposely selected those of a milder type, because they are so much more common.

CASE 1, Chart 1—Hamilton. The patient, a soldier, arrived at Santiago during August, 1898. He was there about one month when he was attacked by measles, which was followed by dysentery. About the middle of October he began to have chills and fever. His chills occurred, as a rule, every day, but were sometimes irregular. Besides the chills, he suffered from nausea, vomiting, very severe headache, and diarrhea. Has had several attacks followed by apparent recovery under treatment. He was feeling well on his arrival at the hospital on June 23, 1899. On the 26th he began to run a temperature characterized by quotidian paroxysms, but had no distinct chill until the 30th. Up to the latter date he suffered from nausea, some headache, and general pains. On the 30th he had a distinct chill, suffered from nausea, vomiting, sweating, severe frontal headache, and general pain, especially severe between the shoulders. His bowels were constipated.

Physical Examination: Patient is anemic and emaciated. Skin slightly yellow; face flushed; tongue heavily coated with a thick yellowish fur, and flabby; lungs and heart normal; pulse full and bounding; spleen enlarged and tender, reaching about 4 cm. below ribs; liver normal. Some tenderness over abdomen on deep pressure, probably due to pressure on spleen.

Examination of Blood: The blood was examined daily, at intervals, until the parasites disappeared. It was found that they were the most numerous in the peripheral blood during or just after a paroxysm, but at no time were they numerous enough to show more than one infected corpuscle, on an average, to the field. The parasites were typical of the quotidian estivo-autumnal variety, and two forms were observed in the blood: the ring forms and the pigmented forms. The ring forms (Fig. 1) were very small, indistinct in outline, perfectly circular when at rest, and very actively amoeboid. They never showed any signet-ring appearance, and were never more than one-sixth the size of the infected corpuscle. Some infected corpuscles contained two and a few even three parasites. The pigmented forms were about one-fourth the size of the infected corpuscles, which were always shrunken, brassy green in color, and generally enucleated. The outline of the organisms was much more sharply defined than they were in the case of ring forms, and they were perfectly circular in shape, amoeboid motion having entirely disappeared. The pigment was in the form of one, or, at most, two rather large, almost black dots, either centrally or peripherally situated. The pigment was always entirely motionless. No segmenting forms nor crescents were observed in this case. The parasites dis-

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¹ Philadelphia Medical Journal, April 7, 1900.

appeared from the blood two days after the commencement of the administration of quinin.

Treatment: Quinin, in doses of .36 every four hours. Recovery.

On reference to the temperature chart, it will be seen that there is nothing very distinctive about the temperature curve, beyond its quotidian character and the fact that during the first three paroxysms the patient felt slightly chilly, during the fourth even the chilly sensations were absent, and that the first distinct chill occurred during the fifth paroxysm. As far as the temperature curve is concerned, it might very well be that of a double tertian, the microscope alone being serviceable in differentiating the type of infection present. The temperature reached normal after two days' treatment with quinin. The subnormal temperature on the 29th, of 95.4 F., is worthy of notice, as it has been my experience that in no disease does the temperature so often reach low subnormal points as in the estivo-autumnal fevers.

CASE 2, Chart 2.—S. F. Shelton. The patient, a soldier, suffered for several weeks in Santiago, Cuba, from attacks of

hoid motion. The segmenting forms were both intracorpuscular, and in one instance the number of segments was six; in the other eight. In one instance a peculiar double-ring form of the parasite was observed, which suggested a process of division. Numerous corpuscles were observed to contain two ring forms.

Treatment: Quinin .65 every four hours. Recovery.

The temperature chart in this case shows an unusually high range of temperature for the quotidian estivo-autumnal infection, but is not otherwise remarkable. It resembles, even more than that of Case 1, an ordinary double tertian chart, and it would obviously be impossible to make a diagnosis of estivo-autumnal infection from the chart, without the aid of the microscope. The chart is, however, a beautiful example of the temperature curve in the quotidian estivo-autumnal infections, as contrasted with the totally different temperature curve of the tertian type of the infection. It also shows how little a chart can be depended on in making a diagnosis of the type of malaria present in a given case. It is safe to say that on simple inspection, this, or in fact almost any, quotidian estivo-autumnal

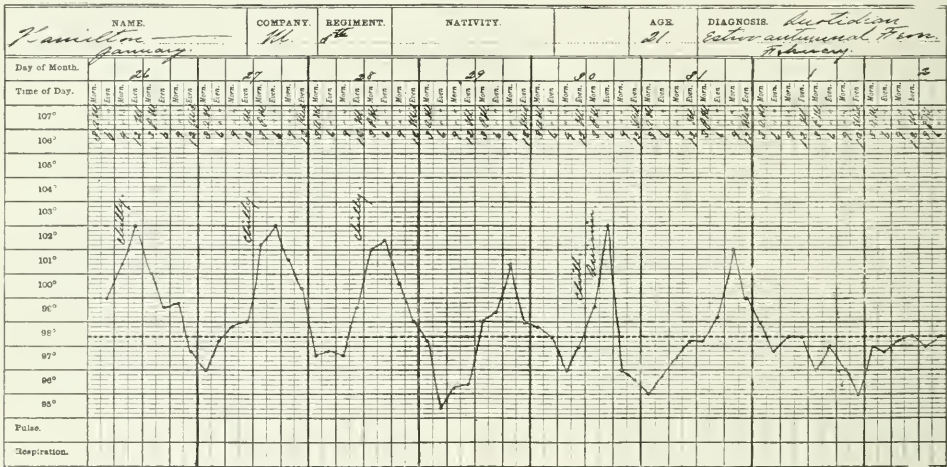


CHART NO. 1.—Chart of quotidian estivo-autumnal fever.

fever, accompanied by chilly sensations, headache, backache, slight nausea, and sweating. He grew gradually weaker and was transferred to the United States, arriving at the hospital on Jan. 23, 1899. His temperature remained normal till the 26th, when he had a chill, which was repeated every day for four days. He suffered from severe headache, with much mental depression, nausea, backache, and darting pains down the legs.

Physical Examination: Emaciated; skin of a peculiar grayish-yellow hue, tongue thickly coated and flabby; expression listless and depressed; heart and lungs normal; pulse rapid, full and strong; spleen enlarged and tender, reaching about 6 cm. below border of ribs; liver slightly enlarged; bowels constipated.

Examination of Blood: The blood was examined daily, at regular intervals, and showed very numerous quotidian estivo-autumnal malarial parasites. Ring forms and pigmented forms were common and on one occasion two segmenting forms were observed. The organisms were most numerous during the latter part of the paroxysms. (See Fig. 2.) The ring forms were very minute, indistinct in outline, and actively amoeboid at intervals. The pigmented forms were circular or oval in shape, and contained one or two nearly black pigment dots. The pigment was immobile and the organisms showed no ame-

chart could be considered as a chart of double tertian malaria, and very justly so. The microscopic examination of the blood is the only means by which the diagnosis can be cleared up in such cases, and it should never be neglected, as it is of infinite importance to the patient whether or not he is suffering from the benign double tertian or the too often malignant estivo-autumnal infection. The prompt subsidence of so pronounced an infection, under large repeated doses of quinin is also worthy of attention.

CASE 3, Chart 3—Cecil Taylor. The history in this case is briefly as follows. The patient had never been in Cuba, and apparently his malaria was contracted at Fort Monroe, as he gave no history of previous attacks. His illness began with a slight chill, nausea and vomiting, and severe headache and backache. He also had some abdominal tenderness and a slight epistaxis. His temperature reached 103.8 F. after the chill.

Physical examination showed an enlarged spleen, general abdominal tenderness, dry, hot skin, flushed face, injected conjunctiva, and a pointed, tremulous tongue thickly covered with a white fur; the pulse full and rather slow. The case was regarded at first as one of typhoid fever, but no Widal reaction could be obtained and examination of the blood showed

large numbers of typical quotidian estivo-autumnal parasites.

Examination of Blood:—The blood showed numerous intracorpuseular "ring forms" of the estivo-autumnal parasites of the quotidian type, and also a few crescents. The intracorpuseular parasites (Fig. 3) were very small, rather dimly outlined, actively ameboid at times, and often corpuscles were seen containing two parasites. The infected corpuscles were smaller than normal, dark green in color, and often crenated. No pigmented forms were observed.

The crescents (Fig. 4) were remarkable because of their plump appearance and small size. They contained perfectly motionless, almost black pigment, in the form of short rods; their protoplasm had a peculiar refractive, ground-glass appearance, and in every instance a darker colored, greenish double outline was to be seen surrounding them. They were easily seen to be dissimilar from the more common tertian estivo-autumnal crescents.

Treatment: Quinin, in .40 doses, given every four hours, caused a disappearance of the fever in two days.

In this case the temperature chart is not as typical as in the other cases cited and is therefore more interesting. During the first two days of illness the temperature showed hardly any remission, but after that the

Physical Examination: Patient somewhat emaciated and very anemic. Skin bronzed and rather moist. Tongue flabby and coated. Spleen enlarged. Heart and lungs normal. Abdomen rather tender. Pulse full and rapid.

Examination of Blood: The blood contained large numbers of ring forms of the quotidian estivo-autumnal parasite and a few crescents. In several examinations only two pigmented parasites were seen.

The intracorpuseular rings were similar in appearance to those already described, being minute in size, rather dim in outline and always perfectly round. The pigmented forms (Fig. 5) were circular in shape, more sharply outlined than the "rings," and the pigment consisted of one black dot situated in the center of the parasite. The pigment was perfectly motionless, and the parasites were not ameboid. The infected corpuscles were very dark green in color. The crescents observed were small and very plump, and showed a double outline. An intracorpuseular crescent was observed during one examination.

Treatment: Quinin, .40 every four hours reduced the temperature to normal very promptly.

The temperature curve in this case is remarkable for its regularity, and because of its resemblance to the

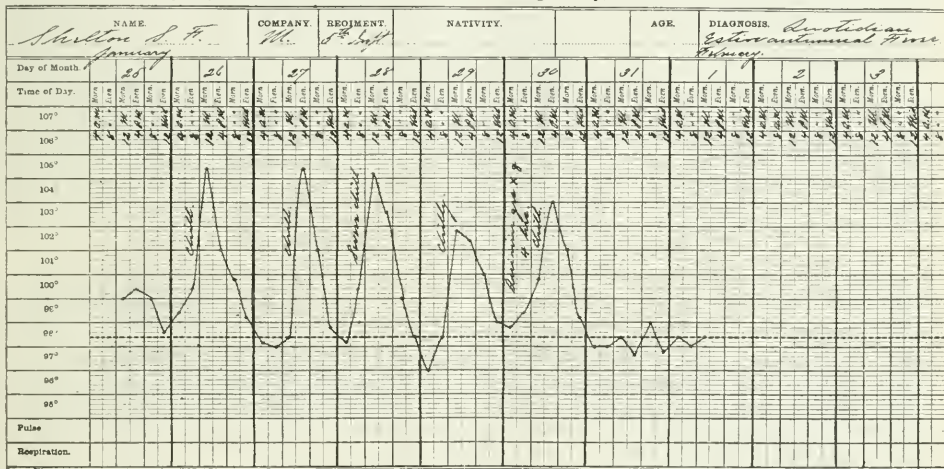


CHART No. 2.—Chart of quotidian estivo-autumnal fever.

remissions occurred as usual. It is difficult to explain this by any other hypothesis than a double infection, two groups of parasites reaching maturity within a few hours of each other. This explanation is further strengthened by the fact that on the 29th two paroxysms occurred, but this time the last paroxysm occurred after the remission of the first. As a whole, however, the chart is a fairly typical one of quotidian estivo-autumnal fever. It will be seen that the patient had no distinct chills, but chilly sensations.

CASE 4.—Robert S. Patient was 40 years old and had been in the service for 13 years; had always been well. Had had a slight cough at times during the past two years, but physical signs were negative. The sputum showed no tubercle bacilli. Was taken sick in Tampa, Fla., in 1898. Had chills daily for three or four days. Recovered from this attack and went with his regiment to Santiago, January, 1899, having several attacks of malarial fever and being unfit for duty about six weeks in all. Arrived at the hospital January 23, 1899. While here had a quotidian temperature and chilly sensations, with rarely a distinct chill. Suffered from headache, loss of appetite, pain in back and limbs, and slight nausea. Had no distinct sweats.

temperature curve seen in pulmonary tuberculosis. This resemblance, together with acute bronchitis present, caused the case to be considered as one of phthisis until the microscope cleared up the diagnosis, and quinin wrought a cure. The quotidian paroxysms, it will be noted, occurred with great regularity, and the temperature went below normal after each paroxysm. Without a blood examination it would be impossible, from the chart, to differentiate the two diseases, and it is in such cases as these that the value of a microscopic examination is shown. No distinct chills were noted at any time, the patient complaining only of chilly sensations.

CASE 5.—Charles S. The patient went with his regiment to Santiago in August, 1898. Was there about three weeks when he was taken suddenly ill with fainting spells, as he expressed it. Was taken to the hospital and suffered from severe headache, slight chills and nausea and night sweats. Was in the hospital about two weeks. He then returned to duty, but had several relapses, the last one occurring about five weeks before arrival at this hospital on December 11, 1898. Since being at this hospital he has had two attacks, attended with chilly sensations, nausea, severe headache.

Physical Examination: Patient somewhat emaciated and

very anemic. Skin yellow, tongue flabby and coated. Heart and lungs normal. Spleen not appreciably enlarged. Liver enlarged. Abdomen distended, but not tender. Bowels constipated.

Examination of Blood: The blood contained a few typical ring forms of the quotidian estivo-autumnal parasite, the "rings" being small, circular in shape, dimly outlined, actively ameboid at times, and unpigmented. Pigmented forms (Fig. 6) were also numerous. These were more sharply defined than

curring regularly, and the chart resembling that of a double tertian infection.

From the study of a large number of cases of this type of malaria, of which the five cases given are fair examples, the conclusion is inevitable that there occurs a type of malarial fever, due to an estivo-autumnal parasite, and characterized by quotidian paroxysms. These paroxysms are due to the ripening of a single genera-

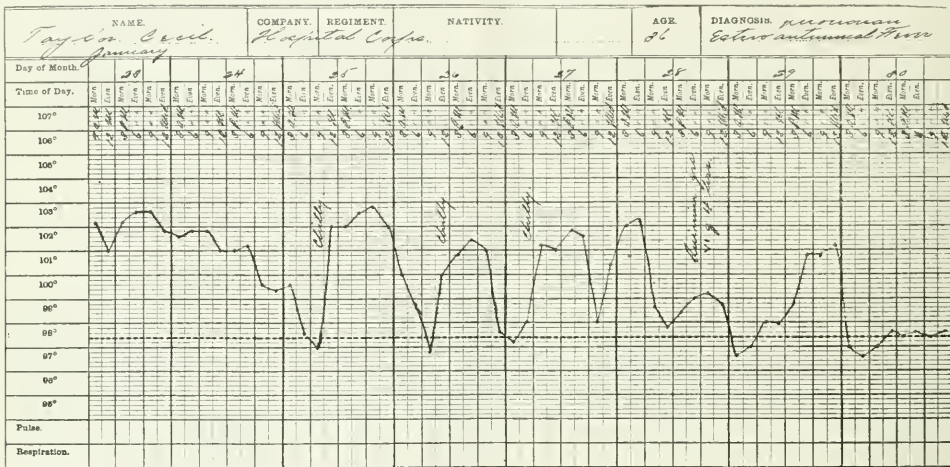


CHART No. 3.—Chart of quotidian estivo-autumnal fever.

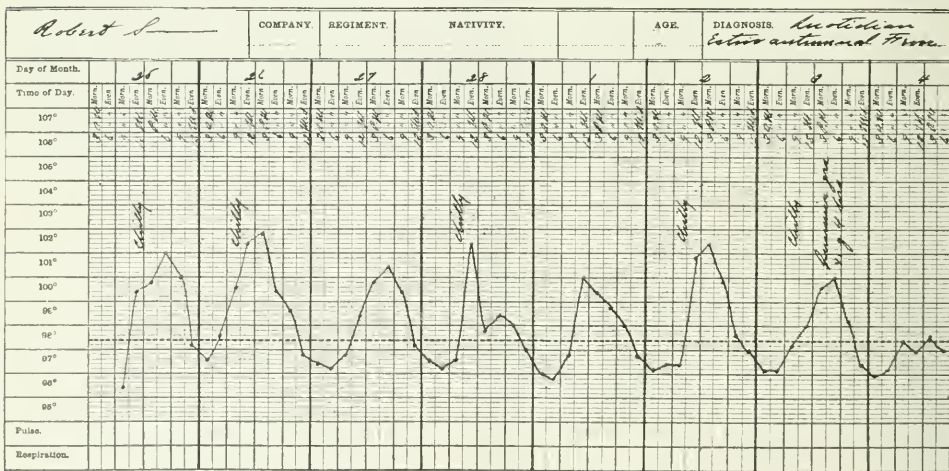


CHART No. 4.—Chart of quotidian estivo-autumnal fever.

the "ring forms," were less than one-fourth the size of the infected corpuscle, and the pigment occurred as a single dot, situated at the center or at one side of the parasite. The pigment was perfectly motionless and almost black in color. No ameboid motion was noted in the pigmented forms. The infected corpuscles were always shrunken and enreathed.

Treatment: Quinin in 40 doses every four hours reduced the temperature to normal in two days.

The temperature chart in this case is that of a typical quotidian estivo-autumnal infection, the paroxysms oc-

tion of a peculiar and characteristic form of the estivo-autumnal parasite, which completes its cycle of development in the blood in approximately twenty-four hours.

In blood secured by puncture of the spleen all stages of the development of this organism can be studied, and each stage differs markedly from the estivo-autumnal parasite causing paroxysms every forty-eight hours. The points to be noted in the differentiation of the quotidian estivo-autumnal parasite are the following:

1. During its hyaline stage, its minute size, about 1/6 of corpuscle, its perfectly circular ring shape, its very active amoeboid motion, which occurs at intervals and is so rapid that it must be carefully watched for; its indistinct outline; the very dark-green color of the infected corpuscle and its wrinkled or crenated appearance, and the fact that often more than one parasite occurs in a corpuscle.

4. Crescents are small and plump, contain small amount of pigment and always show double outline.

5. The cycle of development, lasting twenty-four hours.

There is no difficulty in securing typical temperature charts of this form of malarial fever if quinin be withheld, but if it be given in small doses, or at long or unsuitable intervals, the regularity of the temperature

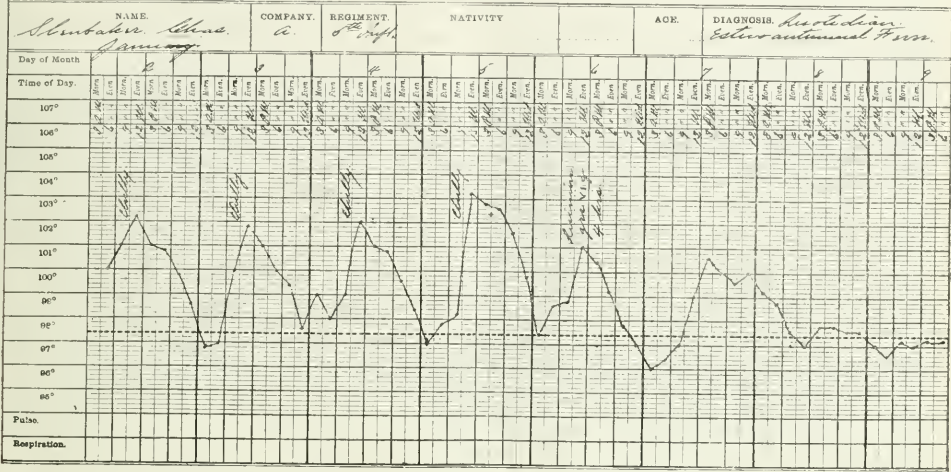


CHART No. 5.—Chart of quotidian estivo-autumnal fever.

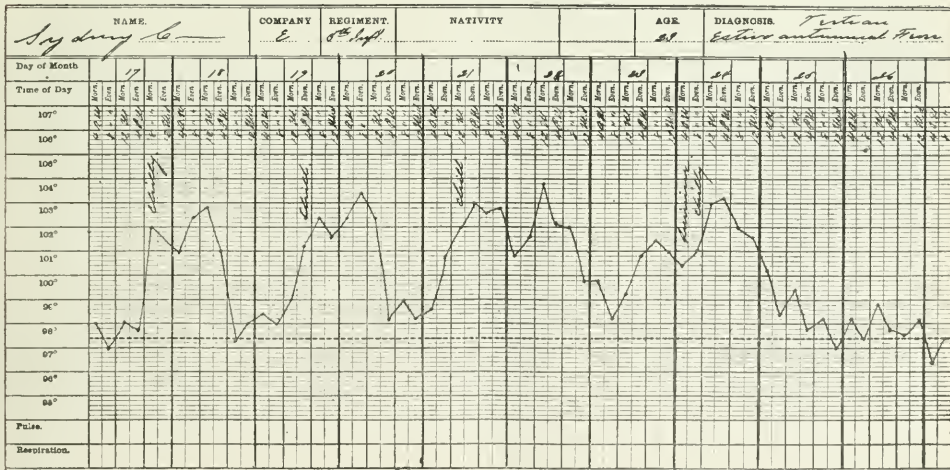


CHART No. 6.—Chart of tertian estivo-autumnal fever.

2. During its pigmented stage, its small size, about 1/4 of corpuscle; its circular shape and loss of "ring form" before pigmentation; its more sharply defined outline; its pigment, consisting of one or two coarse granules, perfectly motionless; its multiple occurrence in corpuscles and their very dark-green crenated appearance.

3. Segmentation takes place within the corpuscles, and the number of segments is six or eight.

curve is lost and it becomes impossible to tell with what form of malaria we are dealing, from a consideration of the chart. To this is undoubtedly due the fact that this form of malaria has not been more generally recognized.

Cases of Tertian Estivo-autumnal Fever.—In the contribution before referred to I have called attention to the fact that the majority of cases of estivo-autumnal fever present paroxysms occurring every forty-eight hours approximately. These tertian paroxysms are peculiar,

in that while they occur every other day, each paroxysm is prolonged so that it lasts considerably over twenty-four hours, and often almost forty-eight hours. This type of malarial fever is further characterized by a peculiar temperature curve, which was first described by Marchiafava and Bignami. The analysis of the temperature curve in these cases shows the following characteristics: A rapid and sudden rise, a stage with

or, again, by both the quotidian and tertian estivo-autumnal parasites, this peculiar temperature curve will not be exhibited, nor will it be in cases which have received small doses of quinin or quinin at long intervals.

In order, then, to secure a typical temperature chart of the tertian estivo-autumnal fever, we must have a patient infected by a single group of parasites and must withhold all quinin for several days. It is safe to say

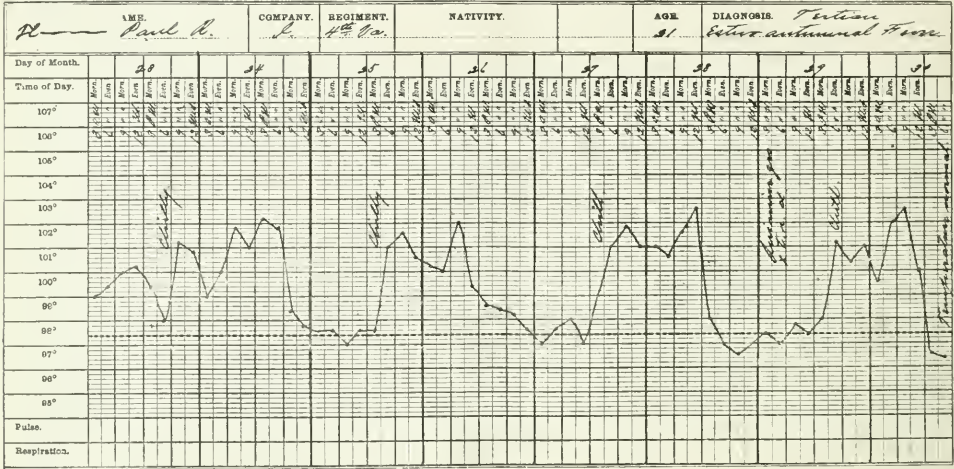


CHART No. 7.—Chart of tertian estivo-autumnal fever.

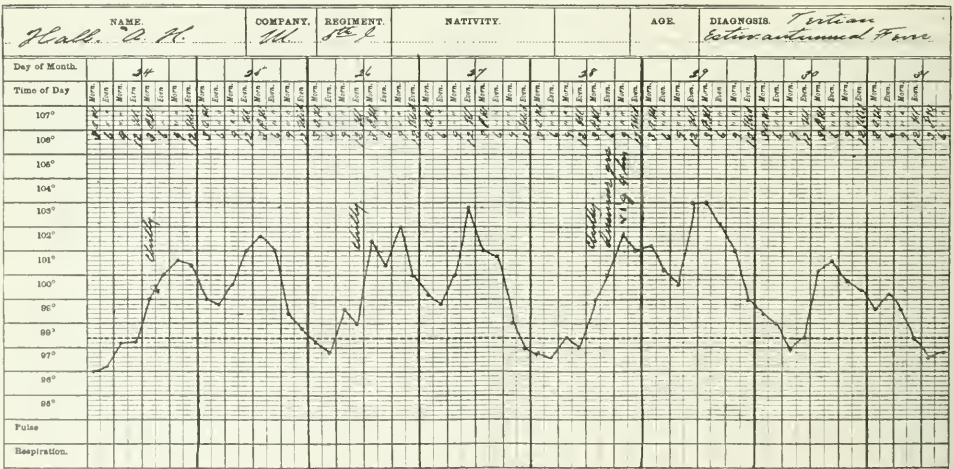


CHART No. 8.—Chart of tertian estivo-autumnal fever.

slight remissions, a pseudo-crisis, a precritical rise, during which the temperature reaches a higher point than it had previously, and lastly, the true crisis, in which the temperature rapidly falls.

This peculiar temperature curve is presented in all uncomplicated cases of tertian estivo-autumnal fever, where quinin has not been administered. In cases which are infected by two groups of the parasites, ripening at different periods, or by the tertian or quartan parasites,

that all the confusion existing today regarding the types of estivo-autumnal fever is due to one of two factors, infection by more than one variety of malarial parasites, or the improper and untimely administration of quinin. The first factor can only be eliminated by the use of the microscope in diagnosis, and the second, only by an earnest scientific spirit on the part of the physician, so strong that he will be willing to withhold quinin long enough to secure a proper knowledge of the character of the

case which he is called on to treat. Medicine, to-day, has reached a stage where the so-called diagnostic terms of "remittent" and "intermittent" malarial fevers are of little exact meaning, and earnest effort should be made to substitute for them, in medical nomenclature, the more scientific terms, tertian, quartan, and quotidian and tertian estivo-autumnal malarial fevers.

The following cases are selected from a large number because they are typical of the tertian estivo-autumnal fevers and because they presented all forms of the tertian estivo-autumnal parasite, for this form of malarial fever is dependent on a characteristic parasite, possessing well-recognized differences from the parasite causing the quotidian form of the fever, and which is easily differentiated by the microscope, when one has become accustomed to appearances presented by it in the blood.

From the following cases, in which I have especially considered the character of the temperature curve and the parasites present, I hope to prove conclusively the occurrence and distinct character of the tertian form of estivo-autumnal fever.

some portion of their periphery, thus causing the so-called "signet ring" appearance. They were very refractive and sharply outlined, looking as though they were cut or stamped into the corpuscle; the protoplasm was clear and the ameboid movements were sluggish. The "ring" form was sometimes lost, a clear circular hyaline disc resulting. No corpuscles were observed to be infected by more than one parasite, and the corpuscle itself, although more greenish in color than the uninfected ones, was very much less altered in appearance than in the quotidian infection, and but seldom created. (Fig. 7.)

The pigmented rings and pigmented bodies were present in small numbers. The pigmented rings showed a few fine pigment granules, generally in the dilated portion of the ring, and these granules were often in rapid motion. These pigmented rings still showed ameboid motion, sometimes very noticeable.

The pigmented rings and pigmented bodies were present in small numbers. The pigmented rings showed a few fine pigment granules, generally in the dilated portion of the ring, and these granules were often in rapid motion. These pigmented rings still showed ameboid motion, sometimes very noticeable.

The pigmented parasites were larger than the rings, being

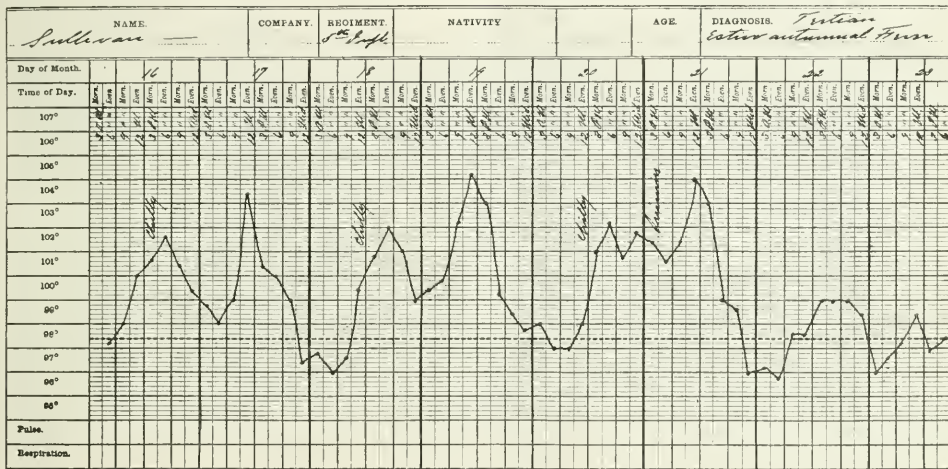


CHART No. 9.—Chart of tertian estivo-autumnal fever.

CASE 1, Chart 6—Sydney C., aged 23. The patient arrived at Santiago, Cuba, in August, 1898. On September 20 he was taken sick with a chill, which was followed by a high temperature. He had chills every other day for several days, and suffered from nausea and vomiting, severe headache and leg ache, and drenching perspiration. He had several attacks during the next two months and was finally sent to the Simpson Hospital, where he arrived on December 11. On December 17 he had a rise of temperature accompanied by chilly feelings. This paroxysm was succeeded by three others, all accompanied by severe headache and backache, nausea and great nervous prostration.

Physical Examination: Patient somewhat emaciated, skin yellowish, mucous membranes pale, cheeks flushed, eyes bright, tongue broad and coated. Heart and lungs normal. Abdomen rather tender. Bowels constipated. Marked mental depression and general debility.

Examination of the Blood: The blood was examined at frequent intervals and numerous ring forms, pigmented rings, and larger pigmented forms of the tertian estivo-autumnal parasite were found. No segmenting forms were observed. The "ring forms" were larger than those of the quotidian parasites, being about one-fourth the size of the infected corpuscle, irregular in shape, most of them presenting an enlargement at

nearly one-half as large as the infected corpuscle; they were very sharply defined, the protoplasm being very refractive and finely granular in appearance. The pigment was in the form of fine reddish brown granules, and had a marked vibratory motion. The ameboid motion of these parasites was very sluggish, and in some, had entirely disappeared. (Fig. 8.)

Treatment: Quinin, .40 every four hours reduced the temperature in two days and its continued use resulted in recovery.

A consideration of the temperature chart in this case shows a beautiful illustration of the peculiar temperature curve in this type of malarial fever. Quinin was withheld until the occurrence of the fourth paroxysm. It will be seen that the paroxysms occurred at intervals of forty-eight hours approximately and that the paroxysms lasted from thirty-six to forty-eight hours. It also shows well the several characteristics of the curve, noted before. Taking the paroxysm of the 21st for example, we see beautifully illustrated the rise, the period of slight remission, the pseudo-crisis, the precritical rise, in which the temperature reached the highest point, and lastly, the crisis, in which the temperature

gradually returned to normal. The intervals between the paroxysms were short, as shown by the chart. It will also be noted that two of the paroxysms were accompanied only by chilly feelings, while two commenced with distinct chills. As a general rule, the temperature goes to normal or below during the intervals, but in this case it did not.

CASE 2, Chart 7.—Paul R., aged 21. Patient arrived in Cuba on December 17, 1898. Was taken sick March 13, 1899, with severe pain in head, chill, high fever and nausea and vomiting. Was supposed to be suffering from typhoid fever, but felt better after a week in the Hospital and was up and about. On April 6, the day before he boarded steamer, on his way to Fort Monroe, the fever returned, accompanied by the same symptoms. Arrived at the Simpson Hospital on April 12. Since arrival he has had four chills, occurring every other day, but not very severe, accompanied by nausea, vomiting, headache, high temperature and pain in the back and legs.

Physical Examination: Patient looked very ill. Greatly emaciated, skin yellow, cheeks flushed, eyes bright, tongue broad and coated with yellowish fur. Heart and lungs normal. Pulse rather weak. Spleen slightly enlarged. Liver normal. Abdomen rather tender. Bowels constipated.

1899. Has had several paroxysms of fever, accompanied by chilly feelings, but no distinct chill, severe headache and backache, some nausea, and general muscular pain.

Physical Condition: The patient showed but little emaciation and appeared physically well. There was some anemia, the tongue was coated, the bowels constipated. Heart, lungs and liver apparently normal. The spleen was enlarged, reaching half way to the umbilicus. There was much mental depression present.

Examination of the Blood: The blood was examined frequently and numerous pigmented and unpigmented tertian estivo-autumnal parasites were found, most numerous just before or some time after a paroxysm. (Fig. 10.)

Treatment: Quinin, .40 every four hours. Recovery.

In this case the temperature chart is again typical of the tertian estivo-autumnal infection, and would easily be recognized on simple inspection. The occurrence of the paroxysms on every third day, the length of the individual paroxysm, the peculiar curve exhibited, all prove conclusively the type of malarial disease present, even without the aid afforded by the microscope in detecting the characteristic parasite.

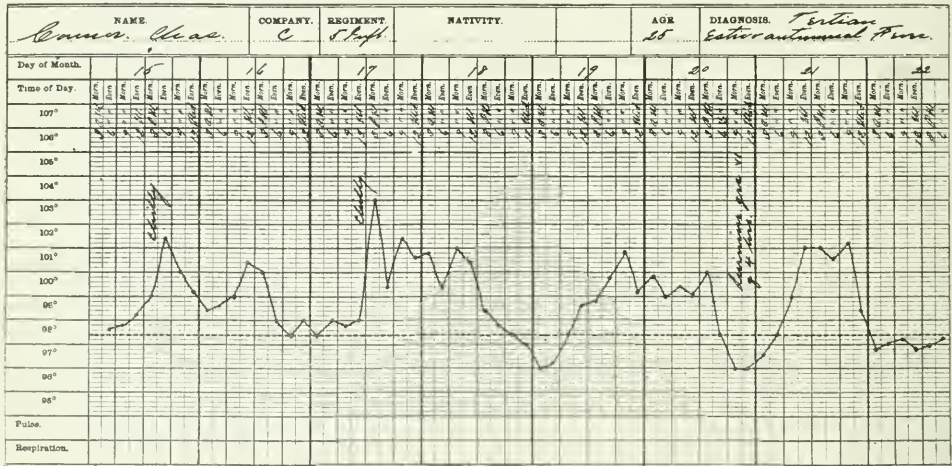


CHART No. 10.—Chart of tertian estivo-autumnal fever.

Examination of the Blood: The blood was examined at frequent intervals and always showed numerous ring forms and pigmented rings of the tertian estivo-autumnal parasites, similar in every respect to those described in Case 1. No segmenting forms or crescents were found in the peripheral circulation. The parasites were most numerous just before the paroxysms. (Fig. 9.)

Treatment: Quinin .50 every six hours. Recovery.

The temperature chart in this case is a typical one of the tertian estivo-autumnal fever. It will be seen that there were four paroxysms in all, and that each of them showed the characteristic temperature curve, although the paroxysm of the 23d is slightly atypical, in that after the pseudo-crisis, there occurred a slight remission before the final rise and the crisis. That of the 27th is very typical. In no other malarial disease will a temperature chart like this be seen, and it is actually diagnostic of the type of infection present.

CASE 3, Chart 8.—Hall, A. H. The patient, while in Santiago suffered from malarial fever, having chills nearly every other day, accompanied by high fever, severe headache, backache and nausea. Arrived at Fort Monroe on January 23,

CASE 4, Chart 9.—Sullivan. The patient arrived at Santiago in August, 1898. Was there about two weeks when he was taken suddenly ill, having a chill, high fever, nausea and vomiting and great mental depression. Chills recurred every third day, and were always accompanied by intense headache and fever. Arrived at Simpson Hospital on Dec. 11, 1899, and on the 16th had chilly sensations and a rise of temperature. He had two paroxysms after this, accompanied by fever, intense headache, nausea, general muscular pain and mental depression.

Physical Examination: Patient appears well, save for some anemia and listlessness. Skin is slightly yellow, tongue slightly coated. Heart, lungs and liver apparently normal. Spleen not appreciably enlarged. Bowels constipated. Pulse full and regular.

Examination of Blood: Numerous examinations of the blood were made and pigmented and unpigmented ring forms of the tertian estivo-autumnal parasites were found as well as large pigmented forms. Several segmenting forms were observed.

The pigmented and unpigmented ring forms have already been described under Case 1. The large pigmented parasites were about half as large as the infected corpuscle, and contained numerous fine granules of the pigment, generally col-

lected near the center of the organism. The parasites were very sharply cut and refractive. In some of the pigmented forms the pigment was collected in a solid block at the center, and faint radial striations could be made out dividing the organisms into several segments.

The segmenting forms observed were extracorpuseular and consisted of blocks of pigment with ten or more oval segments arranged around them. (Fig. 11.)

Treatment: Quinin, 40 every four hours. Recovery.

The temperature chart in this case is interesting in that each of the three paroxysms presents a modification of the typical tertian estivo-autumnal curve. In the

3. Pigmented intracorpuseular quotidian estivo-autumnal parasite.
4. Ring form of the quotidian estivo-autumnal parasite.
- 5, 6. Segmenting forms of the quotidian estivo-autumnal parasite.

Fig. III—

1. Normal red blood-corpuseule.
2. Hyaline form of the quotidian estivo-autumnal parasite.
- 3, 4, 5, 6. Ring forms of the quotidian estivo-autumnal parasite. Note the corpuseules infected with two and four parasites, and the peculiar double parasite in 4.

Fig. IV—

1. Normal blood-corpuseule.
- 2, 3, 4, 5, 6. Various crescentic quotidian estivo-autumnal parasites. Note small plump appearance of the crescents and the very distinct double outline.

Fig. V—

1. Normal blood-corpuseule.
- 2, 5. Pigmented forms of the quotidian estivo-autumnal parasites.
- 3, 4. Quotidian estivo-autumnal crescents.
6. Intracorpuseular crescent.

FIGS. VII TO XII, THE TERTIAN ESTIVO-AUTUMNAL PARASITES.

Fig. VII—

1. Normal red blood-corpuseule.
- 2, 3, 4, 5, 6. Ring forms of the tertian estivo-autumnal parasite. Note the clear-cut outline and the signet-ring shape of some of the parasites.

Fig. VIII—

1. Normal red blood-corpuseule.
- 2, 3. Pigmented ring forms of the tertian estivo-autumnal parasite.
- 4, 5, 6. Pigmented forms of the tertian estivo-autumnal parasite. Note the larger size, the numerous fine granules and the less wrinkled appearance of the corpuseules.

Fig. IX—

1. Normal red blood-corpuseule.
- 2, 3. Ring forms of the tertian estivo-autumnal parasite.
- 4, 5. Pigmented ring form of the tertian estivo-autumnal parasite.
6. Pigmented form of the tertian estivo-autumnal parasite. Pigment collected in the center.

Fig. X—

1. Normal red blood-corpuseule.
- 2, 3. Ring forms of the tertian estivo-autumnal parasite.
- 4, 5, 6. Pigmented forms of the tertian estivo-autumnal parasite.

Fig. XI—

1. Normal red blood-corpuseule.
- 2, 4. Pigmented form of the tertian estivo-autumnal parasite. The pigment collected in the center.
3. Presegmenting tertian estivo-autumnal parasite.
- 5, 6. Segmenting forms of the tertian estivo-autumnal parasite. Note that the segmentation takes place outside of the corpuseule and that the segments are more numerous than in the quotidian parasites.

Fig. XII—

1. Normal red blood-corpuseule.
- 2, 3, 4, 5, 6. Various forms of tertian estivo-autumnal crescents. Note the larger size of the crescents and their more narrow shape, greater pigmentation and less of double outline.

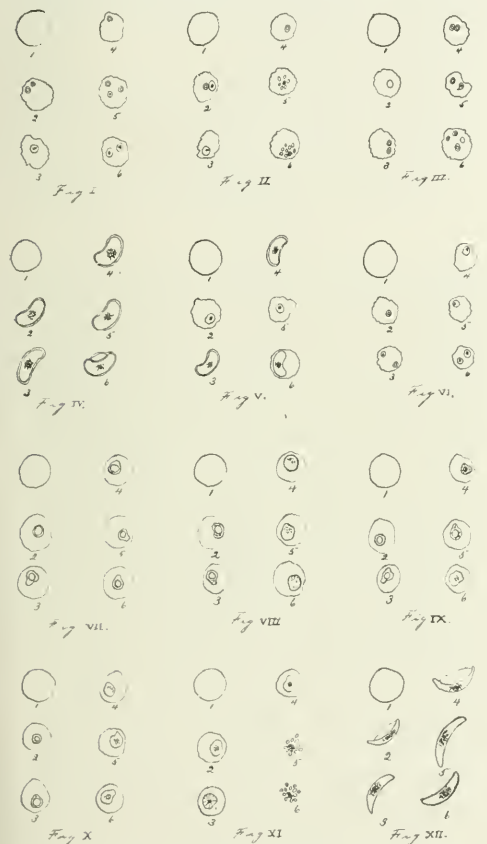
first paroxysm we find no stage of slight remission, there being a rapid initial rise and almost immediately a pseudo-crisis, in which the temperature reached normal. This was immediately succeeded by the precritical rise and followed by the crisis.

In the second paroxysm there is also no stage of slight remissions, but the pseudo-crisis is more normal and the precritical rise more gradual.

The third paroxysm is marked by a well-defined stage of slight remissions, but the pseudo-crisis is almost absent.

Such slight modifications as these are very common in certain estivo-autumnal cases, but they do not in the least affect the general character of the temperature curve, nor cause a moment's doubt as to the nature of a case showing such a temperature curve as is here presented. Such temperature curves are uniquely characteristic and are associated only with the tertian estivo-autumnal infections.

CASE 5, Chart 10.—Charles Connor, aged 25, arrived at Santiago, Cuba, in August, 1895. Was there about one month when he had a sharp chill followed by high temperature. Chill oc-



EXPLANATION OF PLATE.

Under each figure the cuts should be read from above downward. The drawings are more or less diagrammatic, but serve to show the chief points in the differentiation of the quotidian and tertian estivo-autumnal parasites.

FIGS. I TO VI, THE QUOTIDIAN ESTIVO-AUTUMNAL PARASITE.

- Fig. I—
1. Normal red blood-corpuseule.
2. Two ring forms of the quotidian estivo-autumnal parasite. Note small size and crenated and shrunken corpuseules.
3. Pigmented form of the quotidian estivo-autumnal parasite. Note small size and round dots of pigment.
4. Ring form of quotidian estivo-autumnal parasite.
5. Corpuseule infected by three quotidian estivo-autumnal parasites, two ring forms and one pigmented form.
6. Corpuseule infected by two pigmented forms of the quotidian estivo-autumnal parasite.

- Fig. II—
1. Normal blood-corpuseule.
2. Corpuseule infected by one ring form and one pigmented form of the quotidian estivo-autumnal parasite.

occurred for a while on every third day, but later became irregular. They were always followed by a high temperature. He was admitted to the hospital there five different times, each apparent recovery from the fever being followed by a relapse as soon as he returned to duty. During the paroxysms he suffered from very severe headache, muscular pain, nausea and vomiting. He arrived at the Simpson Hospital on Dec. 11, 1898. Had chilly sensations and headache on the 15th, followed by a rise of temperature. Had three slight paroxysms afterward, accompanied by slight chilly sensations.

Physical Examination: Patient emaciated and anemic; skin yellow, tongue flabby and coated. Heart and lungs normal. Spleen greatly enlarged, reaching nearly to the umbilicus. Liver dullness normal. Bowels constipated. Abdomen tender.

Examination of the Blood: The blood in this case showed numerous pigmented ring forms of the tertian estivo-autumnal parasite and also numerous crescents. The ring forms have already been described under Case 1.

The crescents were very much more slender and larger than those of the quotidian estivo-autumnal parasites, and contained much more pigment of a more reddish color. The double outline was much less common but the quotidian crescents were more refractive.

In this case the temperature chart is not as typical as the preceding ones, but it is typical of the more chronic form of the tertian estivo-autumnal infection. The paroxysms occur every forty-eight hours approximately, but it will be noted that the range of temperature is not as high and that there seems to be a tendency toward a spontaneous decline of the infection. The chart is curious in that there seems to be a reversal of the ordinary temperature curve, the highest temperature being reached during the initial rise, but even in this chart the temperature curve is on the whole so characteristic that a diagnosis of tertian estivo-autumnal fever could easily be made from an inspection of it.

From the cases of quotidian and tertian estivo-autumnal malarial fever considered it will be seen that no differentiation is possible from a consideration of the clinical symptoms save that in the first named the chill or chilly sensations occur every day, while in the latter they occur every other day. A consideration of the temperature charts, however, shows such a marked difference in the temperature curve that we must admit that we are dealing with two distinct types of infection. The quotidian estivo-autumnal type shows a simple intermittent temperature curve, indistinguishable from a double tertian, while the tertian estivo-autumnal type presents a most peculiar and characteristic temperature curve, entirely different from that shown in any other type of malarial fever, and diagnostic in itself. When to this is added the fact that the tertian form is due to a distinct and easily differentiated parasite, as I have shown, the conclusion is inevitable that there are two varieties of estivo-autumnal fever, the quotidian and tertian, and that each is due to a characteristic parasite, as first shown by Marchiafava and Bignami.

The tertian estivo-autumnal parasite differs from the quotidian parasite in the following particulars:

1. During the hyaline stage: the rings are larger, being from $\frac{1}{8}$ to $\frac{1}{4}$ the size of the infected corpuscle; the signet-ring shape: the sluggish amoeboid motion; the clear-cut and refractive outline; the less wrinkled and lighter green infected corpuscle; the occurrence of only one parasite in the infected corpuscle.

2. During the pigmented stage: larger size, $\frac{1}{2}$ of corpuscle; the pigmented ring forms; the continuance of amoeboid motion; more sharply defined and refractive, and the granular protoplasm; the finely granular pigment, which is motile; the occurrence of only one

parasite in a corpuscle and the lighter colored, seldom crenated infected corpuscle.

3. During the segmenting stage: the occurrence of segmentation outside the corpuscle; the number of segments, ten to fifteen.

4. The larger, more narrow, more deeply pigmented crescents seldom showing a double outline.

5. The cycle of development, forty-eight hours.

In conclusion I desire to express my gratitude to the Surgeon-General of the Army for the opportunities offered me for the study of this subject, and to Col. A. A. Woodhull, Col. A. C. Girard, and Major Charles Richard for their interest in, and encouragement of, the scientific study of disease.

CLINICAL OBSERVATION IN MALARIA AS SEEN IN THE MISSISSIPPI DELTA.*

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A distinguished diplomat, scholar and statesman has said: "It is too much the habit of men who have more education than experience, more culture than perception, to desire to mold the policy of the future by avoidance of all cases of trouble in the past." This logic can be well applied to-day in medical research. I come before you not to present anything specially new, but to call your attention briefly to some of the clinical features of malaria as seen in the Mississippi Delta. I shall not attempt a dissertation on the life history of the parasites outside the body, nor to theorize on the relationship which exists between malaria and the much talked-of mosquito. We have been taught much about acute malaria. The biology of the parasites causative of the various forms of malarial fevers has been heralded to us from all quarters of the globe, by men in and out of the malarial districts. With the advent of better laboratory facilities, with higher magnifying lenses, the malarial parasites have been exhaustively studied, while their clinical features have in a great measure been neglected and relegated to an obscure consideration, unfortunately. Malaria in the Mississippi swamps often means chronicity, frequently chronicity without there first having existed acute paroxysms. How often do the Delta physicians see a clinical picture something like this. The patient has neither chill, appetite, nor energy; feels wretched; head and limbs ache; has constant thirst; is constipated; urine is highly colored, scant, and often colored with bile; tongue is thick, flabby and heavily coated; skin is pale and muddy, almost cadaveric; eyes are jaundiced. Physical examination shows liver and spleen to be enormously enlarged. Often the patient will say that he has a "spleen in his side." Pulse is rapid with but little tension. Often on auscultation an anemic murmur will be noticed; temperature is normal. The blood shows anemia, also parasites in various stages of development, especially the estivo-autumnal.

The question naturally arises. Why do all these chronic manifestations occur without there first having existed acute paroxysms? The theory of phagocytosis in all probability explains this relative immunity. The corpuscles being able to cope with this gradual infection, so to speak, the parasites can develop and sporulate without giving rise to paroxysms. I have watched this

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class of patients carefully. Upon sending them to a higher climate, to a climate free from malarial influences, they will in the majority of instances develop paroxysms in a period varying from forty-eight hours to a week.

Why the malaria in this class of patients does not give rise to a paroxysm while in a malarial climate but develops soon after changing to a non-malarial climate remains to be more thoroughly investigated. It is this class of patients who very often become victims of malarial hemoglobinuria.

Of late years authorities have been contending over pneumonia, and the course it pursues when malaria is also present. Pneumonia in the Delta or in any highly malarial climate is necessarily more fatal than elsewhere. Pneumonia in the Mississippi Valley runs an irregular course; the crisis is nearly always delayed; the fever is of an irregular type and not the type of a classical text-book pneumonia. Nausea and vomiting are always well-marked symptoms. I have seen malarial paroxysms occur during an attack of pneumonia. A double infection does very often truly exist.

OBESITY.

I have searched the literature carefully but have failed to find anything pertaining to obesity occurring in malarial climates. It is a morbid condition which attracted my attention when I first began to practice in the swamps of Mississippi. It occurs among persons coming from a climate free from malaria to the Delta. During a short residence in the Delta this class take on flesh rapidly; they seem to be immune to malarial infection. They do not have chills, they proclaim the Delta as a health resort on account of their growing fat. They have no chronic manifestations of malaria. It is this class of patients who become victims of furunculosis during the winter months. These are nearly always blondes. I have long since observed that brunettes are more susceptible to malaria than blondes. In all probability the hemoglobin of the brunette is capable of absorbing more poison than that of the blonde. What the pathology of this obesity is remains to be decided. Is it a fatty infiltration, the result of malarial poison, or is it due to stasis in a lymphatic system? It matters not what the pathology may be, the obesity subsides rapidly by changing from a malarial to a non-malarial climate.

PERNICIOUS MALARIA.

Of the three varieties mentioned in our text-books, the comatose type is most common. Patients are often attacked when there had been no paroxysms or even an initial chill. Temperature generally runs high; it may be subnormal. Prognosis depends on the patient's previous history. If there have been repeated attacks of chills, the prognosis is generally fatal, the system having become so thoroughly surcharged with quinin that the eliminative treatment fails to accomplish anything. On the other hand, we can often effect a cure if the patient's previous health has been good. It is astonishing to note how quickly recovery can sometimes take place by the judicious administration of quinin.

Two-thirds of the population of that portion of the State of Mississippi bordering on the Mississippi River are negroes. The negro constitutes one of the best subjects in which to study the natural course of disease without medication. A large experience in treating the negro has thoroughly convinced me that he is in a great measure immune to malarial infection. He does not suffer from chronic malaria. Acute paroxysms, when they do occur, are easily cut short by small doses of

quinin. I have on numerous occasions seen paroxysms run their course, terminating in spontaneous recovery without any medication. The negro's love for watermelons has been the theme for poets. It is not an uncommon thing for them to have a chill in the early morning hours, pass through the hot and sweating stage by noon, then repair to the patch to partake of a sumptuous feast of hot watermelons which have lain in the sun during the whole day, the repast producing no deleterious effects. Acute nephritis, however, in the negro is quite a common sequel of acute malarial infection. A large clinical experience in conducting an outdoor clinic composed almost entirely of negroes justifies me in making the statement that the negro's kidneys are as vulnerable an organ as his lungs. The negro does not have hemoglobinuria. I have never seen it in the genuine negro; but have in the mulatto. Acute nephritis and glandular fever are common sequelæ of malaria in white children.

HEMOGLOBINURIA.

The much-discussed, one might say the much-abused, subject of hemoglobinuria has come to be fairly well understood by the majority of the Delta physicians. By careful clinical study, by a large bedside experience, assisted by competent pathologists and microscopists, we have learned that it is the product, the sum total of neglected malaria—a malarial toxemia. In the majority of cases a history of prolonged paroxysms can be obtained. One striking feature of this condition is that it occurs most frequently in its most severe forms with the advent of cold weather. It is more fatal than when occurring during the summer months. Where it develops in the summer months as a result of previous paroxysms of short duration it runs a much milder course and is more amenable to treatment. Why hemoglobinuria should occur more frequently after the first frost, and why it should prove more fatal then, are questions which demand much consideration. There are just reasons to believe that the parasites remain dormant in the liver, spleen and bone-marrow, a latent malaria. These organs, reacting to the stimulus of a bracing atmosphere become invigorated, sweep the parasites into the peripheral circulation, and take on new life as a consequence of a better circulation. These latent parasites are aroused to activity, toxins are rapidly formed, spending their force on the blood cells, thus producing profound destruction of the corpuscles. The whole system becomes so overwhelmed that it can not react, death ending the scene. Jaundice in this class of patients rapidly becomes profound within a few hours after the chill and after the characteristic discharge has taken place from the kidneys. This jaundice is so pronounced and striking that the late Dr. Warren Stone, of New Orleans, denominated hemoglobinuria as pseudo-yellow fever. We who have seen both diseases have learned that they have many symptoms in common. Pigmentation, both hematogenous and hepatogenous, or ecchymoses on various portions of the body, especially the face, called by the laity "liver spots," are frequently forerunners and forewarners of an approaching attack of hemoglobinuria.

The Delta physicians as well as the laity have learned by experience that the administration of quinin with these conditions present is fraught with danger, frequently precipitating an attack, whereas, if the eliminative course of treatment is pursued, disengorging the liver, kidneys and gastrointestinal tract, followed by a tonic of arsenic, nux vomica and iron, the attack can be prevented. Nausea and vomiting, a tendency to sup-

pression of the urine and paresis of the bowels, are symptoms which confront the physician and annoy him in treating hemoglobinuria. In those cases in which suppression occurs it appears early in the attack. The nausea and vomiting together with suppression, the patient being either in a comatose or a semicomatose condition, present to the physician a clinical picture of uremia. Whether uremia is due to edema of the brain, as advocated by Traube, or whether it is the result of retained toxin, it matters not. We know that where suppression occurs in hemoglobinuria the patient in nearly every instance succumbs, it matters not how heroic nor how various our therapeutic measures have been. If we accept the physiological teaching that the liver creates urea and that it is eliminated by the kidneys, there is just reason to suppose that this urea-producing function of the liver, by reason of its being congested and engorged, is interfered with; the kidneys are called on not only to eliminate the malarial toxin but also the toxins of imperfect liver functions; hence the suppression, hence the coma. Anuria of several days' duration is not an uncommon occurrence in hemoglobinuria. I have recorded one patient who lived nine days. When I saw him he had had several discharges from the kidneys. He had been living in the swamps of Arkansas and had had numerous paroxysms during a period of several years. The liver and spleen were enormously enlarged. He was profoundly anemic; had no nausea or vomiting, and was in a semi-comatose condition, with temperature subnormal during the whole time. He died on the ninth day after my first visit. He had no convulsions, dissolution taking place by a gradual process. I believe that a true splenic leukemia—which has been so clearly and concisely described by Dr. Osler—much more frequently exists than is generally supposed. What the physicians of the swamps of Arkansas, Louisiana and Mississippi need are better facilities for making blood analyses.

I wish to call attention to a condition which I have frequently observed in hemoglobinuria, and I have seen no mention of it. I refer to paresis of the bowels. Text-books tell us that diarrhea is often present in hemoglobinuria. This has not been my experience. Diarrhea is the exception and not the rule. It seems that with this condition diarrhea in a measure might prove salutary. Very often just as suppression occurs the abdomen becomes distended with gas. The medicine which you have given your patient with a view of arousing the liver and kidneys to action has had no effect. Death takes place, both by suppression and paresis of the bowels. It seems that the same conditions which have produced the suppression have also acted as causative factors of the paresis. Let me admonish you, gentlemen, who are making scientific research in malaria not to journey to Rome to study the Pontine fevers or to South Africa to investigate the black-water fever, but come South to the swamps of Arkansas, Mississippi and Louisiana, where we have malaria in abundance and in all of its forms.

Sanitary Substitute for the Individual Communion Cup.—The *Lancet* suggests the revival of the ancient custom of dipping the bread in the wine or "intinction," instead of the use of the common chalice at the Communion. This is the method still followed in the Eastern Church, and was generally practised until the twelfth century. The editorial earnestly urges ecclesiastical authorities to consider the matter and live up to the traditions of the Church as a leader in sanitary matters. Individual communion cups are not practicable, but intinction has much to recommend it.

HYPERTROPHY OF PHARYNGEAL TONSIL.

ITS ANATOMY AND PHYSIOLOGY.*

NORVAL H. PIERCE, M.D.

CHICAGO.

The pharyngeal tonsil lies above a line drawn from about the middle of the Eustachian cushions in the post-nasal space, and is developed at a very early age, probably coincident with the faucial tonsils. Its ultimate nature is as much unknown as is the ultimate nature of the tonsils. Whether it is an evolutionary vestige or a gland which has still a function is unknown at the present time. Embryologically, it develops with the pituitary body and the pineal gland, and probably there is a relationship existing between these three bodies. It is composed of lymphoid tissue, the mass of the tissue being round cells indistinguishable from embryological connective tissue and lymph nodes, which are in turn indistinguishable from the solitary follicles of the intestine. These, together with the blood-vessels and nerves—for there are nerves in the pharyngeal tonsil and adenoids—are held together by a reticulum of connective tissue, which has a great deal to do with the involution of the organ after hypertrophy. Each of the lymph nodes or solitary follicles is encased in a bag of connective tissue. This connective tissue, at an early date, is embryonal in character and goes onward to adult growth, ripens rather early, and in due course of time matures, and, following the law of connective tissue, contracts, thus squeezing the lymph nodes, shutting off the blood-supply to them, and by pressure atrophy, we may say, producing their shrinkage. This body is covered by ciliated columnar epithelium, which differs from the epithelium of the mesopharynx. However, in the majority of growths that I have examined, I have found as much squamous or cuboidal as columnar epithelium. This transition from the columnar to the cuboidal variety is due to pressure. Adenoids are hyperplasia of this normal tissue. They vary, of course, in size, in consistency, and in color. The surface may be coarsely granular, furrowed more or less, or smooth. The smooth variety very frequently leads us astray in post-rhinoscopic diagnosis, because it forms simply a smooth layer, thus foreshortening the nasal space, and this is difficult to judge in the mirror.

I have under the microscope four specimens which show the various interesting points in adenoids, one particularly which shows the peculiar, fan-shaped distribution of the blood-vessels, which are surrounded by connective tissue; this apparently holds the blood-vessels open, thus increasing the blood-supply to the gland. In this way we may account for hyperplasia in some of these bodies. The hyperplasia, however, is most often caused by a succession of attacks of acute inflammation, just as hyperplasia of the faucial tonsil is caused by hypertrophy.

The infectious diseases, such as measles, scarlet fever, etc., play a very active part in the causation of this condition. Then, too, of the acute inflammations of the gland itself, we have the lacunar variety of inflammation, and the inflammations due to the streptococcus infections, which are very frequently the cause of acute hyperplasia.

Their dependence on tuberculosis is a most interesting and important question, and it is still unsettled. Pansac, in an interesting article which appeared in

*Read in a Symposium on Hypertrophy of the Pharyngeal Tonsil, before the Chicago Climatological and Laryngological Association, July 5, 1900.

1895, divides adenoids into three varieties—the scrofulous, tuberculous, and the syphilitic. It is my opinion that these varieties do not comprise all cases of adenoids. We know that a great number of scrofulous children have adenoids; we know, furthermore, that a great number of children who bear no evidence of scrofulous or chlorosis have these bodies in their postnasal spaces. We must remember, too, that the presence of hypertrophied and lymphatic tissue in the postnasal space and in the fauces may cause a condition which is hardly distinguishable from scrofulous or chlorosis, which condition immediately disappears on the removal of the hypertrophied or hyperplastic gland. Koch has observed the reaction of adenoids after the injection of tuberculin, and he has found that a certain percentage show a reaction which we would expect from true tubercular tissue. These adenoids, after removal, heal, just as other cases of adenoids heal, with no reaction, and with no subsequent tuberculous. George Gottstein, Jr., removed from a girl of 12 a large adenoid mass which showed evidences of tuberculosis, i. e., giant cells, and the like. Another observer examined the girl when 18 years of age, or six years after the operation: she then enjoyed vigorous health and showed no symptoms of tuberculosis in the postnasal space. That these glands do become tubercular there can be no doubt.

Professor Roth has reported a case of tuberculosis of the pharyngeal tonsil which resulted in tubercular infection of the bones beneath, followed by death from tubercular meningitis. A great deal of work has been done on this line by Wendt, E. Frankel, Schlenker, Dmnochowski, and others. Cases of tubercular ulceration resulting from extirpation of the glands have been reported, so that we may assume that the relationship between hyperplastic adenoid tissue and tuberculosis is somewhat close.

Abscesses may develop in this tissue, which may cause septic meningitis. Cysts, and all of the tumors, especially sarcoma, develop from the membrana prevertebralis. The case of a child is reported by Dmnochowski, from whom he removed hyperplastic adenoid tissue four different times, with recurrence after each operation. The child at length died with sarcoma of the dura, and yet after each operation a number of pathologists failed to determine the sarcomatous nature of the tissue.

31 Washington Street.

CONNELL'S OPERATION OF END-TO-END ANASTOMOSIS OF SMALL INTESTINE.

FOR REPAIR OF ENTEROTOMY PERFORMED TO RELIEVE ACUTE OBSTRUCTION.

FIRST CASE REPORTED ON HUMAN SUBJECT.

FRANKLIN H. MARTIN, M.D.

CHICAGO.

W. V. B., admitted to my service April 17, 1900, with the following history: Both parents died of pneumonia; one brother died of epilepsy; one sister died of pulmonary tuberculosis. Has two brothers and two sisters living in good health.

She has had the usual diseases of childhood. Puberty at 13. Menstruation history normal. She has three children. Normal labors, no miscarriages. Last confinement thirteen months prior to her admission into the hospital.

Her puerperium was pathological and for a period of six weeks she had chills and fever, and pain in the pelvis, losing much flesh and color. At the end of the third month after her confinement she was able to attend to light household duties.

In August, 1899, she entered a hospital and underwent an operation for the repair of a lacerated cervix and perineum. Her general condition improved somewhat after this until Decem-

ber, 1899, at which time she began to lose weight and suffer from pain in the pelvis; she also noticed some enlargement in the right lower part of the abdomen above Poupart's ligament.

She menstruated two months after her last confinement and has been regular every twenty-eight days since, with the exception that there had been none during the six weeks prior to her admission to the hospital.

Physical examination of the pelvis shows the cervix low in the vagina, fundus uteri in retroversion, immovable, flanked with an indurated mass that fills the entire pelvis and extends upward into the abdomen behind Poupart's ligament on the right side.

Examination of her blood shows: Hemoglobin 62 to 65 per cent.; erythrocytes, 3,100,000 per cubic millimeter; leucocytes 118,000 per cubic millimeter, marked leucocytosis being present

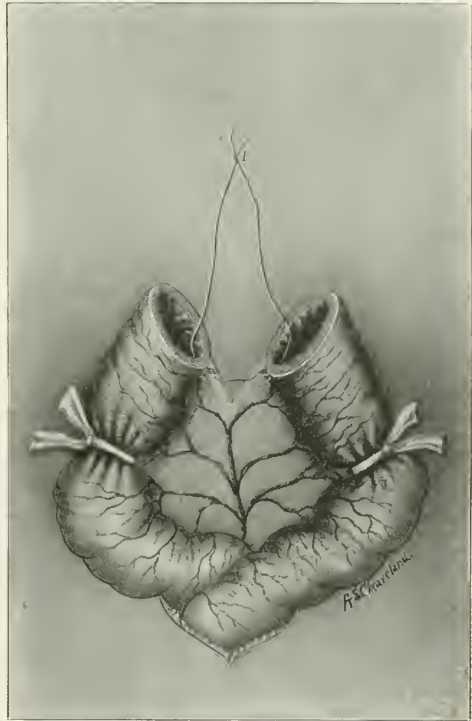


Plate 1.—The mesenteric, or suspending loop, in position; to insert which the needle with thread is passed through all coats and the V-shaped mesenteric space of each cut end. Its object is to bring this part of the mesentery and intestinal wall into perfect apposition, and thus secure a sero-serous approximation throughout the line of union.

in this case. Together with the above described condition in the pelvis and marked emaciation, a diagnosis of pelvic abscess is made.

Physical exploration of the chest was negative; analysis negative; her pulse ranges from 88 to 100; temperature normal, no history of recent chills nor sweating, bowels constipated, appetite poor, no irritation vesical symptoms.

April 18, 1900, the patient was prepared for an operation. An abdominal incision was made, and the large swelling which filled the entire left side of the pelvis, and which was buried in omental and intestinal adhesions was discovered. Because of the complicated condition of the tumor, and the unsatisfactory physical condition of the patient, it was determined to drain

the abscess through an incision in the vaginal vault, rather than attempt its enucleation. An incision was therefore made in the vaginal vault, the abscess drained and the abdominal wound closed. The patient made a very satisfactory and rapid recovery, and since the evacuation of the septic material in the abscess, the patient's general condition has rapidly improved. Her temperature immediately dropped to normal; her pulse dropped below 100, and with a ravenous appetite she began to improve in general nutrition.

Her bowels, since the operation, were in perfect condition until the night of May 5, when the patient complained of sudden onset of pain of a very excruciating

of May 5. From the pain and vomiting acute obstruction was immediately suspected, and an effort was made to overcome the constipation. First, an enema containing glycerin two ounces, sulphate of magnesia two ounces, and water two ounces, with a dram of spirits of turpentin, was administered, employing for the purpose a tube which carried the enema about eighteen inches into the lower bowel. This stimulating enema, which in the previous history of the case had been very effectual in each instance, causing a free discharge of gas and fecal matter from the bowel, had absolutely no effect. The patient was then placed in Sims' position and a large enema of two quarts of soapsuds, with

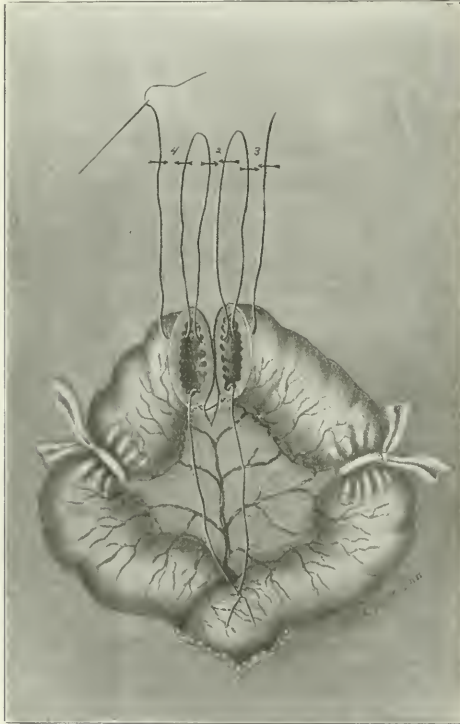


Plate 2.—Suspending loops 2, 3 and 4 are made with one thread inserted at a point two-thirds distance from mesenteric to convex border. The needle with suture is passed through the four walls of the cut ends, and that portion of suture within each lumen is drawn up to a sufficient length, then cut and the contiguous threads tied at the points indicated by the serous, thus having as a result four suspending loops, dividing circumference of each cut end into thirds.

character. She characterized it as that of intestinal colic. The pain did not cease with the application of heat and the administration of stimulants, and finally became so severe that one of the internes administered a hypodermic of morphia and atropia. While this benumbed sensibility somewhat, the pain continued. In about three hours the patient began to have eructations of gas, and in an hour or two began severe retching and occasional vomiting.

The pain and vomiting continued from that time. It was soon noticed by my assistant, Dr. Cooney, that the patient had not passed gas through the rectum or had a movement of the bowels since the afternoon

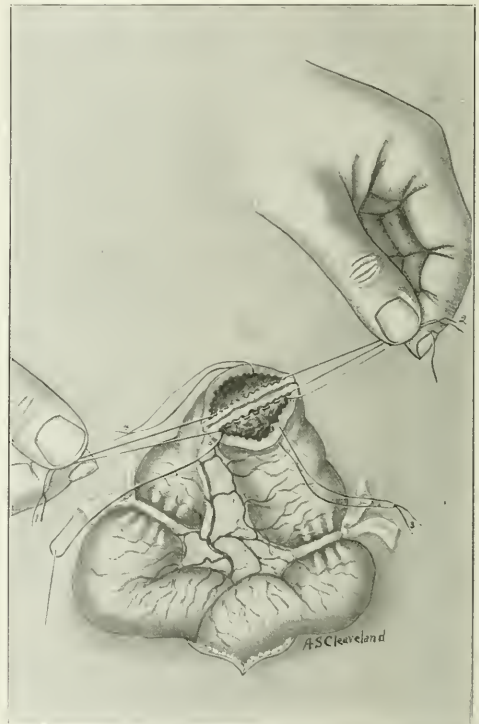


Plate 3.—Suspending loops 1 and 2, held by an assistant, bring into apposition the one-third of the intestinal walls between these two points. The needle (of suture proper) enters the mucosa from the lumen of one cut end, near loop 2, penetrates all coats of both walls, passes into the lumen of opposite cut end, where it is reversed and made to traverse again the intestinal walls, but in an opposite direction, parallel to, and about one-eighth of an inch from, the first half of the stitch just described. This first stitch is then secured by tying on the mesoneurium, and the free end of the suture not cut, but held by the assistant, with loop 2. The operator then unites the apposed walls with a to-and-fro, or running, suture until he reaches loop 1, where a back stitch is taken to prevent puckering.

four drams of spirits of turpentin, was employed, every effort being made to get the patient to retain the enema for some little time. After retaining the enema for a period of five or ten minutes, the patient was allowed to expel it, but here too again, there was absolutely no result as far as causing the discharge of gas or fecal matter. Later on, the patient was placed in knee-chest position and the large intestine filled with an enema of normal salt solution. More than a gallon of fluid was retained for several minutes. The

enema was finally expelled without result. During the time these enemas were administered, efforts were made to get the patient to retain a laxative, but the vomiting was almost incessant and the result nil. About six hours after the initial pain, considerable distension of the abdomen was noticed and, on percussion, tympanites. Twelve hours after the initial pain, the patient was observed to be in a condition of continuous shock; her temperature ranging from 96 to 97, and her pulse from 130 to 150. In order to sustain her strength and prepare her for an operation, should it become necessary, a pint of normal salt solution with an ounce of brandy was injected into the subcutaneous

pointed directly to such a condition: 1, pain; 2, vomiting; 3, constipation; 4, distension, and 5, collapse. The obstruction was undoubtedly either in the cecum or entirely above the large intestine, as the retained enemas were of large size, thereby demonstrating that the large intestine was empty. The obstruction was undoubtedly in the small intestines, probably rather high in the alimentary tract, inasmuch as the vomiting, which had been quite severe, had resulted in no fecal matter.

OPERATION.

After carefully watching the case for forty-eight

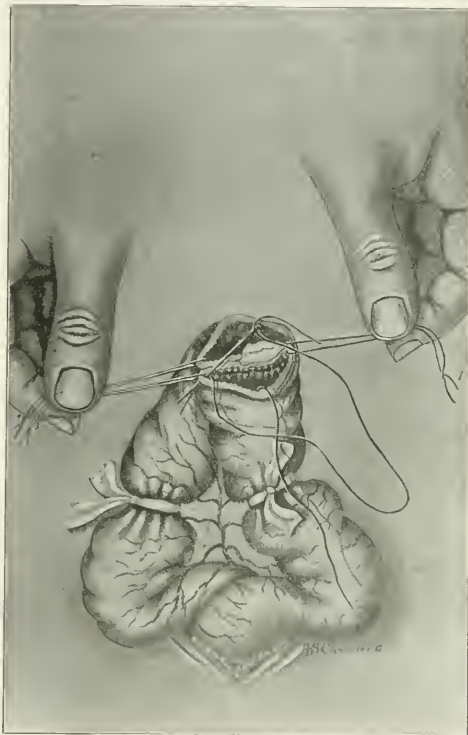


Plate 4.—Loop 2 has been cut away and loop 1 takes its place in the band of the assistant, with loops 3 and 4 held in his other hand, thereby bringing into apposition that portion of the walls to be included in the second third of the suture. The operator continues the suture to the points of insertion of loops 3 and 4, where again a back-stitch is taken, to fix the suture and prevent a purse-string contraction of the same. The white elevation in the center of illustration, representing mesentery, shows that that portion of the intestinal wall not covered by peritoneum, at the mesenteric border, has been secured in the suture.

Plate 5.—At this point the needle for the first time is made to emerge from the lumen of the bowel, at a point corresponding to where the next stitch would be taken, and appears on the serous coat of one cut end of the intestine. Two-thirds of the circumference of the intestine have been sutured. Suspending loops are now cut and removed.

tissue beneath the breast. This caused the temperature to improve and range between 97 and 98. The pulse became stronger, slower and somewhat fuller. In four hours the transfusion was repeated. In the meantime, stimulating enemas of a character similar to those already described were administered to the patient in different positions for at least four hours, her general condition being in the meantime very carefully watched.

DIAGNOSIS.

Symptoms in this case pointed unmistakably to acute obstruction of the intestine; all classical symptoms

hours, after adopting all means ordinarily employed to overcome an obstructed condition, after thoroughly stimulating the patient into a condition of the highest possible tone, we felt that we were justified in making an abdominal incision, and attempting to locate and overcome the obstruction. As the woman had only recently had a laparotomy, a small incision in the abdomen immediately to the right of the recent abdominal wound was made, in order to be in a position to separate the intestines from the old wound, should the cause of obstruction be the result of adhesion of the intestine to the old line of incision. The omentum was adherent to the old wound. The intestines were more or less adherent and fixed to the anterior abdominal

wall and to the omentum, which was attached to the old wound. The omentum was separated from the anterior abdominal wound, and the coils of intestines exposed were also adherent to the omentum. They were large, thin and thoroughly distended with gas, indicating that they were portions of the intestine above the obstruction. By observing the coil of intestine directly beneath the wound, it was noticed that it was turned acutely on itself, and the two arms below the knuckle were closely adherent to the extent of about six inches. The adhesions between the opposing surfaces of the bowel were easily separated, but the fold of intestine remained distended, indicating that

considered it unsafe and unwise to unnecessarily manipulate the intestines, because of the low condition of the patient, a coil of the distended bowel was brought out and enterotomy performed, in order to give the patient temporary relief. A small knuckle of intestine was brought through the abdominal wound, and beneath the knuckle, through the mesentery, a sound was placed to prevent the intestine slipping back into the abdominal cavity. The sutures were inserted into the abdominal wound. A pair of clamps were placed about three inches apart, between which points the gut was opened. One portion of a Murphy button was placed in the intestine and coupled to the other half of the button,

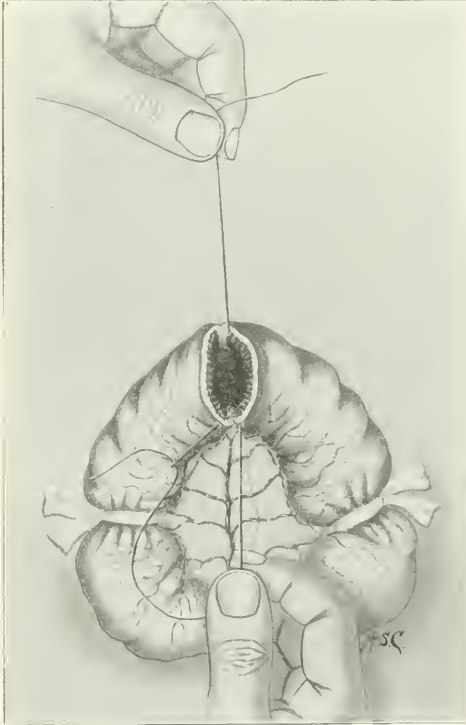


Plate 6.—There remains now only the last or convex-third of the walls to be closed. What was a complete section of the bowel has been transformed into a transverse incision, extending only one-third of the circumference, at the convex border. Owing to the impossibility of holding the divided edges of the last third in serous apposition, and yet unite this third in the same manner as the previous two thirds, it is necessary to proceed somewhat differently to achieve this same result. The suture itself, being fixed at each end, can now be utilized as suspending threads, the free end in one hand of an assistant and the needle end, where it emerges from the bowel wall, in his other, while the operator is free to proceed with the suture. This he does by passing the needle from where it emerges on one cut end to the other cut end, there to be inserted, from without inward, at a point corresponding to that which would be pierced if the walls were in apposition, serous coat to serous coat.

the gas did not pass on. There were several adherent coils, which, however, were easily separated. At a point low in the pelvis, small ribbon-like intestines resembling the ileum were observed; this was the portion of the small intestine below the obstruction. A band, around which a small intestine was twisted, required considerable force to break, and the intestine which was bound brought to the surface. As I con-

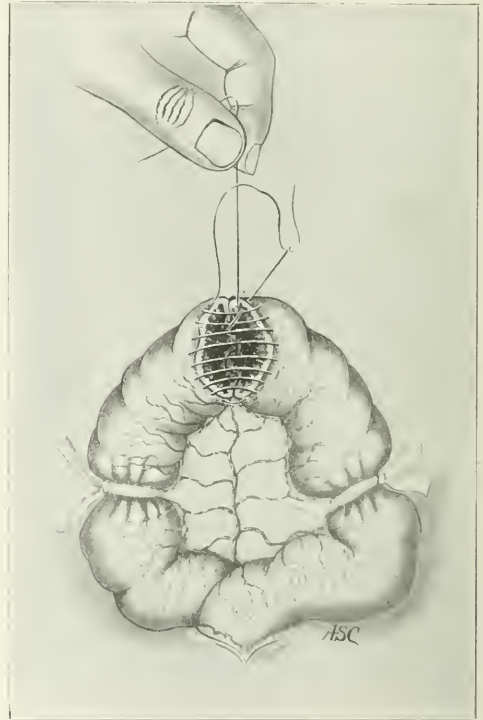


Plate 7.—The needle, after having entered the lumen, is passed out again on the same side, one-eighth inch distant; then over to the opposite cut end, where it is inserted from without in and again emerges from within out, on the same side. This step is repeated alternately on opposing margins until the necessary number of stitches have been inserted. It will be observed that when the needle enters the lumen the last time it makes what might be termed a half-stitch, as it does not return again through the wall, but having reached the point where the suture was commenced, the free end and the needle end will complete the last stitch, when tied, on the mucosa. The needle at this point is then brought out of the lumen alongside of the free-end of the suture. The cross-over stitches are next carefully drawn up, thus bringing into contact the opposing serous surfaces at every point except where the suture ends still protrude.

to which was attached a long rubber tube, the clamps loosened and the abdominal wound closed in such a way that the knuckle of intestine was free from pressure. No gas passed through the tube at first. This fact was very disappointing and extremely puzzling. Dressings were placed about the intestine in such a way as to form no constriction and the long tube buried in a liberal pad of loose antiseptic gauze.

Four hours after the operation, when she was fairly out from the anesthetic, gas began to pass by the anus. Directly after this a large amount of fecal matter was found in the dressings surrounding the tube. Large movements of the bowels by the rectum, and a considerable flow of fecal matter from the artificial anus followed. Her temperature soon rose to normal, and her pulse reduced from 150 to 88. The condition of shock entirely disappeared. Three pints of normal salt solution were injected beneath her skin. The pain and vomiting entirely ceased. The patient was fed peptonized milk by the stomach. The subsequent results in this case showed that the obstruction of the

of the knuckle of intestine projecting through the abdominal wound. I carried this incision on either side until I came to the intestinal tube at the upper and lower extremity of the incision and the mesentery near the center of the incision. Now, with great care, I proceeded to separate the knuckle of intestine from the abdominal wall, employing a sponge for the purpose of pushing aside the adhesions. Having accomplished this I found myself in the peritoneal cavity. Here, beneath an adherent omentum, was a mass of adherent intestine extending for a considerable distance. At first it was very difficult to outline any particular coil of intestine, and especially the one with which we

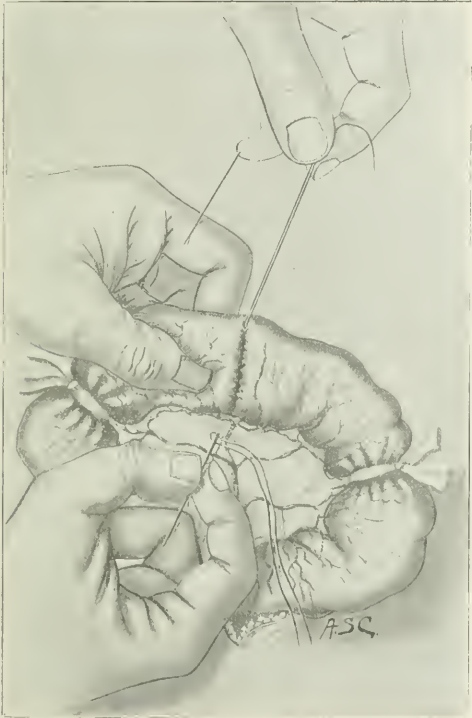


Plate 8.—The suture ends are held by an assistant, while the operator inserts the eye-end of a threaded needle between any two of the previously inserted sutures, preferably about opposite the point of emergence of the suture ends.

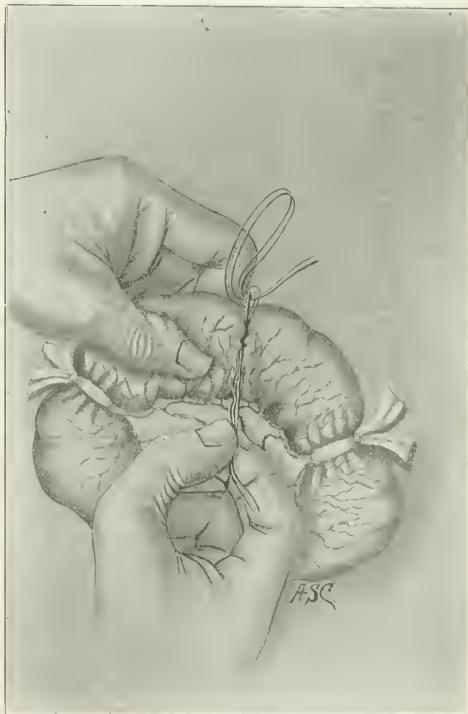


Plate 9.—The eye-end of threaded needle is made to emerge alongside of the suture ends, and is then withdrawn a little, which causes its thread to form a loop, through which the assistant passes the ends of the suture. The operator next withdraws the threaded needle, at the same time bringing with it the suture ends, and they present externally at the point of withdrawal of the needle. The serous coats throughout the entire circumference are now in apposition and the suture ends can be tied.

bowel was relieved in the manipulation at the time of the operation and also proved that the enterotomy would have been unnecessary if we had possessed a sure method of ascertaining that the obstruction had been overcome.

On June 1, 1900, I proceeded to restore the intestines as far as possible to their natural condition. The patient being anesthetized, the abdomen cleansed as carefully as possible, I inserted through the artificial anus into the caliber of the intestine in both directions, extending for about three inches, a packing strip of iodoform gauze. I then closed the artificial anus with a large pair of clamp forceps; the parts were then thoroughly disinfected, and I proceeded to open the abdomen by drawing a circular incision on either side

were seeking to deal. I finally accomplished a separation and was enabled to eliminate several inches of the diseased intestine above and below the artificial anus. After freeing their adhesions and packing around the intestines hot-gauze compresses, I brought out through the abdominal incision several inches of the intestine to be operated on, and clamped either arm above and below the incision, and behind the gauze packing previously placed in the intestine with suitable clamps for keeping the intestine closed during the procedure which followed. The clamp from the incision, and the gauze which was placed in the intestine, were removed and as thoroughly as possible the por-

tion of intestine to be excised was cleansed by pressure between the liberal gauze compresses. Next, the intestine was excised to the extent of two or three inches on each side of the opening which formed the artificial anus, removing in all about five inches of the gut. The intervening mesentery was tied in three sections. The end of the intestine representing the portion of the gut above the artificial anus was larger than the coil below that point. An oblique incision of the smaller one was made in order to increase the diameter of its free end. This was done at the expense of its convex border. An end-to-end anastomosis, after the method described by Dr. F. G. Connell, of Chicago, was then

between the approximated serous surfaces. This operation seems to me to have all the advantages of the Murphy button, with none of its serious faults. The abdomen was closed after dropping the intestine, and a small wick of iodoform gauze was left for drainage. The patient, after thorough stimulation, having received a pint of normal salt solution subcutaneously, was sent to bed. The actual time consumed in the anastomosis was between fifteen and twenty minutes, and was done with great deliberateness.

I have to thank Dr. Connell for his very kind assistance during the operation, and for his timely suggestions at different times. Dr. Connell informs me

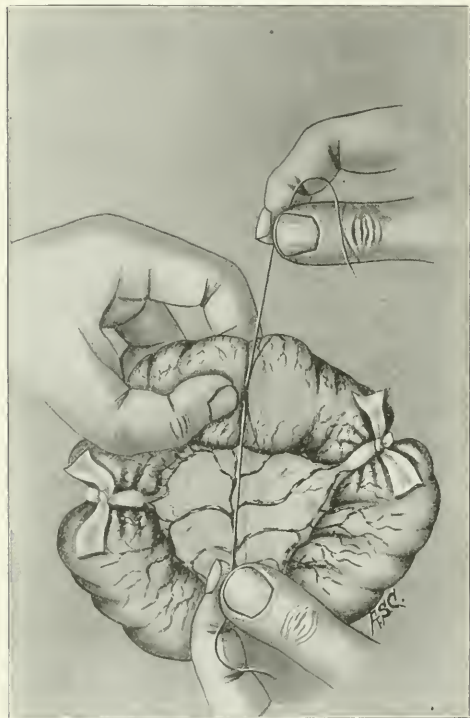


Plate 10.—By slight traction on the suture ends the opposing mucous surfaces are brought in close contact; the suture ends are then tied firmly, burying the knot deep between the serous coats, thus tying the knot upon the mucous coat and the ends then cut off short.



Plate 11.—The intestine, which has been flattened while tying the knot, is now relieved of pressure and allowed to assume its normal cylindrical contour, when the suture ends are seen to slip within the lumen; the enterorrhaphy complete, all knots inside, no stitches visible on the outside.

accomplished. This method is easier to execute than to describe, and I would suggest that the method be practiced on the dog, as while the method is somewhat difficult to understand from description, it is extremely easy to execute. The method consists of a modification of Maunsell's procedure, the original feature of importance being an ingenious method of tying the last suture in a way which effectually places all knots on the mucous surface of the bowel without the necessity of making the ordinary extra incision employed in Maunsell's operation. (See illustrations.)

When the operation is finished, the intestine has very much the appearance of one after an end-to-end anastomosis with the Murphy button. While the sutures included all coats of the bowels, no sutures were visible

that he has no record of the operation having been done before on a human patient. The operation has been done many times on the lower animals, almost uniformly with perfect results.

The following note of the subsequent history of this case is appended by my assistant, Dr. H. C. Cooney:

The patient was returned to her bed with normal temperature, pulse 128; respiration, 28. Subcutaneous transfusion of a pint of normal salt solution under each breast. No vomiting followed the anesthetic, the small gauze drain carried down to the sutured bowel was removed in forty-eight hours, and the provisional sutures were tied, which closed the abdominal incision entirely. Some flatus passed per rectum after twelve hours. No attempt was made to move the bowels for sixty hours, then a small stimulating enema of glycerin, magnesium

sulphate and water—one ounce each—was given under low pressure; this was repeated every twelve hours.

There was no nausea, and the abdomen was only moderately tympanic. Flatus was expelled with the return of the first enema and seventy-two hours after operation a normal bowel movement was obtained.

From this time on, her clinical history contains nothing of especial interest, as her convalescence was uninterrupted. She gained rapidly in strength, flesh and color.

A blood examination made June 20, five days before her departure from the hospital, showed: Hemoglobin 78 to 80 per cent.; red blood-corpuscles per cubic millimeter 3,910,000; leucocytes 8000 per cubic millimeter. Appetite was good, and bowels were regular.

RECEPTIVE QUIESCENCE OF THE STOMACH DURING MASTICATION.

GASTRONOMIC PHENOMENON NOT PREVIOUSLY DESCRIBED.
EVAN O'NEIL KANE, M.D.
KANE, PA.

The muscular coat of the stomach is inactive during mastication. This appeared clearly demonstrated as a physiological fact in a patient on whom I recently performed a gastrotomy. The patient was gradually starving from stricture of the esophagus due to a cancer at the cardiac orifice of the stomach. I operated in order to introduce food directly.

A large part of the posterior wall, as well as the cardiac extremity of the stomach, proved to be involved in the carcinomatous mass, thus greatly reducing the capacity of the viscus. Great difficulty was at first encountered in introducing more than a very small amount of fluid-food at a time, as it was promptly rejected through the peristalsis thus evoked. The question arose: How can a full meal be introduced and the retaining pad replaced over the opening before it can be regurgitated? The solution of the difficulty was arrived at by the very intelligent nurse, who observed that if the patient was chewing anything while being fed—for his appetite was ravenous and he fancied that he slightly appeased it by chewing morsels of food—his stomach would remain quiet, thus allowing her to fill it and secure the retaining pad before muscular activity recommenced. The difficulty with this additional mouth-feeding was that the patient could not be trusted not to swallow what he held in his mouth. This food, lodging in the dilated lower part of the gullet, decomposed and was with difficulty withdrawn. Chewing gum was substituted for food and no further trouble was encountered from this source.

If the state of receptive quiescence above described were a common physiologic phenomenon it would seem strange that no one has as yet observed it. It is possible, however, that in this case the greatly reduced internal capacity of the viscus made the muscular contractions more apparent than they would have been in other cases where gastrotomy has been performed.

Material for reflection is afforded if, as I presume, this condition which I have termed "receptive quiescence" is common in healthy as well as morbid conditions of the stomach. Thus, it would be suggested that mastication of an inert substance after meals might prove beneficial where the stomach is over-active, or prejudicial where there is atony.

Here, the chewing-gum habit should be considered. Again, we might thus explain the injurious effect on the stomach digestion of infants of permitting them

to retain the nipple in their mouths after nursing, or of letting mothers quiet their babies with a sugar-teat, or a "delight," as they call the mock nursing apparatus sold for quieting restless children. Seasickness, unless extreme, is often benefited and the tendency to vomit prevented as long as something is being chewed. How may we apply this principle to the vomiting of pregnancy? These women frequently find relief from chewing or sucking a lemon rind.

The beneficial influence of vinegar inhalations on the nausea following anesthesia may be due to the excitation of the salivary glands by the acid fumes.

I regret that I was unable to ascertain what effect mastication had on the gastric secretion.

[Mastication stimulates reflexly the salivary, gastric, and pancreatic glands. The liver is also stimulated, as shown by experiments, but this is not so conclusive as the stimulation of the stomach and pancreas.

The motor power of the stomach usually acts by the same stimulation that provokes secretion. The marked movements of the stomach, observed by Dr. Kane, were due to the action of the abdominal muscles and the diaphragm in the same manner as the muscles involved in vomiting, and chewing may have produced a condition that withdrew the stimulation from these muscles. This is especially proved in his illustration of vomiting, as vomiting is chiefly an extragastric muscular effort. The stomach muscles are too sluggish in their action to take much part in the act of vomiting. The anxiety and hunger of the patient might, and probably did, cause his abdominal muscles and the diaphragm to contract and expel the food from the contracted (small) stomach.—Ed.]

Prophylaxis Against Venereal Disease.—The International "Prophylaxis Congress" last year established a permanent committee for sanitary prophylaxis of venereal diseases and propagation of morality. The Belgian minister of state, Le Jeune, is president, Dr. Beco, vice-president and Dr. Dubois-Havenith, secretary. The aim of the committee is to found an international society for the study of the hygienic and moral questions which can serve in the prophylaxis of venereal diseases. The constitution and by-laws of the new society have already been formulated and the central committee is appointing national and state sub-committees. Physicians and all other persons who, by their writings, their occupation or their special knowledge are qualified for efficient co-operation, are invited to become members of the society. The annual dues are \$5. An official organ is to be published three times a year. The secretary, 19 rue du Gouvernement Provisoire, Brussels, Belgium, is glad to answer questions and receive suggestions at any time.

Can Valvular Lesions Be Cured?—Petrovitch has been studying for ten years the possibility of recovery from valvular lesions, carefully following all patients with endocarditis and organic affections of the heart. He stated at the International Medical Congress that in seven of these cases the mitral or aortic insufficiency had completely disappeared in ten months to three years after the commencement of the symptoms. They had persisted at least six months with the usual physical signs and functional symptoms of cardiac affections. Treatment was merely the prolonged administration of potassium iodid in small doses with intervals of repose and the application of dry cups to the precordial region. The *Progrès Médical* adds to its abstract of his communication that Rendu has observed two cases of recovery from valvular lesions and Potain one.

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ETIOLOGY OF YELLOW FEVER.

Much controversy has been occasioned by the claim of Sanarelli and others that the bacillus *icteroides* is the causative agent of yellow fever. Surgeon-General Sternberg has persistently opposed Sanarelli's claims. Reference to this controversy has been made in these columns from time to time.¹ Reed and Carroll, of the U. S. Army, came to the conclusion that the bacillus *icteroides* is a variety of the bacillus of hog cholera. The commission of medical officers, United States Marine-Hospital Service, which studied yellow fever in Havana and elsewhere, reported favorably to Sanarelli, having succeeded in isolating the bacillus *icteroides* from all the cases of yellow fever studied in Havana. This commission also claimed to have discovered the manner of primary infection, namely, through the respiratory tract, but this claim did not meet with general favor among bacteriologists, as the evidence presented hardly seemed sufficient to justify the statements of the commission.

And now Surgeon Reed and his associates present a preliminary report of their investigations into the etiology of yellow fever in Cuba during the past summer.² The failure to find the bacillus *icteroides* in the blood during the life of yellow-fever patients, as well as the failure to obtain it from the blood and the organs of yellow-fever cadavers, admit of no other reasonable interpretation than that this much-exploited organism is not the cause of yellow fever, but at the most a secondary invader, when present.

But Finlay's theory of the propagation of yellow fever by mosquitoes receives experimental support. Mosquitoes—*Culex fasciatus* Fabr.—that had bitten yellow-fever patients were allowed to bite non-immune persons, and of eleven thus inoculated two developed yellow fever within the usual period of incubation and under circumstances that were not favorable for infection from other sources. One of these patients was Dr. James Carroll, acting assistant-surgeon, United States Army, and one of Dr. Reed's co-workers, who thus passes into history as another example of unselfish devotion to the cause of humanity. No less honor is due the young American who serves as the subject of the second experiment, as well as the other nine persons that escaped

the disease though bitten under the same circumstances. It also appears that the late Dr. Jesse W. Lazear probably acquired the fatal disease—yellow fever—through accidental infection by a mosquito, but under such conditions that the manner of his death becomes heroic. These observations are surely destined to excite renewed interest in the mosquito as the intermediate host of yellow fever. The facts at hand accord well with the observations of Henry R. Carter in regard to the period between the introduction of the first case and the development of secondary cases of yellow fever.

THE RECOGNITION OF FUNCTIONAL INSUFFICIENCY
OF THE KIDNEYS.

Scarcely less important than the recognition of organic disease is an appreciation of the degree of functional derangement present. Some attempts in the determination of the latter have been attended with success, and the kidneys, by reason of the opportunities for comparison they offer, would seem to be especially suitable for this means of study. The information thus gained would be useful from both the prognostic and the therapeutic point of view. Two questions will at once arise: 1. What is the functional efficiency of the kidneys; and is it sufficient for the purposes of the organism? 2. What part does each kidney take in this function? The desired information may be gained by catheterizing the ureters, which will permit not only a study of the microscopic and chemico-constitution of the urine, but also an estimate of the functional activity of each kidney. Caspar and Richter¹ report the results of a large number of observations made in this connection in the course of two years. It was found that under normal conditions, healthy kidneys excreted simultaneously, during a period of from thirty to sixty minutes, almost exactly the same amounts of solids, as determined by the molecular concentration of the urine. In the presence of disease of one kidney—tumor, calculus, pyelonephritis, pyonephrosis—the elimination of urea was almost invariably less on the affected, as compared with the healthy, side. When both kidneys were diseased, as indicated by microscopic and chemico examination of the urine from each, this difference was reduced in greater or lesser degree. In this way it is possible to determine with approximate certainty the respective share taken by each kidney in their total functional activity, as measured by the amounts of urea eliminated and the molecular concentration of the urine.

Efforts were made further to estimate the degree of functional sufficiency of each kidney, and for this purpose phloridzin was administered, with the development of glycosuria. It was found that healthy kidneys, after subcutaneous injection of phloridzin, excreted the same amount of sugar in the course of from thirty to sixty minutes, while a diseased kidney excreted distinctly less sugar than a healthy kidney. In the presence of

1. The Microbe of Yellow Fever, THE JOURNAL, Sept. 9, 1899. Also Reed and Carroll's Reply to Sanarelli, Sept. 16, 1899. Yellow Fever: Its Nature and Cause, Oct. 6, 1900.

2. See Report of American Public Health Association, p. 1170 of this issue. Also Phila. Med. Jour., Oct. 27, 1900, pp. 790-796.

1. Berliner klin. Wochensh., 1900, No. 29, p. 643.

marked disease of the kidney involving a large part of the parenchyma—neoplasm, pyonephrosis, severe nephritis—the elimination of sugar may be minimal or wholly abolished. The onset and cessation of the glycosuria may be different in diseased than in healthy kidneys. When both kidneys were diseased, the differences disappeared, as they do with regard to the elimination of urea. As a rule, the elimination of sugar is slight or absent on both sides. With a few exceptions, the degree of glycosuria, of urea-elimination, and the molecular concentration of the urine, pursue parallel lines. While, therefore, the coincidence of these three indicators is important, viewed separately, the phloridzin test appears to be the most delicate reagent for the determination of the degree of renal activity.

THE DANGERS OF LUMBAR PUNCTURE.

In a critical summary of the literature on the diagnostic and therapeutic value of lumbar puncture, Alfred Hand¹ reaches the conclusions that lumbar puncture has a wider field as a diagnostic aid than as a therapeutic measure. As so often is the case it is not safe to draw conclusions when the examination of the fluid withdrawn gives negative results—positive results only are of decisive import. Lumbar puncture is of therapeutic value in cerebrospinal meningitis—the withdrawal of fluid promotes recovery; in tuberculous meningitis it gives comfort; and in other forms of excessive pressure it may remove conditions immediately threatening to life. Nothing is said of the dangers of this procedure, the technique of which is so simple: the introduction of a needle, under conditions of surgical cleanliness, “between the third and fourth lumbar vertebrae, 5 to 10 mm. to one side of the median line, the direction of the needle being slightly toward the median line, and in older children and in adults, slightly upward.” The sense of touch will tell when the cavity is reached. In children 2 cm., in adults 4 to 6 cm. are the depths ordinarily required.

Gumprecht² considers the dangers of lumbar puncture. On the whole the dangers are small. There seems to be no record of infection of the meninges following puncture. The needle may break, owing to muscular contractions in restless patients. Gumprecht mentions an instance of this, but fortunately the loose fragment was easily removed. Perfect quiet should be secured during the little operation, as movement may bend the needle against the vertebral arches. Sudden and profuse escape of cerebrospinal fluid rarely does harm; it may be guarded against by placing the finger over the canula. The headache that so often follows puncture is generally evanescent; in exceptional cases spinal pains and staggering have been noted on the second day. Sudden death may follow withdrawal of cerebrospinal fluid through lumbar puncture. There are 17 recorded instances in which this has happened.

In some cases this may have been a coincidence. In practically all cases it concerned instances of cerebral tumors, especially in the posterior fossa. Symptoms of increased intracranial pressure were present. In these cases the fatal issue is caused almost without exception from paralysis of respiration. After death the ventricles above the tumor have been found greatly dilated; below, the spaces were narrow or but moderately distended, because of pressure on the aqueduct or on the foramen of Magendie. Probably the disturbance of the hydrostatic equilibrium caused by withdrawal of the cerebrospinal fluid is the cause of the paralysis of the respiratory center. There are a number of observations recorded by high authorities to the effect that respiratory paralysis is the mode of death in many intracranial affections associated with increased pressure. Macewen records a remarkable case³ of cerebral disease in which life was maintained by artificial respiration for twenty-four hours. In a second case—cerebral abscess—he opened the skull of a moribund patient during artificial respiration and accomplished a temporary improvement. Trepanation has been proposed by Sir Dyce Duckworth as a therapeutic measure in respiratory paralysis from increased pressure within the skull, and Gumprecht now suggests its employment in cases of paralysis of breathing following spinal puncture.

There is, therefore, but little or no evidence that spinal puncture is of itself a dangerous procedure. In cerebral tumor it should probably not be used; at all events the possible danger of its use in such cases should be clearly understood.

A NEW PATHOGENIC MOLD.

Recently two reports have emanated from San Francisco of a peculiar disease caused by a fungus. Ophüls and Moffitt,¹ in their preliminary report, describe an irregularly febrile disease in a young man of 19, from the Azores. There was abundant exudation in the left pleural cavity and successive painful inflammations of various joints and other regions, irregular consolidations in the lungs, and leucocytosis. The clinical diagnosis was septicopyemia. The autopsy showed pneumonic infiltrations with abscesses, abscesses in the diaphragm, miliary abscesses and nodules in the kidneys and the liver, purulent inflammation of the frontal bone, the tibia, and various joints, with necroses in the regional lymph-glands. In all the diseased foci examined there were found encapsulated quite large organisms, whose protoplasm breaks up into numerous spore-like bodies. In addition to chronic suppuration, the organisms induce the formation of granulation tissue with giant cells often enclosing one or more parasites. In cultures a distinct mycelium developed. Inoculations of material from the lungs of the patient produced suppuration and formation of nodules in guinea-pigs, and from these

1. Amer. Journ. Med. Sc., 1900, cxx, 463-469.
2. Deut. med. Wochenschr., 1900, June 14.

3. Oeoid. Med. Times, 1896 (Quoted by Gumprecht).
1. Phila. Med. Jour., June 30, 1900, p. 1471.

lesions the same organism was obtained in pure culture. The development of mycelium from the round bodies was followed in the hanging-drop cultures; repeated examination showed that mycelium develops only from organisms free in culture-medium. Mycelium inoculated into a rabbit produced nodules containing the round bodies; hence it is concluded that the round bodies and the mycelium are developmental stages in the same fungus. Typical spheres probably do not develop on artificial media. The development of spheres from mycelium in the bodies of animals remains to be studied.

The second case is reported by D. W. Montgomery.² It concerns a man of 21 who had lived in various parts of California since infancy. Here there were nodular ulcerations in the skin over various parts of the body, resembling somewhat mycosis fungoides, and other efflorescences; large subcutaneous abscesses, which communicated with the right lung and pleural cavity; there were other smaller abscesses in this lung and an immense abscess in the right lobe of the liver. In the pus and in the cutaneous abscesses coccidia-like bodies were present in large numbers. Here also the granulation tissue contained giant cells enclosing organisms. Endogenous spore formation was observed. Inoculation into a rabbit failed; cultures yielded a filamentous mold, which unfortunately was not further studied.

Similar cases are described by Wernicke, Gilchrist and Rixford (two cases), and Posadas. These authors failed in their culture and inoculation experiments and regarded the disease as of protozoan origin on account of the similarity of the bodies present to certain protozoa. So far, the disease has occurred only in men: three cases were in Portuguese from the Azores.

In all cases so far recorded the disease has marched steadily on to fatal determination regardless of treatment. In Ophüls and Moffitt's case the peculiar skin lesion was absent. Future investigations are sure to clear up many obscure places in the natural history of this interesting malady, which as yet has not received any distinctive name.

THE ROMAN MALARIA EXPERIMENT.

The experiment of a residence in the most malarious region of the Roman Campagna, using only protection against mosquito bites to ward off the fever, has been a complete success. So far as such a practical test can go, it demonstrates the mosquito theory, which already has been fairly proved in other ways. There are still some who hold to the water-borne theory of malaria, but if there is any basis for such theory it has not been proved on the Campagna, because the same water that was drunk by the malaria afflicted natives was used by the experimenters. The Roman anopheles is apparently only a nocturnal biter, and this is the only weak point in the experiment. If this were the case with all mosquitoes it would be possible for persons to live in every malarial region, but it will probably be found that in some parts

the malaria-bearing insects ravage also during the day and must then be protected against as well. If, as reported, Koch has discovered a certain method of prevention in his New Guinea experiences, it will open parts of the world to civilization that have heretofore been thought hopelessly unhealthy for the white race. It is well, however, to reserve our enthusiasm for the present, though the success of the Roman experiment is a decided step toward the practical prophylaxis of malaria.

THE FEMALE ATHLETE.

Women are not usually supposed to excel in athletics, but it appears that a woman has lowered the world's record in long-distance bicycling and yet not done her utmost. After completing her 2000th mile, she had excelled the best male performance in century-riding by several hours, and was ready to keep on when the local authorities interfered. Why they did so is not manifest, as according to newspaper reports, she was taking things easy and only riding to fill out the time. This is evidence that civilized woman is occasionally in some respects physically equal to her more rugged competitors, a fact that rather goes against our preconceived notions based on the average performances of her sex. Nevertheless, this and other such achievements implying continued endurance are not so incompatible with femininity as it at first appears. The average frail-appearing mother can stand the strain of carrying about a heavy child far better than most men, and it has repeatedly happened that delicate women have exceeded men in passive endurance in conditions of special stress and hardship. Among savages it is known that females have habitually the hard manual labor to perform, but the above-mentioned feat of Miss Gast is noteworthy as showing what civilized women can do in athletics when she chooses. It is evident that the civilized female is not necessarily a physical degenerate, at least as regards muscular strength and endurance. While the profitability, or even the propriety, of such performances is somewhat questionable, the results are sometimes, as in the present instance, worthy of note.

PHYSICIANS' INFLUENCE FELT.

At the last session of the Iowa legislature, a certain prominent senator was notably the champion of osteopathy, and succeeded, in spite of opposition, in obtaining its legal recognition. His political ambitions have since expanded and he was recently a prominent candidate of his party for a congressional nomination. Notwithstanding the excellent prospects in his canvass he failed, and the cause of this, according to the *Iowa Medical Journal*, was the opposition of the medical profession, which was combined against him on account of his legislative record. Though in this case perhaps only the empty honor of a nomination was lost, it is satisfactory to know that one advocate of quackery had his aspirations quenched by medical influence, which might oftener be employed in this way for the public good. As the editor of the *Iowa Medical Journal* says: "The friends of the general practitioner are numbered by hundreds, yes by thousands, and that same influence can be exerted for other things that he exerts in his

every-day life. There is no class of men that have as many friends and acquaintances hanging on their words and opinions as the physician; it only remains for him to use this influence with his member in the legislature to bring about a better class of legislation." When legislators are made to recognize the influence of the medical profession unselfishly exerted in favor of right objects they will be less ready to follow the dictation of quacks than they seem too often to be at present. That influence can be exercised when the profession is organized.

MEDICAL MEN IN POLITICS.

There appear to be but two men in the present national Congress who can or care to represent themselves as physicians. It seems strange that a profession so close to the people and representing such an aggregate of culture should furnish hardly the half of 1 per cent. of our lawmakers, while the other learned secular profession, the law, furnishes over nine-tenths of the total number. It is not because there is no need for their services in that capacity; there are ample opportunities for the utilization of medical knowledge in our legislative halls. No other country with legislative government, so far as known, so practically excludes the medical profession from its law-making bodies, and it has not always been the case with us. THE JOURNAL has more than once called attention to the fact that medical men took a prominent part in the First Continental Congress, and some of the names we delight to honor on the Declaration of Independence were those of physicians. There is no good reason why they should not still have their representation in Congress for the good of the country. It is true that traditions have grown up that politics and medicine should be things apart, but there is no real force in them and no reason whatever why a good physician can not be a good legislator. We are now proving that the physician can be the best of military governors, and there is no public office, not even excepting the highest, that could not be worthily filled by medical men now living. It would be to the credit of many constituencies could they be represented by men educated to the ethical standards of the medical profession rather than those of the practical politics in vogue.

DIPLOMA-MILL ARMSTRONG INDICTED.

A federal grand jury has indicted the notorious James Armstrong of "Independent-Metropolitan, etc." medical college fame with two of his associates, for improper use of the mails. While this shows that these impostors can be reached by the United States law at present probably more effectively than by existing State laws, it ought not to suggest any relaxation of efforts to make the latter more efficient. Illinois owes it to herself to see that her good name does not suffer further from the operations of such frauds, and a law like the one proposed at the last session of the legislature would best strike the evil at its root. If present laws were supplemented by one providing that no institution with less than a legally specified minimum endowment and a thorough equipment for teaching all branches of modern medical science, including clinical facilities, together with an efficient and genuine curriculum, could confer medical

degrees, there would be far less chance for Armstrong and others like him to carry on their nefarious occupation. At present it is possible to enjoin them by chancery proceedings, subject to all the law's delays, but there is no prevention of their immediate reorganization and no personal penalty except such as may be inflicted for violation of the federal laws. While the Metropolitan or any other similar concern is being enjoined it can immediately reorganize under a new name and, so long as the attorney-general's attention is not called to its performances, keep on sending out its prospectuses, and so on ad infinitum. To many people all diplomas look alike and so long as a diploma is anywhere either legally or popularly held to be a qualification to practice there will be a field for these impostors. The real remedy will be to invalidate them at their inception.

INSANITY IN LEAD-WORKERS.

Increasing knowledge of the deleterious effects induced by the toxic products of bacterial activity has contributed in no small degree to enlargement of our conceptions of the influences exerted by toxic substances of other origin—organic and inorganic, generated within the body or introduced from without. To all of these, as to all stimulation and irritation, the nervous system is especially sensitive, and it responds variously to different poisons. The commonest form of industrial poisoning is that of lead, and neuritis is the lesion to which this most often gives rise. Although saturnine encephalopathy was described by Tanquerel in 1836, the references to the subject since that time have not been at all numerous. In a paper read before the Section of Psychology at the recent meeting of the British Medical Association, Jones¹ reported 133 cases of various forms of insanity occurring among artisans in various pursuits entailing exposure to the risk of lead-poisoning and received into the London County Asylum. The following occupations were represented: painters, 75; plumbers, 18; decorators and gasfitters, each 13; laborers in lead-works, 6; grainers, 3; gas-meter makers, 2; and 1 color-grinder, file-cutter, and tea-lead roller each. Of this number, 19 exhibited signs of lead-poisoning on admission and 22 others gave a distinct history of that condition at some time or other. The different varieties of mental disease exhibited were as follows: Mania, 37; melancholia, 33; dementia with general paralysis, 24; dementia, 19; dementia with epilepsy, 10; general paralysis (?), 7; alcoholic mania, 3. Recovery took place in 9—47.3 per cent.—of the 19 cases in which definite symptoms of lead-poisoning were present. A careful study of the whole number of cases would make it appear that lead-poisoning is a contributory factor in the causation of insanity and that in lead-workers there is a higher average of general paralytisms than in others of the population. The cases exhibited a tendency to cardiac, renal and arterial degeneration, with complications due to syncope or epileptiform attacks. Most of the cases presented marked signs of anemia and ill health, with unsteadiness of gait and general impairment of muscular strength, and frequently a history of temporary failure of vision.

1. Brit. Med. Jour., Sept. 22, 1900, p. 794.

The mental symptoms observed may be grouped among one or the other of the following varieties: 1, those in the nature of toxemia with sensory disturbances, and which tend rapidly to get well; 2, those with hallucinations of sight and hearing, more chronic in their nature and which may be beyond recovery; the delusions of this class are almost invariably those of being poisoned or followed about, and are in the main persecutory; 3, those resembling general paralysis, with tremors, increased knee-jerks, inco-ordination and accompanied by listlessness amounting to profound dementia, but which tend to get well. It is believed that in most lead-cases presenting mental symptoms the tendency is to recovery, unless the patient dies early.

THE SECTION ON STOMATOLOGY.

Nearly twenty years have passed since the AMERICAN MEDICAL ASSOCIATION created a Section on Dental and Oral Surgery, now the Section on Stomatology. Since its beginning, this section has made admittedly valuable contributions to stomatology and has exerted a wide influence in elevating the dental branch of the medical profession. While dentistry, or stomatology as it is now more appropriately termed, was a very old branch of medicine, still, as the oath of Hippocrates shows, lithotomy was the earliest specialty to separate from the medical profession. Dentistry, however, during the last three centuries, had become a simple mechanical occupation practiced by blacksmiths, traveling quacks, barbers and "wise women." As many of the men, educated as barber-surgeons, like Ambrose Paré, advanced themselves and the science of surgery by their skill and study, so many of the men trained only in the mechanical part of dentistry in its limited sense did much to elevate oral and dental surgery. The feeling had grown, even among men educated in mechanical dentistry or at dental colleges alone, that a medical education is as needful to the stomatologist as to other specialists in medicine. To this feeling the work of the Section on Stomatology has given a great impetus. It is obvious from the proceedings of the Section for 1900, which has just been republished in book form, that the strongest possible reasons exist for this feeling. The discussions on dental education and the relationship of dental and oral surgery indicate that the work of the Section has developed a wide-spread interest among dentists and physicians as to their mutual relations. The views advanced by Dr. N. S. Davis more than 40 years ago seem about to be realized. The same trend is shown in the discussion of interstitial gingivitis from the constitutional, pathologic and prophylactic standpoint in lieu of the simple therapeutic or operative. One reason for the successful work of this Section is, that its secretary has been the same for fifteen years, and has thereby been able to keep in touch not only with the current questions of the day but with the most prominent practitioners of stomatology and their researches. The Section has eminently deserved the praise of being, in the best sense of the term, practical.

Electric Attraction of Dew.—Some recent experiments seem to indicate that electric attraction has something to do with the collection of dew and hence with the water supply. Much more dew collected in basins connected with the ground by a conductor than in similar basins completely insulated.

Medical News.

CALIFORNIA.

THE BERKELEY HOSPITAL directors have selected a site for the new building and hope to be able to receive patients before the end of the year.

A SITE has been offered the San Francisco Board of Health for a pest-house, consisting of a three-acre isolated tract on the bay shore in South San Francisco.

THE LOMA LINDA ASSOCIATION has been incorporated with a capital stock of \$200,000, to build and operate a sanatorium at Mound City, five miles south of San Bernardino.

THE FRESNO COUNTY HOSPITAL was burned to the ground October 18. Fortunately all the inmates were removed in safety. The loss was \$80,000, insured for \$27,500.

THE OAKLAND COLLEGE OF MEDICINE AND SURGERY filed its incorporation papers October 19. The incorporators are Drs. Frank L. Adams, Carl R. Krone, Dennis D. Crowley and Hayward G. Thomas, Oakland, and Joseph S. Eastman, Berkeley. The decision in the Garelon will case, announced in THE JOURNAL last week, has brought this matter to a head, and the college will probably be ready in January, long before the hospital will be built.

ILLINOIS.

THE WILL of the late Jacob Fromm, Moline, which was probated October 18, bequeaths land valued at \$3000 to the city hospital.

Chicago.

NORTHWESTERN UNIVERSITY WOMAN'S MEDICAL SCHOOL has opened with a large freshman class.

"TRUE BILLS" were found by the federal grand jury, October 25, against "James Armstrong, Thomas Armstrong and John H. Randall, officials of the Metropolitan Medical College, known as a 'diploma mill,' charged with using the mails to defraud." They are said to have defrauded the following men by selling them worthless diplomas: D. M. Mott, Fairplain, Pa.; Joseph De Barthe, Baker City, Ore., and H. Almstedt, St. Charles, Mo. The accused are at liberty under bonds.

INDIANA.

DR. W. R. PAGE, formerly of Middlebury, who has been in charge of the medical department of the Mennonite missions at Dhambari, India, has returned home to recuperate.

THE LOGANSPORT board of health rescinded, on October 19, the order for general vaccination of pupils and teachers of schools, as it considers that the danger from smallpox has passed.

MADISON COUNTY, during the quarter ended September 30, had 50 cases of typhoid fever, 25 of diphtheria, 39 of scarlatina, 20 of measles, 24 of smallpox, 3 of cerebrospinal fever, and only 1 of phthisis.

DR. MAVITY J. SPENCER, Indianapolis, has been appointed superintendent of the city hospital, vice Dr. Charles H. C. Poucher, resigned. Dr. John F. Benham succeeds Dr. Spencer as superintendent of the city dispensary, and Dr. Ernest C. Reyer takes Dr. Benham's place on the board of health.

MICHIGAN.

NOTICE. Having received complaint from several Detroit physicians that one Frank B. Kenneth is claiming that he is authorized to solicit and make collections for THE JOURNAL, we desire to state that this person is not connected in any way with this publication. At one time he was authorized to solicit subscriptions, but never to make collections.

THE DETROIT MEDICAL AND LIBRARY ASSOCIATION has decided to disband and to join the Detroit Medical Society.

THE SECRETARY of the State Board of Health has called attention to the necessity of a law which shall vest in some competent authority the power to determine what diseases are dangerous and communicable within the meaning of the health laws of the state.

THE DETROIT MEDICAL SOCIETY, which embraces in its membership physicians residing in Wayne County, at its October 24 meeting appointed a committee consisting of Drs. J. Henry Carstens, David Inglis and Louis J. Goux to study the plan of the contemplated reorganization of the Michigan State Medical Society.

THE CONSIDERABLY DISCUSSED physicians' business association had its preliminary meeting for the organization in Detroit, October 29. Several modifications were made in the previously published plan. The word "business" was left out of the title of the organization, the black-listing feature was abolished, as

were also the fines for non-attendance at meetings. As it now stands, according to reports, the designation of the association is "The Physicians' Association of Detroit," and its organization is purely on professional and ethical lines.

NEW JERSEY.

THE GRAHAM MEMORIAL operating pavilion of the general hospital, Paterson, the gift of Mrs. John Graham, New York, in memory of her husband, was thrown open to public inspection October 18.

THE JERSEY CITY BOARD OF HEALTH has decided to hold systematic inspections of all school children in order to guard against the spread of infectious disease. Six local physicians have been assigned to this duty.

NEW YORK.

THE FLUSHING HOSPITAL is again in financial distress, and has issued an appeal for \$5000 which, it thinks, the 13,000 people living tributary to it should raise.

THE SUPREME COURT, Appellate division, first department, has decided, in the case of Helen D. Ward vs. the St. Vincent's Hospital, in the city of New York, that "a charitable hospital corporation is liable to a 'pay' patient for personal injuries sustained through the negligence of a nurse, it having agreed to provide proper care and attendance."

Buffalo.

DR. HARRY MEAD has returned from Europe.

DR. P. W. VAN PEYMA has returned from a three-months trip to Europe.

DR. JOHN H. GRANT has been appointed assistant commissioner of agriculture for the Ninth Division.

DR. NELSON G. RUSSELL, as the result of a competitive examination, has been appointed city district physician, to succeed the late Dr. George W. Lewis.

A NUMBER of rooms at the Service Building of the Pan-American Exposition have been utilized as temporary quarters for the medical department of the Exposition. Each day a number of emergency cases occur in the army of 3000 workmen, which require the attention of the surgeon, Dr. Victor Kenerson.

New York City.

DR. J. RIDDLE GOFFE has returned from his European trip.

BY THE explosion of chemicals and fire in the Tarrant Building at Greenwich and Warren streets, October 29, the M. J. Breitenbach Company and other pharmaceutical houses suffered to a considerable extent.

THE ANNUAL REPORT of the New York Eye and Ear Infirmary for the year just closed shows that 30,878 new cases were treated in the eye department and 9710 in the ear and 7000 in the throat departments. There were 2257 patients cared for in the hospital wards. The institution now has a pavilion for the reception of cases of contagious ophthalmia.

THE COMMITTEE having in charge the selection of a suitable site for the new State Hospital for Tuberculosis has again looked into the Dannemora site. The chief objections mentioned were the inaccessibility of this place, and the unpleasant connection of the name of the place with the state prison. The Chateaugay Railroad Company thereupon offered to extend their railroad to the hospital grounds, and, if need be, to build a separate station on the grounds, the committee being allowed to select the name for this station.

DR. WILLIAM T. JENKINS, health commissioner, has just returned from a tour of inspection abroad. His object was to study methods employed in British cities for the disposal of garbage, but he embraced the opportunity to go to the plague hospital at Glasgow and see the eighteen cases of bubonic plague there under treatment. He described them as having the anxious face seen in typhus fever. He was favorably impressed with the results obtained with Haffkine's serum, so much so that he procured a dozen bottles for use at this port should the emergency arise. All physicians attached to the Glasgow hospital use the serum on themselves for self-protection, but the injection of the serum leaves them with very stiff and swollen arms.

OHIO.

DR. C. W. TANGEMAN has been elected professor of ophthalmology in the Cincinnati College of Medicine and Surgery.

THE SCHOOL COUNCIL of Cleveland has tabled the resolution calling for the appointment of three medical inspectors of schools on account of scarcity of funds.

THE EMERGENCY HOSPITAL at the Columbus city prison has been completed, inspected and accepted by the city. It contains six wards, operating-room and store-room.

On October 10 the semi-annual change of internes to the Cincinnati Hospital took place. Of the out-going staff Drs. Wylie

Aytes and Allan Brankamp leave for study in Europe. Drs. Frank Lamb, Albert Gustetter, F. C. Vogen and O.P. Coe were installed as junior internes.

PENNSYLVANIA.

DR. HARRY W. DECHERT, Tamaqua, for five years medical examiner of the Philadelphia and Reading Relief Association, has resigned.

THE CHESTER HOSPITAL reorganized its staff at a meeting, October 12, at which Dr. J. L. Forwood was elected president; Dr. Robert S. Maison, secretary; Drs. J. L. Forwood, F. Farwell Long, Samuel R. Crothers, F. Otis Bryant, and Robert S. Maison, on the surgical staff, and Drs. Hannah J. Price, Ellen E. Brown, W. Knowles Evans, Ellis M. Harvey, and Harry Horning, on the medical staff.

October 21 the Philadelphia *Press* again began an attack on the State Medical Examining Board and the methods pursued by that body. The paper claimed that it sent a representative to Harrisburg to look over the examination papers of the men who had gone before the board at its meeting in June, and the results of this inspection had shown that, although certain of the men had not obtained the necessary general average (75) at the examination, their marks were afterward carried up or were "padded" and that these men were afterward given certificates to practice medicine. It also claims that at the examination, 23 per cent. of the men had failed to attain the general average of 75, but according to the report of the board filed six weeks later, only 13 per cent. had failed. This paper, in its editorial columns charges that this result has been brought about by pressure exerted by relatives and friends of the applicants. The next semi-annual meeting of the board will be held in December, when action will be taken on the charges.

Philadelphia.

LAST WEEK, 3 new cases of smallpox were reported to the board of health, all of these cases occurring among white people. They are being cared for at the municipal hospital.

A *RUST* by John J. Boyle, of this city, of Dr. George B. Wood, formerly professor of practice of medicine, and trustee in the University of Pennsylvania, has been bought and will be placed in the library building.

DR. JAMES M. ANDERS entertained Dr. Maurice H. Richardson, of the Harvard Medical School, at a dinner given at the Union League Club on October 26. Afterward Dr. Richardson attended a reception given in his honor by the Philadelphia Medical Club.

DIPHTHERIA has greatly increased since the opening of the public schools in September. The board of health decided not to close the schools, but the buildings will be thoroughly cleansed. A study of the statistics shows a rapid increase in the number of cases of this disease. Thus, for the week ended August 25 there were only 38 cases, for that ended September 8, there were 94 cases; September 22, 102 cases; October 20, 110 cases. Scarlet fever has also increased. For the week ended September 15, there were 13 cases, but in one week of October 30 cases were reported.

TENNESSEE.

THE CHATTANOOGA MEDICAL COLLEGE opened for its twelfth annual session, October 10.

THE TENNESSEE MEDICAL COLLEGE opened on October 9 for its annual session.

THE MEDICAL DEPARTMENT of Knoxville College has been discontinued, and its students will be transferred to Meharry Medical College, Nashville.

DR. THOMAS W. GALLION, who has practiced in Dandridge for twenty years, will soon leave for the west. He will be succeeded by his brother-in-law and former student, Dr. Samuel W. Fain, of Chattanooga.

AS A RESULT of the investigations of the State Board of Health, an order has been issued by the board whereby Maury County, where smallpox has been found and where proper precautions against its spread had not been enforced, has been quarantined until further notice.

TEXAS.

DR. MORTON, who lost heavily in the recent Galveston disaster, has located in El Paso.

QUARANTINE is still maintained at El Paso against bubonic plague in San Francisco. To enter Texas, one must have been away from San Francisco for fifteen days. Many passengers are turned back at the state line.

A COMMITTEE of the El Paso County Medical Society has been appointed to invite the members of the regular medical profession of Texas, New Mexico, Arizona and Mexico to meet

in El Paso, Jan. 17, 1901, for the purpose of organizing a tri-state or territorial medical association.

THE TRUSTEES of the medical department of the University of Dallas have elected the following faculty: President, Dr. J. Edward Gilcreest, Gainesville, gynecology; vice-president, Dr. Berthold E. Hadra, Waco, surgery; Dr. Samuel H. Stout, obstetrics; Dr. Samuel E. Milliken, surgery; Dr. Joseph D. Beckton, Greenville, physiology; Dr. Lawrence Ashton, principles and practice of medicine; Dr. Egbert Dunlap, materia medica and therapeutics; Dr. Vene P. Armstrong, diseases of women; Dr. A. F. Beddoe, diseases of children; Dr. Charles M. Rosser, mental and nervous diseases and clinical medicine; Dr. David Davidson, New York City, pathology and histology, and Dr. Jesse B. Titterington, anatomy and diseases of the eye, ear, nose and throat.

UTAH.

THE BOARD OF HEALTH of Salt Lake City has passed a rule requiring physicians to report cases of chickenpox and measles, and quarantining such cases.

THE DEATH-RATE of Salt Lake City for September was 13 per 1000 per annum. The deaths were 58 and the births 114. During the month, 21 cases of smallpox, 17 of scarlet fever, and 32 of typhoid fever were reported.

DR. THEODORE B. BEATY, secretary of the State Board of Health has lodged two complaints against Dr. Wiley E. Ferreebe, Murray, charging him with violating the quarantine laws by failing to report two cases of smallpox to the local health officer. Dr. Ferreebe states that in accordance with instructions from the county physician, he reported the cases to him.

WASHINGTON.

DR. HAMILTON STILLSON, Seattle, has returned from a five-months' tour of Europe.

SEATTLE reports for September a death-rate of only 6.6 per 1000 per annum. There was a marked decrease in the number of cases of communicable diseases during the month.

THE DEACONESSES' HOSPITAL, Seattle, will be opened early this month. It is a substantial four-story building, erected at a cost of \$35,000, and will be equipped according to modern methods.

OUT OF 55 candidates who took the state examination in July, 50 have been granted license to practice, which demonstrates either that the examination was easy or that the candidates possessed talents of an unusually high order.

WISCONSIN.

DR. STEPHEN S. STACK returned to Milwaukee after a five-months' stay in Europe, and assumed charge of the Sacred Heart Sanatorium on November 1.

LICENSES for 62 physicians in various parts of the state were granted by the State Board of Medical Examiners, October 10.

THE OSTEOPATH who was charged with violating the law by using the title of doctor and practicing medicine without a license, was found guilty by Justice Neelen, of Milwaukee, October 20, and fined \$50 and costs.

PECULIAR PROVISIONS of the will of the late John Plankinton, Milwaukee, whereby the reversion to the Milwaukee Hospital is made terminable on Miss Elizabeth Plankinton's reaching the age of 55, will probably result in that institution being deprived of several million dollars, as Miss Plankinton is nearing that age and is in good health.

GENERAL.

SURGEON W. H. RUSH, U. S. Navy, who was ordered before a retiring board, has been found disqualified for further service and has been retired.

THE ANNUAL MEETING of the Southern Medical College Association will take place in Atlanta, Ga., on November 13, at the Kimball House. The meeting will be called to order at 10 a. m.

THE JOSIAH SIMPSON HOSPITAL, comprising 37 buildings at Old Point Comfort, Va., in which more than 2000 sick and wounded were cared for during the Spanish-American war, has been sold at public auction.

CONTRACT SURGEONS in the army, or acting assistant-surgeons with the honorary rank of first lieutenant, have been decided by the comptroller of the treasury to be neither officers nor enlisted men, and hence not entitled to the 10 per cent. increase in pay provided under the law of May 26.

DR. WOODS HURCHINSON, Buffalo, who has been in England for several years, has gone to Oregon to recuperate. He was threatened with nervous exhaustion and his medical friends insisted on his giving up work for the present. He will probably remain in Oregon during the winter, returning to Buffalo next summer.

THE VITAL STATISTICS of the Sisseton and Wabpeton Sioux Indians emphasize the fact that civilization has its compensatory disadvantages in the case of aborigines. During the last year 56 deaths occurred in the combined bands, which numbers 1900 individuals. This means an annual death-rate of nearly 30 per 1000. It is reported that 90 per cent. of the deaths occur from consumption.

A FILIPINO LAD, Arturo Midel, son of the native president of Zamboango, has been sent to this country to be educated. He expects after his school work is done, to take a "thorough course in medicine and surgery and return to dispense medicine and perform operations among his people." The reason of the quotation will be apparent when it is understood that this embryo doctor is now only 10 years old.

THE *American Journal of Nursing* is a handsome new publication issued by J. B. Lippincott & Co., and under the editorial charge of Mrs. Sophia F. Palmer and an ample staff of assistants. It will be the organ of the trained nurses of the United States. The first number contains, together with contributed articles, a large amount of news items and editorial notes and comments, besides a report of the proceedings of the Third Annual Convention of the Associated Alumni of Trained Nurses of the United States, held in New York last May. The new journal begins well and has, we trust, a useful future before it.

THIRD PAN-AMERICAN MEDICAL CONGRESS.

This congress will convene at Havana, Cuba, Dec. 26-29, 1900. The Committee on Transportation has made the following report on rates for the delegates: The Southeastern Passenger Association has authorized a rate of one fare for the round-trip to Port Tampa, Fla., plus \$2 (exclusive of Pullman berths and meals), connecting with the Peninsula & Occidental Steamship Company at Port Tampa, which has authorized a rate of \$36.50 round-trip from Port Tampa to Havana, including meals and berths in each direction. This makes the rate through to Havana, from Washington, \$70.05; from Cincinnati, \$68.30; from Louisville, \$67.55, and correspondingly low rates from intermediate points. The Trunk Line Association has authorized excursion fares to Washington, added to the fares authorized by the Southeastern Passenger Association, which includes all regular ticketing routes. The Central Traffic and Western Passenger Associations have authorized regular winter tourist rates. Delegates from these territories may find it to their interest to pay local fare to Cincinnati or Louisville and use the authorized rates from those points as outlined above. The Ward Line steamers from New York, have authorized a rate, including meals and state-room in each direction, of \$60 round trip from New York to Havana, sailing Wednesday and Saturday; time, five days in each direction. Passengers who use the Ward Line to Havana, paying \$60 for the round trip and desire to return either from Port Tampa or Miami by rail, will receive a refund of \$20 by returning the unused return portion of the ticket. This will necessitate the purchase of tickets from Havana over the Peninsula & Occidental S. S. Line to Port Tampa or Miami and thence by rail. No rates have been authorized from the New England territory thus far. The United States Fast Mail leaving Washington via the Southern Railway at 11:15 a. m., Dec. 21, arrives at Port Tampa, Fla., 10:30 p. m., Dec. 22, making immediate connection with the steamer leaving Port Tampa, 11 p. m., which arrives at Havana at 5 a. m., Dec. 24. Extra sleepers will be run through from New York over the Pennsylvania Railroad, Southern Railway and Plant System to Port Tampa. The train leaving Cincinnati, over the Queen & Crescent route, at 8:30 a. m., Dec. 21, will arrive at Port Tampa 10:30 p. m., the following day, connecting with the same steamer. The train leaving Louisville over the Southern Railway at 7:45 a. m., connects with the Cincinnati party at Lexington, Ky., at 10:45 a. m. These schedules all unite at Jacksonville, Fla., and go through to Port Tampa and Havana together. It is suggested that the delegates from the East mobilize through Washington and those from the West through Cincinnati. The rates used above apply via all lines in the territories designated. Delegates are requested to send their names and the names and relationship of those who will accompany them on this trip, to Dr. H. L. E. Johnson, chairman Committee on Transportation, International Executive Committee, at the earliest possible moment, that sleeping car and steamer accommodations may be arranged in advance.

FOREIGN.

PROF. C. TERMI has completed his study of yellow fever and the plague in Brazil and returned to Italy.

THE PLAGUE in India is on the increase, but the famine situation is improving. Cholera is raging in Kashmir.

PROF. J. HOCHENEGG is conducting Albert's clinic at Vienna for the present until a successor has been officially appointed.

A "FESTSCHRIFT" was presented to Professor Kaposi, of Vienna, on the occasion of the twenty-fifth anniversary of his professorship.

THE golden professional jubilee of Dr. Kuenne, of Elberfeld, Germany, was celebrated, October 15, with much ceremony, and the title of Geheimer Sanitätsrath conferred upon him.

YERSIN has returned to Paris after four years of research in the Orient. He expects to go back soon to the Tonquin, after presenting his official report of his antiplague serum to the authorities.

THE *Gaz. Méd. de Paris* reports the eighteenth case that has been published of sudden cyanosis and symptoms of general intoxication, traced to the wearing of tan shoes that had been dyed black with an anilin tincture.

A SUSPECTED case of bubonic plague has been found in a sailor on the steamer *Ben Lomond*, which arrived in London, October 26, from the Philippine Islands. The patient is in a hospital near the mouth of the Thames.

THE talented young editor of the Russian medical journal, *Ejendebnik*, and privat docent of pharmacology at St. Petersburg, Dr. E. Kotlyar, died October 7. The death of Dr. Cordés, formerly of Alexandersbad, is also announced.

PROFESSOR RIEDER, of Bonn, who has been entrusted with the reorganization of the Turkish medical department, met recently with a serious accident in Constantinople, a fall of 45 feet, involving injury to the spine and fracture of a foot.

THE TRADES COUNCIL of Bradford, Eng., has petitioned the municipal authorities to provide a public pathologic and bacteriologic laboratory for that city. At present Cardiff is the only town in Great Britain that has established its own health laboratory.

IN IRELAND there appears to be just now a dearth of physicians. Good medical vacancies, extensively advertised, have gone a begging and practitioners have in some cases had to forego their vacations from inability to find substitutes. This is partially accounted for by the demand for the South African war.

IN THE new senate of the reconstituted London University the following have been elected as representatives of the medical faculty: Dr. Rose Bradford, physician to University College Hospital; Dr. Kingston Fowler, physician and lecturer of medicine at Middlesex Hospital, and Dr. E. C. Perry, superintendent and physician to Guy's Hospital.

THE STOCKHOLM MEDICAL SOCIETY will give a gold medal every tenth year to honor the memory of Pasteur; the recipient must be the scientist whose works have done most to promote bacteriology or hygiene. The first medal has recently been bestowed on Max von Pettenkofer, the venerable hygienist of Munich.

PROF. MAX VON NIESSEN has founded a new periodical devoted exclusively to syphilis, the *Beitraege z. Syphilis-Forschung*. The expenses are paid by an anonymous friend. Contributions are invited from persons interested in the study of syphilis, and will be published with translation, in either English, German or French.

IT APPEARS that the entries into the medical schools of England are notably fewer this year than previously. In St. Bartholomew's Hospital there was a falling off of 28 from the number of the previous year; at St. Thomas', 12; at St. George's, 10; at London, 9, etc. In a few there was a slight increase, but the net decrease was 102, a comparatively formidable figure in England, where the annual entries are counted by the hundreds rather than the thousands as in this country.

THE MEMBERS of the profession in Spain and Spanish-speaking America have organized for closer fellowship. The president of the association is J. Calleja, of Madrid, and a prominent physician in each country has been appointed to found local societies in affiliation with the central committee—Dr. Ulecia, for Cuba; Cajal, for Mexico, etc. The new Union Medica Hispano-Americana hopes to publish an official organ in time. The triennial meetings will occur on the occasion of the international medical congresses.

THE RECENT PLAGUE case at Cardiff has suggested some unpleasant possibilities. The patient, while suffering from the early stage of the disease made a railway journey from King's Lynn to Cardiff, where his case was diagnosed. This implies the possible infection of one or more probably unidentifiable third-class railway carriages that may still be spreading the infection. The possibility of undiagnosed plague scattered throughout England and Wales, through such an unfortunate

accident, is not at least a pleasant one to contemplate, though it is one that has to be rationally considered.

THE STOCKHOLM *Dagblad* states that it has taken four years to realize and bring into shape the vast estate of the inventor of dynamite to comply with the conditions of the will in regard to the endowment of the famous Nobel prizes, each of which is a fortune in itself. It is anticipated now that the five prizes can be awarded in 1901. Physicians are interested, as one of the five is for "progress in medicine." No notice will be taken of personal applications. The committee in charge of the physics and chemistry prizes has already requested suggestions from the professors of these sciences at the principal universities of the world, including Rome, Leyden, St. Petersburg and Chicago.

Correspondence.

Dr. Oliver's Article on Tuberculosis.

SARANAC LAKE, N. Y., Oct. 25, 1900.

To the Editor.—In connection with my article which appeared in THE JOURNAL, October 20, it has been suggested to me that I did not succeed in making it clear that the article was not "inspired" by Dr. Trudeau, nor written in any sense with a view to flattering him. A failure to understand this might lead to serious misinterpretation of him and his motives, and perhaps hamper the work he is doing.

Let me state the fact plainly, therefore, that the article was written without his knowledge, and he knew absolutely nothing of its contents until he saw it in print. If in your estimation there was possible such a misinterpretation, I beg you, in justice to him and to me, to publish this statement at your earliest convenience.

EDWARD S. OLIVER, M.D.

Sanitary Condition of Atlantic City.

ATLANTIC CITY, N. J., Oct. 26, 1900.

To the Editor.—"The sanitary condition of Atlantic City at the present time is said to be bad, and this is especially due to the defective sewerage system and the lack of attention from the board of health." THE JOURNAL, page 760.

This unfortunate misrepresentation of the sanitary condition of Atlantic City is evidently founded, as it says, on hearsay and not on facts and vital statistics. When Atlantic City has just closed the healthiest season in the history of the resort it is unfair to allow this statement to go unchallenged.

All contagious and infectious diseases must be reported to the board of health immediately on their diagnosis, under heavy penalty. Houses are not placarded, but are properly quarantined when occasion demands. No epidemics of any kind have occurred during the past year, nor in a number of years.

The sewerage system of Atlantic City is known as the West system and is constructed the same as that used in Pullman, Ill., and Norfolk, Va. The plant has been working perfectly, except for two days during last August, when an obstruction in one of the mains in the upper section of the city caused a temporary annoyance to a very small section, but from which no evidence of disease or sickness could be traced. The sewage, when filtered of all large objects, is carried in pipes over one mile from the city limit to a thoroughfare of swift tidewater, where 800 million gallons of seawater pass a given point in twenty-four hours. This thoroughfare flows five miles before it reaches the ocean before the city and the current goes directly to sea so that the sewage is so thoroughly diluted and destroyed by the salt water that it is absolutely harmless. No sewage refuse has ever been known to wash up on the beach in front of the city from the present system. My own residence is situated in the center of the city, where the system is probably most taxed, and in the last three years I have not had the first fault to find with its service.

There is probably no healthier city in the United States than Atlantic City. Our death-rate, while low, is not the lowest, but this is due to the large number of deaths among non-resident visitors who come here in the last stages of disease—many to die as they would in any other place. By eliminating these cases our death-rate will compete for lowest place with the most favored cities.

The administrative ability of the board of health has never been better, and if there have been a few cases overlooked, not reported, or concealed they should not come in for unjust censure. Every case coming under their care has been properly handled, and they stand ready to meet any emergency and to protect the city against any imported or local diseases.

W. BLAIR STEWART, M.D.

Was "Commercialism" Its Basis? A Protest.

ASHEVILLE, N. C., Oct. 24, 1900.

To the Editor:—It seems to me most unfortunate that you should have allowed your excellent tuberculosis number of October 20 to be spoiled by giving access to it, of a paper which, apparently—for I do not want to do its author an injustice in case it was meant well—is a purely commercial advertisement of a special method of treatment so indistinctly described that those wishing to test its reputed virtues will have to write to its author for particulars. I refer to the paper by Dr. Lisle, of Columbus, on the Treatment of Pulmonary Tuberculosis. I believe that any one who reads it will be convinced that, however honest the intention of its author, he has been unfortunate in the way in which he wrote, if he wished to "avoid the appearance of evil."

When one comes forward with a new treatment it is customary to state fully and clearly each detail, and when its central point is a prescription to give its ingredients specifically. In Dr. Lisle's case, however, he gets no nearer to it than to mention that it is "a solution of unstable carbon compounds of the aromatic series," and in mentioning the apparatus necessary in the use of this compound he is too indefinite for any one to be sure whether a special apparatus known only to himself or the ordinary nebulizing apparatus, is required.

While one could easily criticize any treatment which shuts a consumptive away from the fresh air and substitutes an artificially medicated air for it, it is not to criticize its medical features that I write but to protest against the publication in THE JOURNAL, which should be above every other in the ethical and scientific standard of its papers, of articles which justify cause outsiders to sneer and fortifies the unjust belief that the American profession is a commercial one. If the essayist is innocent of any commercial intent, which I would gladly believe, I regret that he gives such cause for suspicion. Nebulous statements, such as here made, lead the least suspicious to think that to get the results spoken of the patient must put himself under the charge of the author, the only man who can know, from what he writes, how to carry out this new specific treatment. A clear and distinct statement of what drugs and apparatus he uses, thus opening his treatment to the possibility of verification and control by others, without the necessity of recourse to some special source of supply, would at least free him from any accusation of self-interest, though it may not cause the medical world to abandon the admirable method so unanimously advocated by the other writers in this number, or to believe that he any more than the thousands who have preceded him have found drugs which can compare with fresh air and hygiene in the treatment of pulmonary tuberculosis. Grateful as are all our members to you for the great improvement you have worked in THE JOURNAL, I think I can safely undertake to speak for many of them when I hope that articles of this type may not be able to slip in unawares, but that everything published in it may be as excellent as are the balance of the papers in the number in question. Yours sincerely,

CHARLES L. MINOR, M.D.

Association News.

American Medical Association Medal.

The Committee on the award of the ASSOCIATION medal desires to call attention to the following: The AMERICAN MEDICAL ASSOCIATION offers annually a gold medal valued at \$100.00 for the best essay on any subject relating to medicine or surgery. At the last meeting of the ASSOCIATION it was

decided that hereafter the recipient of the prize should be given the option of the gold medal or a bronze replica of the medal and the balance of the appropriation in money.

The competing essays must be typewritten or printed, and bear no mark revealing their authorship; but instead of the name of the author, there must appear on each essay a motto, and accompanying each essay a sealed envelope containing the name of the author and bearing on its outer surface the motto of identification. No envelope is to be opened by the Committee until a decision has been reached as to the most deserving essay, and the other essays have been returned to their respective owners. The Committee has authority to reject and return all essays in case none have been found worthy of the ASSOCIATION medal.

The Committee suggests as one of the important topics of the day that of Tropical Diseases, but, while suggesting this, does not wish to dictate in the slightest degree that this branch of medicine must be the subject discussed.

Competing essays must be in the hands of the Committee not later than March 1, 1901. For further information address any member of the Committee, which consists of the following: Dr. William Osler, Baltimore, Md.; Dr. C. W. Richardson, Washington, D. C.; Dr. Rudolph Matas, New Orleans, La.

Nicholas Senn Prize Medal.

The committee on the Senn Medal beg leave to call attention to the following conditions governing the competition for this medal for 1901:

1. A gold medal of suitable design is to be conferred upon the member of the AMERICAN MEDICAL ASSOCIATION who shall present the best essay upon some surgical subject.

2. This medal will be known as the Nicholas Senn Prize Medal.

3. The award shall be made under the following conditions:

a. The name of the author of each competing essay shall be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the meeting at which the award is made, and the corresponding envelope to be then and there opened and the name of the successful author announced. b. All successful essays become the property of the ASSOCIATION. c. The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the ASSOCIATION. d. The competition is to be confined to those who at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the AMERICAN MEDICAL ASSOCIATION. e. The competition for the medal will be closed three months before the next annual meeting of the AMERICAN MEDICAL ASSOCIATION, and no essays will be received after March 1, 1901.

Communications may be addressed to any member of the committee, consisting of the following: Dr. Maurice H. Richardson, Boston, Mass.; Dr. Frederick Holme Wiggin, New York, N. Y.; Dr. Clayton Parkhill, Denver, Col.

Marriages.

DR. ELGIN O. BINGHAM, Niagara Falls, N. Y., to Miss Florence Estelle Young, Loekport, N. Y., October 17.

DR. ALBERT R. DA COSTA, Jr., Chicago, to Dr. Helena K. Gray, Princeton, Ind., October 17.

DR. GEORGE W. DUFFICY, Sacramento, Cal., to Miss Alberta Evelyn Rackliffe, at San Francisco, October 24.

DR. WAYLAND S. HUGH, Cuyahoga Falls, Ohio, to Miss Sadie F. Johnston, Ironton, Ohio, at Tolono, Ill., October 22.

DR. ROBERT E. McCANDLESS, Perry, Okla., to Miss Esther Harwood, at Cedar Rapids, Ia., September 27.

DR. GEORGE A. HOLLISTER to Miss Mary Lamb, both of Toledo, Ohio, October 6.

DR. PAUL MITFORD MCCRAY, to Miss Jane Elizabeth Boyer, both of Camden, N. J., October 18.

DR. JOSEPH R. MOUNTAIN, Connorsville, Ind., to Miss Elizabeth Clark, Cincinnati, Ohio, October 16.

DR. THOMAS G. ODELL, Butte, Mont., to Miss Maude F. Hardy, Salt Lake City, Utah, October 16.

DR. PEARL E. SOMERS to Miss Nellie Morrison, both of Des Moines, Ia., October 10.

DR. EDGAR A. STEWART, Dayton, Ohio, to Miss Mary Chenoweth, of Fairfield Township, Madison County, Ohio, October 17.

DR. RICHARD CHARLES THOMPSON, Pine Bluff, Ark., to Miss Anita Kellogg, Cincinnati, October 24.

DR. HAROLD WILSON to Miss Nellie I. Dorman, both of Conneaut, Ohio, October 11.

DR. JOHN W. WRIGHT to Miss Clara Katherine Keller, both of Erie, Pa., October 15.

DR. J. F. NOOL, Boerne, Tex., to Mrs. Mary Hutchings-Spencer, Galveston, Tex., October 17.

DR. P. S. KEOGH to Mrs. Nellie Fulton, both of Salt Lake City, Utah, October 20.

DR. PERCY C. PROCTOR, Gloucester, Mass., to Miss Mary H. Marlin, Boston, Mass., October 18.

DR. WILLIAM C. NEWTON, Revere, Mass., to Miss Elizabeth Starwood Perry, Worcester, Mass., October 16.

DR. JULIUS FRIEDENWALD, Baltimore, Md., to Mrs. Esther L. Reinhard, Baltimore, October 25.

DR. PHILIP F. ROGERS, Milwaukee, Wis., to Miss Cornelia N. Meinhardt, Burlington, Wis., October 25.

DR. ALBERT E. BLACKBURN, Philadelphia, Pa., to Miss Myra Holliday, Bellefonte, Pa., November 7.

DR. BURT L. EASTMAN, Kansas City, Mo., to Miss Grace Lucile Denslow, October 22.

Deaths and Obituaries.

EDWARD R. SQUIBB, M.D., Jefferson Medical College, 1845, died at his home in Brooklyn, October 26, aged 81 years. He was born in Wilmington, Del., and was in charge of the medical station at the Brooklyn navy yard when the Civil War broke out. On his resignation from the navy he started a private laboratory in Brooklyn. He retired from business about fifteen years ago. He was a member of THE AMERICAN MEDICAL ASSOCIATION, New York State Medical Association, etc. Dr. Squibb was an authority on pharmaceutical subjects.

LAURENCE TURNBULL, M.D., Jefferson Medical College, 1845, died at his home in Philadelphia, October 24, after a long illness, aged 79 years. He was born in Lanarkshire, Scotland, and came to this country in 1833. He was the author of many contributions to the literature, and his text-book on anesthesia is a standard. He claimed the distinction of being the first in America to open the mastoid process. He was a member of THE AMERICAN MEDICAL ASSOCIATION, ex vice-president of the Pennsylvania State Medical Society, etc.

MOSES C. WHITE, M.D., Yale University, 1854, died at New Haven, Conn., October 24, aged 81 years. He was born in Paris, N. Y. He first studied for the ministry, and was a missionary in China from 1847 to 1853. He was secretary of the Connecticut State Medical Society from 1864 till 1876. In 1867 he was appointed professor of pathology and histology in Yale Medical College. His active duties continued until last June, when he resigned and was made professor emeritus.

JOHN G. GRIGGS, M.D., University of Pennsylvania, 1853, died at Birmingham, Ala., from heart disease, October 21, aged 70 years. At the outbreak of the Civil War he enlisted as a private in an Alabama regiment, but was soon made surgeon of the 5th Georgia. For thirty years thereafter he practiced in Tuskegee, Ala., and then moved to Birmingham.

WILLIAM F. REILY, M.D., University of Pennsylvania, 1875, died at Carlisle, Pa., October 19, aged 48 years. He had been assistant surgeon of the 8th Infantry, N. G. Pa., for ten years, and served in the Spanish-American War, where he contracted the malady which caused his death.

WILLIAM T. NEWTON, M.D., Medical College of Ohio, 1876, died at Indianapolis, October 22, from Bright's disease. He was professor of materia medica in the Central College of

Physicians and Surgeons, and a member of the AMERICAN MEDICAL ASSOCIATION.

WILLIAM H. STURGEON, M.D., Jefferson Medical College, 1849, died at Uniontown, Pa., October 15, aged 74 years. He was one of the oldest practitioners in Fayette County, and a member of his county and state society and of the AMERICAN MEDICAL ASSOCIATION.

CHARLES S. FERRELL, M.D., University of Wooster, 1890, died at Wheeling, W. Va., from consumption, October 22, aged 35 years. He went, several months before, to China as superintendent of a hospital, but was forced to return on account of the Boxer uprising.

CHARLES ST. JOHN, M.D., University of Buffalo, 1898, shot while attending to the wounded on the firing line in a scrimmage with the Filipinos. Dr. St. John had been an interne at the County Hospital at Buffalo previous to becoming contract surgeon.

GEORGE EASTMAN, M.D., Dartmouth Medical College, 1844, died at his home in Platteville, Wis., October 24, aged 76 years. He was medical inspector of 17th Army Corps in the Civil War.

HENRY MORETON, M.D., College of Physicians and Surgeons, New York, 1845, died in New York City, October 25, aged 93 years. He was a son of a British army surgeon.

BENJAMIN BROOKE, M.D., University of Pennsylvania, 1889, died, October 18, at Radnor, Pa., aged 34 years. He was late a surgeon and captain U. S. Army.

JOHN W. ROBINSON, M.D., College of Physicians and Surgeons, New York, 1867, died at Lyons, N. Y., from heart disease, October 21, aged 57 years.

ROBERT J. BAGBY, M.D., Washington University, St. Louis, 1863, died at Roanoke, Mo., from cancer of the stomach, October 15, aged 68 years.

WILLIAM HOLLAND, M.D., Rush Medical College, died at Crawfordsville, Ind., from rheumatism and exhaustion, October 20, aged 84 years.

GUILIAM A. ZABISKIE, M.D., College of Physicians and Surgeons, New York City, 1882, died in New York City, October 25, aged 42.

EDWIN S. THOMAS, M. D., University of Maryland, 1849, died at Philadelphia from hemorrhage of the lungs, October 17, aged 72 years.

WILLIS L. MAY, M.D., Rush Medical College, 1858, died suddenly of heart disease in his office at Crawfordsville, Ind., October 24.

DAVID PELLMAN BOYER, M.D., Jefferson Medical College, 1846, died at Philadelphia, of Bright's disease, October 15, aged 76.

PHILIP ROTH, JR., M.D., University of Vermont, 1884, died at Newark, N. J., from cardiac disease, October 21, aged 36 years.

BENJAMIN M. TURNER, M.D., University of Vermont, 1889, died at his home in Gardiner, Me., October 25, aged 36 years.

GEORGE A. MUEHLECK, M.D., University of Heidelberg, 1883, died at his home in Philadelphia, October 25, aged 40 years.

EDWARD A. HERVEY, M.D., New York University, 1859, died at his home in Rossville, N. Y., October 26, aged 76 years.

HUGO FREDERICK MAYER, M.D., College of Physicians and Surgeons, New York, 1882, died in New York, October 21.

WILLIAM B. WILSON, M.D., New York University, 1852, died at Cape Girardeau, Mo., October 18, aged 69 years.

GEORGE H. W. MUSEKAMP, M.D., Medical College of Ohio, 1884, died at Cheviot, Ohio, October 22, aged 59 years.

WILLIAM J. NELSON, M.D., University of Maryland, 1883, died at Middletown, N. Y., October 26, aged 40 years.

WILFRED C. MUSE, M.D., Baltimore Medical College, 1892, was accidentally drowned, October 22, aged 32 years.

HIRAM W. RITTER, M.D., Jefferson Medical College, 1877, died at Souderton, Pa., October 9, aged 47 years.

CHARLES ROEMMELT, M.D., University of Buffalo, 1898, died recently of dysentery in the Philippines.

EDWARD H. CUTTER, M.D., Harvard University, of Leominster, Mass., died October 23, aged 45 years.

WILLIAM T. PRENTISS, M.D., Jefferson Medical College, 1884, died at Lewisport, Ky., aged 73 years.

ALICE B. BAIRD, M.D., Woman's Medical College, Chicago, 1883, died at her home at Pierre, S. D.

G. W. ROTHWELL, M.D., University of Virginia, died at Sedalia, Mo., aged 88 years.

Miscellany.

MARINE HOSPITAL NOTES.

ASST.-SURGEON CARROLL FOX, who has been on duty during the past summer at the national quarantine station, Dutch Harbor, Alaska, returned to Port Townsend, and has been assigned to duty in charge of the service at Portland, Oregon.

ASST.-SURGEON H. S. MATHEWSON has been detailed as chief quarantine officer for the Island of Porto Rico under the provisions of department circular relating to the establishment of the quarantine service in the Island of Porto Rico.

PLAGUE SITUATION IN GLASGOW.

REPORTS from P. A. Surgeon Thomas at Glasgow show that for the week ended October 27 there were no new cases and no deaths from plague; four cases were discharged and ten remain.

CHOLERA IN THE EAST.

In a special report, the U. S. Consul at Bombay says that cholera is raging in India, that it is of a very fatal type, prevailing among all classes in all sections of the city and generally throughout the famine area of Western India. Eight hundred and thirty-four cases and 751 deaths were reported for the week ending August 22 in the city of Bombay alone. In addition to the above official reports, the press reports state that there have been 4500 deaths from this disease in Kabul, Afghanistan. It is therefore likely that it will soon be necessary for health officers to give special attention to vessels coming from ports of the Black Sea, Persian Gulf and the Red Sea. In this connection, the report of the commission of the Marine Hospital Service, appointed in 1892 to investigate the cholera epidemic and the danger of contagious diseases from foreign countries, is of particular interest at this time. This report, with maps showing the usual routes of cholera, is published in full in the annual report for 1893.

Hurdwar, in India, where a great annual fair is held, seems to be the starting distributing point, for it is to Hurdwar that traders come from all parts of India to meet a like stream from Persia and Afghanistan, where they exchange the products of the two countries. Hurdwar is on the Ganges, and the religion of the Hindoo makes it obligatory to bathe in the stream at this point, and when there is a drouth the stream is nothing but a series of pools, in which every one must bathe. It becomes a focal point from which disease radiates. Then along the routes of travel the disease spreads from India to Afghanistan, thence to Persia, thence into Turkey in Asia, Turkey in Europe and thence to other portions of Europe and the civilized world.

Societies.

Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13-15.

Oklahoma Territory Medical Society, Oklahoma City, Nov. 15.

The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, Nov. 13-15.

Indian Territory Medical Association, Muskogee, Dec. 4-5.

THE CHESHIRE COUNTY (N. H.) MEDICAL SOCIETY, at its annual meeting elected Dr. Gardner C. Hill, Keene, president; Dr. Charles H. Cutler, Peterboro, vice-president, and Dr. John D. Proctor, Keene, secretary and treasurer.

THE NORFOLK (Va.) MEDICAL SOCIETY has elected Dr. Charles R. Grandy, president; Drs. Benjamin M. Baker and Israel Brown, vice-presidents; Dr. Philip St. L. Moncreu, secretary, and Dr. W. Levi Old, treasurer.

THE PAWTUCKET (R. I.) MEDICAL SOCIETY was organized, Oct. 10, with the following officers: Dr. William H. Heimer, Pawtucket, president; Dr. Eugene A. Kennedy, Central Falls, vice-president, and Dr. Joseph E. Duxbury, Lonsdale, secretary.

THE PORTSMOUTH (Va.) MEDICAL SOCIETY elected the following officers at its annual meeting, held Oct. 16: Dr. Joseph

Grice, president; Dr. Otto C. A. Bindewald, vice-president, and Dr. Vernon G. Culpepper, secretary and treasurer.

THE EAST TENNESSEE MEDICAL SOCIETY held its semi-annual meeting at Bristol, Sept. 27 and 28, and elected Dr. David M. Miller, Indian Springs, president; Dr. Charles J. Broyles, Johnson City, secretary, and Dr. William J. Matthews, Johnson City, treasurer.

THE PHYSICIANS' PROTECTIVE ASSOCIATION has been organized at Dunkirk, Ind., with the following officers: Dr. Jonathan B. Garber, president; Dr. J. S. Lytle, vice-president, and Dr. Donn P. Murray, secretary.

THE EL PASO COUNTY (Texas) MEDICAL SOCIETY held its second annual meeting at El Paso, Oct. 13, and elected Dr. Howard Thompson, president; Dr. Stephen T. Turner, vice-president; Dr. Junius A. Rawlings, secretary, and Dr. Herbert E. Stevenson, treasurer.

THE DENVER AND ARAPAHOE MEDICAL SOCIETY met on Oct. 23. An address was made by Dr. Josiah N. Hall, on "Enteropneusts," and papers were read by Dr. A. Mansfield Holmes on "Some Problems Pertaining to Tuberculosis," and by Dr. Frank E. Waxham, on "Mycosis of the Throat."

THE LUCAS COUNTY (Ohio) MEDICAL SOCIETY met Oct. 10. Dr. W. J. Gillette read a paper on "Uses of Forceps in Labor Cases;" Dr. J. H. Jacobson made a report of "Three Cases of Aneurysm," with demonstration of a case. The treatment of hernia was generally discussed.

THE MILITARY TRACT SOCIETY held its annual meeting at Kewanee, Oct. 18 and 19, at which the following officers were elected: Dr. Robert E. Lewis, Macomb, president; Dr. Robert A. Kerr, Peoria, first vice-president; Dr. H. Nelson Heflin, Kewanee, second vice-president, and Dr. Charles B. Horrell, Galesburg, secretary-treasurer.

THE HAMDEN DISTRICT (Mass.) MEDICAL SOCIETY met at Springfield, Oct. 16. Dr. Daniel E. Keefe read a paper on "Typhoid Fever," and Dr. Louis A. Prefontaine discussed the connection of diseases of the eye with ordinary diseases. President Frank W. Draper, of the State Medical Society, then gave a short informal address.

THE NEW HAVEN COUNTY (Conn.) MEDICAL SOCIETY held its semi-annual meeting at New Haven, Oct. 18. The president, Dr. Carl E. Munger, Waterbury, read a paper on "The Prevention of Consumption," in which he advised the segregation of consumptives. The following officers were elected: Dr. Henry L. Swain, New Haven, president, and Dr. Frank B. Tuttle, Naugatuck, vice-president.

THE INLAND EMPIRE CLINICAL SOCIETY held its first semi-annual meeting at Spokane, Wash., Oct. 11, and elected the following officers: Dr. J. B. Morris, Lewiston, Idaho, president; Dr. Henry G. Mauzey, Spokane, vice-president; Dr. Charles P. Thomas, Spokane, secretary, and Dr. Alexander F. MacLeod, Spokane, treasurer.

THE SCOTT COUNTY (Iowa) MEDICAL SOCIETY held a symposium on "Tetanus," Oct. 23, at Davenport, at which Dr. John A. DeArmand considered the history of the disease; Dr. William L. Allen, its pathology; Dr. Jennings P. Crawford, the etiology and symptomatology; Dr. Edward S. Bowman, the medical treatment, and Prof. Walter L. Biering, Iowa City, the history and results of serumtherapy.

THE MISSOURI VALLEY (Mo.) DISTRICT MEDICAL SOCIETY met at Marshall, Mo., Oct. 16. Dr. William A. Braeklin, Higginsville, reported a case of peculiar injury to the shoulder joint; Dr. L. A. Bazar, Shackelford, read a paper on "Typhoid Fever;" Dr. John Puntun, Kansas City, one on "Epilepsy," and Dr. Frank J. Lutz, St. Louis, on "Needed Legislation in Matters Medical, and How to Obtain It."

THE CEDAR VALLEY (Iowa) MEDICAL SOCIETY met at Waterloo, Oct. 23. Papers were read by Dr. Paul E. Gardner, Hazelton, on "Xerostoma;" Dr. John Hamilton, Cedar Rapids, "Typhoid Fever;" Dr. Amos G. Shellito, Independence, "Appendicitis;" Dr. A. R. Rogers, Osceola, "Ethics in Venereal Diseases;" Dr. Charles S. Chase, Waterloo, "Therapeutic Considerata," and Dr. David S. Fairchild, Clinton, "Observation in Intestinal Obstruction." Drs. James W. Heustis, Dubuque, and Dallas M. Wick, Cedar Falls, reported interesting cases.

THE FRANKLIN COUNTY (Pa.) MEDICAL SOCIETY held its annual session in Chambersburg, Oct. 16, and elected the following officers: Dr. Joseph K. Snively, Shady Grove, president; Drs. Ambrose W. Thrush, Green Village, and Alvin B. Dalbey, McConnellsburg, vice-presidents; Dr. John J. Coffman, Scotland, recording secretary; Dr. Henry C. Devillbiss, Chambersburg, corresponding secretary, and Dr. David Maclay, Chambersburg, treasurer.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY met at the hospital Oct. 15. Dr. William H. Welch was elected

president, and Dr. James F. Mitchell, secretary. Resolutions of regret were adopted on the death of the late Dr. J. W. Lazear, a former teacher in the medical school, cases were exhibited and papers read by Drs. Osler, Platt, Kelly, Mitchell and Opie.

THE WYOMING STATE MEDICAL ASSOCIATION met in annual session at Cheyenne, Oct. 9 and 10. The meeting was well attended, and the papers read and discussed were of high merit. The following officers were elected for the ensuing year: Dr. Ernest E. Levers, Piedmont, president; Drs. Samuel B. Miller, Laramie, William A. Jolley, Rawlins, and Charlotte G. Hawk, Green River, vice-presidents; Dr. Isaac B. Swiggart, Laramie, secretary and editor, and Dr. Joseph L. Wicks, Evanston, treasurer. The next meeting will be held at Evanston, in October, 1901.

THE TRI-STATE MEDICAL SOCIETY OF ALABAMA, GEORGIA AND TENNESSEE, held its twelfth annual meeting in Chattanooga, Oct. 11, 12 and 13. The president's address, by Dr. Rufus R. Kime, Atlanta, Ga., was entitled "The Relation of the Profession to the Public." He dwelt on the duty of the profession to protect the public against their own folly in the use of dangerous drugs, coal-tar derivatives, opium, alcohol, etc., and suggested that a committee be appointed for the study of social problems affecting the development of the race. The following officers were elected: Dr. Matthew C. McGannon, Nashville, president; Dr. Walter G. Bogart, Chattanooga, Dr. S. Harris, Union Springs, Ala., and Dr. Michael Hoke, Atlanta, vice-presidents; Dr. Frank Trester Smith, Chattanooga, secretary, and Dr. George R. West, Chattanooga, treasurer. Nashville was selected as the next place of meeting.

THE UTAH STATE MEDICAL SOCIETY met for its sixth annual session at Salt Lake City, October 2 and 3, president Albert S. Bower in the chair. Papers were presented by the following: Dr. Harry S. Scott, on "Smallpox, With Special Reference to the Prevailing Mild Type of the Disease"; Dr. Leslie W. Snow, on "The Pupil and Its Derangement in Diseases of the Eye"; Dr. Alexander C. Ewing, "Do Doctors Disagree?" Dr. Walter S. Ellerbeck, "Observations on Formaldehyde," and Dr. Edward V. Silver, "Diseases in Schools." Cases were reported by Dr. William T. Dalby and Emerson F. Root. Dr. Donald Maclean, Detroit, was introduced by the president and gave an informal reminiscent talk. The following officers were elected: Dr. John W. Aird, Heber, president; Drs. Milton H. Hardy, Provo City, and John S. Gordon, Ogden, vice-presidents; Dr. J. C. E. King, Salt Lake City, secretary and Dr. Union Worthington, Salt Lake City, treasurer. The next meeting will be held in Provo City in October, 1901.

THE VERMONT STATE MEDICAL SOCIETY held its eighty-seventh annual meeting at Rutland, October 11 and 12. President Dr. M. Richards Crain, Rutland, in the chair. Dr. George H. Gorham, Bellows Falls, delivered an address on "The Treatment of the Eye by the General Practitioner"; Dr. Sumner E. Darling, Hardwick, reported the recent epidemic of smallpox in and around that place; and Dr. Ashbel P. Grinnell, Burlington, read a paper on "The Use and Abuse of Drugs in Vermont." Dr. M. Richards Crain, Rutland, then delivered the president's address on "Location of the Lesion in Paralysis." On the second day the proceedings opened with election of officers, which resulted as follows: Dr. William D. Huntington, Rochester, president; Dr. E. Merriman Brown, Sheldon, vice-president; Dr. Donly C. Hawley, secretary, and Dr. Elmore S. Allbee, Bellows Falls, treasurer. The following papers were then presented: "Dr. Willis G. MacDonald, Albany, N. Y., "Diagnosis of Extra-Uterine Pregnancy"; Dr. Edmund M. Pond, Rutland, "Puerperal Septicemia"; Dr. W. L. Heath, Richmond, "Pneumonia"; Dr. Charles M. Strobell, Rutland, "Hysterectomy"; Dr. J. Sutcliffe Hill, Bellows Falls, "Some of the Evils of Aseptic Surgery"; Dr. Frederick E. Clark, Burlington, "Abdominal Palpation in Obstetrics"; and Dr. Lewis H. Hemenway, Manchester, "Rupture of the Uterus During Childbirth." The next meeting will be held at Bellows Falls.

American Public Health Association.

Twenty-Eighth Annual Meeting, held at Indianapolis, Ind., Oct. 22-26, 1900.

President Dr. Peter H. Bryce, Toronto, in the chair.

Addresses of welcome were delivered by ex-President Benjamin Harrison, Governor James A. Mound, and Hon. Addison C. Harris, Minister to Austria. The response to these addresses was made by Dr. Charles A. Lindsley, New Haven, Conn.

CAR SANITATION.

PROF. S. H. WOODBRIDGE, Boston, presented the following report of the committee on car sanitation:

1. When a passenger is known to be contagiously ill he should be isolated in a compartment appropriately equipped and ventilated in such a manner as to separate it from the rest of the car. Through trains should be provided with rooms for the sick as well as staterooms, interchangeable in use.
2. The interior of passenger cars should be plain, finished with hard, smooth and polished surfaces.
3. All furnishings should be as non-absorbent as possible.
4. Coaches should be furnished with effective means for continuously supplying not less than 1000 cubic feet of warm air an hour for each single seat and for distributing and removing the air without troublesome draught.
5. The temperature should be regulated.
6. The cleaning of cars should be frequent and thorough.
7. Floors and sanitary and laboratory fixtures should be frequently treated with a disinfecting wash.
8. All fabrics in cars should receive sterilizing treatment. All bed and laboratory linen should be thoroughly sterilized in the process of laundering.
9. Sewage tanks and earth closets should be provided under the cars. The practice of disposing of excreta by scattering it over road-beds is dangerous.
10. Water and ice should be obtained from the purest available sources. The use of tongs in handling ice should be insisted on.
11. The water tank should be frequently cleansed and periodically sterilized with boiling water or otherwise.
12. The public should be educated to use individual cups. Paper paraffined cups might be provided by a cent-in-the-slot device.
13. The use of canned goods in buffet car service makes careful inspection of such goods imperative. Fruits and all eatables before and after purchase should be stored with care to avoid all unnecessary exposure to street and car dust.
14. The filthy habit of spitting on car floors should be dealt with in a manner to cause its prompt discontinuance. It should be punished as one of the most flagrant of the thoughtless offenses against the public right to health.
15. Station premises should receive attention directed to general cleanliness of floors, furnishings, air, sanitariums, lavatories, platforms and approaches, and should be plentifully supplied with approved disinfecting material. The recommendations of the committee were concurred in by the Association.

DR. J. N. HURTY, Indianapolis, said that if the Association would make a vigorous demand for white blankets for sleeping cars, instead of colored ones, it would be a great reform. The white blanket would tell its own story. Colored blankets are frequently saturated with filth.

DR. H. M. BRACKEN, Minneapolis, said that inasmuch as the traveling public pay a good price for Pullman cars, it is only right that the cars should be kept clean and in good condition. The beds are made up, people sleep in them, the next morning the linen is removed, while the mattresses and blankets are thrown into the upper berths and remain there until the next night, then used again. It is not uncommon for people, on entering Pullman cars, to complain of the odor of stale bedding, etc.

DR. C. H. JONES, Baltimore, referred to tuberculous patients who travel long distances. When the greatest care and caution are observed, the blankets used on Pullman cars are now and then spat on by them. The attendants can not always be with such patients to cover their mouths with handkerchiefs. Railway managers should be notified of the great danger to the public from this source. When the public is educated in this matter a great reform will have been inaugurated.

DR. C. P. WILKINSON, New Orleans, stated that the chief objection to the equipment and furnishings of railway cars is that they are upholstered in absorbable material. In the extreme South rattan and steel springs are now used instead of plush and woollen furnishings.

DR. U. O. B. WINGATE, Milwaukee, referred to the work that is being done in this direction by the International Association of Railway Surgeons, and suggested that it might be well to appoint a committee to co-operate with a similar committee of that Association to do further work in car sanitation.

DR. HURTY spoke of one railroad which is now constructing seven cars with perfectly plain interiors. The bottoms and backs of the seats can be taken out and thoroughly sterilized at the end of every run.

DR. DOMINGO ORYANANOS, Mexico City, Mexico, read a supplementary report on car sanitation. Boards of health in the territories covered by the Association ought to try and obtain support from the different legislatures so as to make certain provisions obligatory on railway companies, as, for instance, 1, the isolation in special cars of any persons suffering from transmissible diseases; 2, to supply guaranteed filters in the tanks of drinking water; 3, the disinfection of bed clothes, hangings, curtains and towels; 4, all sleeping cars should be provided with small disinfectant stoves for small toilet articles; 5, the absolute prohibition under severe penalty of expectoration on pavements; 6, all railroad cars should be provided with a sufficient number of cuspidors containing a strong disinfecting solution.

NEW QUARANTINE METHODS AND CHANGES CALLED FOR IN MARINE SANITATION.

DR. ALVAH H. DOTY, New York City, said that, contrary to the popular belief, the most careful investigation both from a scientific and practical standpoint, has demonstrated that the clothing actually worn by well persons is not a medium of infection. This is also true of the cargoes of ships. In making this statement, the author does not mean to imply that infection from these sources is not within the realms of possibility. Evidence was adduced that the cargo of a ship does not act as a medium of infection. If exceptions exist, they have not been revealed to practical sanitarians. Outbreaks of bubonic plague in European and other ports have brought prominently before our notice the question of the transmission of this disease by rats and other vermin. Information on this subject at present is incomplete, although Kitasato and Yersin have demonstrated the presence of the disease in rats during the epidemic of bubonic plague in Hong Kong in 1894. Beyond this, sanitarians have but little authentic information on this subject. It is reasonable to believe, however, that in such communities as are found in India and China, where filth, overcrowding and bad sanitary regulations exist to an extent which is almost beyond belief, the dissemination of infection is so general that even vermin are involved. In civilized communities, however, where the ordinary sanitary regulations are carried out, the danger from this source would seem to be very limited. No authentic reports exist which show that cargoes of vessels have transmitted bubonic plague through the medium of infected rats or other sources.

In the inspection of persons coming from infected ports, the ordinary examination, which includes a statement from the person concerned, is not sufficient at all times to detect mild or ambulant cases. The most practical and important addition to the ordinary method of inspection is the use of the clinical thermometer. This has been in operation for the past two years in New York, and the most satisfactory results have been obtained in detecting mild or ambulant cases. While the essayist is convinced that the maximum period of incubation of yellow fever is five days, there is no doubt that during the first day or so of the disease persons affected may present themselves and pass the ordinary inspection. The use of the thermometer at this time, however, will almost always show an elevation of temperature sufficiently high to justify the physician or health officer in causing a longer detention.

PROF. F. C. ROBINSON, Maine, said that formerly a great deal of paper was made from rags, and he was surprised to hear that there was no danger from infectious diseases from cargoes of rags. He believes outbreaks of smallpox and other contagious diseases have been traced to rags.

DR. H. M. BRACKEN vigorously controverted the statement of the essayist that healthy persons are not liable to carry disease in their clothing. Every physician of experience could cite instances of physicians who have carried contagion to healthy people.

The paper was further discussed by Drs. Wilson, Montzambert, the President, Lee, Durgin, Jones, most of whom protested against the idea that physicians could not carry infection in their clothing.

REPORT OF THE COMMITTEE ON CAUSE AND PREVENTION OF INFECTIOUS DISEASES.

DR. A. WALTER SUITEZ, Herkimer, N. Y., read the above report. Reference was made to smallpox, which he said was on the increase, and he cited copious statistics to prove his assertion. He added the pleasing assurance that the death-rate from this malady is decreasing. The latter fact must not be viewed too optimistically, because smallpox is certain, if an epidemic of it continues long enough, to develop its greatest degree of virulence. He showed the value of sanitary precautions and of vaccination by citing the fact that Porto Rico, since the United States has dominated its government, has rid itself of the disease, which, before the war, was very prevalent in that island. He also discussed malaria, scarlet fever, typhoid fever, and declared himself a believer in the theory that the germs of malaria are transmitted by mosquitoes in many instances. In discussing typhoid fever he referred to the declaration of Dr. Vaughan, that more than 80 per cent. of deaths among American soldiers in the Spanish War were caused by typhoid fever, and emphasized the necessity of cleanliness about military camps. He touched on bubonic plague, and said he did not anticipate a scourge of this disease here, but urged great sanitary precautions.

ETIOLOGY OF YELLOW FEVER.

DR. WALTER REED, Washington, D. C., read a paper on this subject, it being the joint production of himself, Dr. James Carroll, Dr. A. Agramonte, and the late Dr. Jesse W. Lazear. A series of clinical, bacteriological and pathological observations was narrated, comprising 18 cases of yellow fever. Of this number 11 were designated as severe cases of the disease, with 4 deaths; 3, as well-marked cases, with no deaths, and 4 as mild cases with no deaths. Blood cultures were made of 18 cases during life, and of 48 separate cultures made from the blood on various days of the disease and representing 115 bouillon inoculations, and 18 agar plates, they failed to find the bacillus *icteroides* in any of the tubes or plates. They failed to isolate the bacillus *icteroides* in 11 autopsies of yellow-fever patients. Having failed to isolate this bacillus either from the blood during life, or from the blood and organs of cadavers, two courses of procedure appeared to be worthy of attention, namely, 1, a careful study of the intestinal flora in yellow fever in comparison with the bacteria that might be isolated from the intestinal canal of healthy individuals in this vicinity, or of those sick with other diseases; or, 2, to give attention to the theory of the propagation of yellow fever by means of the mosquito. The essayists pursued the second line of investigation by reason of the well-known facts connected with the epidemiology of this disease, and by the brilliant work of Ross and the Italian observers in connection with the theory of the propagation of malaria by the mosquito. Their observations point to the presence of an intermediate host, such as the mosquito, which having taken the parasite into its stomach soon after the entrance of the patient into the noninfected house, was able, after a certain interval to convey the infecting agent to other individuals, thereby converting the noninfected house into an infected house. This interval would appear to be from nine to sixteen days, allowing for the period of incubation, which agrees fairly closely with the time required for the passage of the malarial parasite from the stomach of the mosquito to its salivary glands. In view of the foregoing observations they tested the theory of Finley on human beings. Experiments were made on 11 nonimmune individuals. The mosquito used in all cases was *Culex fasciatus*, Fabr. Results: nine negatives, two positives. The two cases reported as positive, the authors detailed at great length.

Since they record one case in which a typical attack of yellow fever followed the bite of an infected mosquito within the usual period of incubation of the disease, and in which other sources of infection could be excluded, they feel confident that the publication of their detailed observations will excite renewed interest in the mosquito theory of the propagation of yellow fever, as first proposed by Finley.

From their studies thus far of the disease, they conclude that the bacillus *icteroides* stands in no causative relation to

yellow fever, but, when present, should be considered as a secondary invader in this malady. The mosquito serves as an intermediate host for the parasite of yellow fever.

REPORT OF THE COMMITTEE ON THE ETIOLOGY OF YELLOW FEVER.

DR. HENRY B. HORLBECK, Charleston, S. C., made reference to previous contributions on this subject by the committee, and a digest given of the labors of bacteriologists who have during the past twelve months devoted themselves to the study of the bacillus icteroides. The report closed with the following conclusions from an article by Pronst and Wurtz, published Sept. 7, 1900:

1. The bacillus icteroides of Sanarelli seems to be the specific agent of yellow fever. That micro-organisms injected into certain animals, especially dogs, reproduce symptoms and lesions strikingly analogous to those observed in man. The toxin of this bacillus produces in animals the same effect as the microbe. The injection of this toxin into five individuals reproduced in man typical yellow fever, accompanied by its symptoms and anatomical lesions. The serum of individuals attacked with yellow fever agglutinates cultures of the bacillus icteroides. 2. The bacillus has a prolonged vitality both in air and water (fresh and sea). It is certain that it is the same in the soil. Molds favor its development. These facts confirm conditions that have been known a long time. They explain the reawakening of yellow fever a long time after the extinction of an epidemic, and the longevity of the disease aboard vessels in bad hygienic condition. No new prophylactic measures have come out in this knowledge of the etiology of the disease. As formerly, the prevention of yellow fever consists in applying the measures of isolation and of disinfection, and of improving the hygienic conditions.

DR. J. P. BERNALDEZ, of Mexico, spoke of human vaccin as a prophylactic of smallpox, and discussed its advantages and disadvantages.

DR. M. S. IGLESIAS, Vera Cruz, Mexico, spoke of the elements of defense against infection-contagious diseases at the port of Vera Cruz.

PRESIDENTIAL ADDRESS.

DR. PETER H. BRYCE, Toronto, sketched at great length the progress of sanitary science from its birth in the period of the Renaissance down to the present time and declared that scientific workers ought to take courage from what they have seen accomplished in this century. The address was an admirable compact sanitary digest.

REPORT OF THE COMMITTEE ON POLLUTION OF WATER-SUPPLY.

This was presented by the chairman, Mr. George W. Fuller, of New York City. The report took the form of records and summaries showing recent progress in the more important branches of the subject. With regard to quality, the water-supply of the future should meet the following requirements: It shall be free, or substantially free, from disease-producing germs. It shall be clear and colorless, containing no noticeable turbidity or vegetable stain. It shall be free from objectionable tastes and odors, as supplied to the consumer. It shall be free from noticeable amounts of dissolved iron, such as unfit for household use. It shall be free from excessive amounts of lime and magnesia, such as make water too hard for ordinary use. It shall be carefully examined with regard to constituents capable of dissolving metals used in distributing pipes.

(To be continued.)

New York State Medical Association.

(Concluded from p. 1105.)

AN EPIDEMIC OF DIPHThERIA TRACED TO A MILK SUPPLY.

DR. CHAUNCEY P. BIGGS, Ithaca, gave a brief review of the literature on milk supply and epidemics of diphtheria. He then described a recent epidemic in Ithaca, pointing out how the infection of the milk supply had been traced, and narrated some experiences in the control and management of an epidemic in a small town.

THE MANAGEMENT OF DIPHThERIA IN SMALL CITIES FROM A BACTERIOLOGICAL STANDPOINT.

PROF. VERANUS A. MOORE, Cornell University, showed how

the bacteriological examinations instituted by the Board of Health of Ithaca at the time of the epidemic had proved useful both in controlling the disease and tracing the sources of infection.

THE TONSILS AS PORTALS OF INFECTION.

DR. JULIUS ULLMAN, Buffalo, referred more especially to such septic diseases as malignant endocarditis. He regarded rheumatism as a mild form of pyemia in which the staphylococci and their toxins become attenuated.

DR. DE LANCEY ROCHESTER, Buffalo, reported three cases of scarlatina without eruption.

PRESENT STATUS OF JONNESCO'S OPERATION.

DR. MARCEL HARTWIG, Buffalo, reviewed the history of neurectomy of the cervical sympathetic, and reported the results obtained with it in epilepsy, exophthalmic goiter and glaucoma.

THE TREATMENT OF PULMONARY TUBERCULOSIS, WITH SPECIAL REFERENCE TO THE CLIMATE OF ARIZONA.

DR. CLARENCE G. CAMPBELL, New York City, held that the chief advantage of all climatic treatment is the discouragement of germ life. The apparent discrepancy between treatment in a dry rarified atmosphere, such as that of Colorado, and treatment on the open sea is because the distribution of germ life is inhibited on the sea by the absence of dust and of a population calculated to spread the infection. He could not help thinking that too much stress had been laid on the value of high altitude, and that the good results secured in such altitudes had been in spite of the altitude and because of the high percentage of sunny days. He had had a large personal experience with the treatment of phthisical patients in the lowlands of Arizona, which present a nearly ideal climate for such persons between October and June. In midwinter one may remain out-doors with comfort and benefit for many hours each day. The region is sheltered from winds, and there is a great volume of sunshine. An individual whose tuberculosis has been arrested under climatic treatment should remain in the same climate for at least one year after cough and expectoration have ceased. Strict obedience should be the motto of the patient, and infinite care that of the physician. Modern methods of treatment, when aided by a suitable climate, would save many cases that would otherwise succumb.

PRESIDENT'S ADDRESS—THE SURGICAL MANAGEMENT OF UMBILICAL HERNIA WITH LARGE RING.

DR. E. D. FERGUSON, Troy, described his method of closing the opening by means of lateral tendinous flaps turned over to the median line and held at their free borders by the cobbler's stitch.

TUBERCULOSIS; ITS GENERAL ETIOLOGY, GENERAL PATHOLOGY AND GENERAL PROPHYLAXIS.

PROF. VICTOR C. VAUGHAN, Ann Arbor, Mich., opened the symposium on tuberculosis. He said that some observers had stated that tubercle bacilli are capable of living abundantly and indefinitely outside the body as saprophytes, but this was a mere assumption, and had no scientific basis. The transmission of the tubercle bacillus is rarely direct, but may be so occasionally, as in the inoculation of wounds. When the infectious matter is introduced under the skin, the first sign of infection is in the adjacent lymph-glands. He was more than ever convinced that every dairy cow should be tested with tuberculin. Tuberculosis always begins as a local disease, and most of the deaths from tuberculosis of the lungs are the result of mixed infection. Very little could be accomplished in the way of treatment outside of special hospitals, but he firmly believed that in time the human race could be rid of this plague just as it had been of leprosy.

THE DIAGNOSIS AND TREATMENT OF LARYNGEAL TUBERCULOSIS.

DR. JONATHAN WRIGHT, Brooklyn, pointed out the great risk of confounding laryngeal phthisis with syphilis, and in connection with the treatment, expressed the opinion that a radical cure was rarely secured by surgical means. The local application of iodoform or orthoform emulsion would be found soothing if not curative. Submucous injections of creosote or lactic acid did not appeal to his knowledge of the pathology.

TUBERCULOSIS OF THE EYE; ITS DIFFERENTIAL DIAGNOSIS, PATHOLOGY AND TREATMENT.

DR. CHARLES STEDMAN BULL, New York City, discussed separately and exhaustively the effect of tuberculosis on each of the more important structures of the eye.

THE PATHOLOGY, DIAGNOSIS, SPECIAL PROPHYLAXIS AND TREATMENT OF TUBERCULOSIS OF THE EAR.

DR. SEYMOUR OPPENHEIMER, New York City, said that in making the diagnosis in tuberculosis of the ear it was often necessary to examine microscopically the pus from the deeper structures, or even to make inoculation experiments.

ACUTE TUBERCULOSIS OF THE MESENTERIC LYMPH-GLANDS.

DR. MAURICE H. RICHARDSON, Boston, said the symptoms are most obscure. The prognosis had always been considered very grave, but with earlier surgical intervention it should improve.

SURGICAL TREATMENT OF URINARY AND URO-GENITAL TUBERCULOSIS.

DR. S. ALEXANDER, New York City, dealt successively with tuberculosis of the kidneys, epididymis, testicle, prostate and bladder. He said that to succeed in finding the tubercle bacilli in the urine it was necessary to collect the sediment, with the aid of the centrifuge, from freshly voided urine.

DR. E. H. NICHOLS, Boston, discussed "The Pathology, Diagnosis, Special Prophylaxis and Treatment of Tuberculosis of the Bones and Joints," with the aid of many lantern slides.

THE PATHOLOGY, DIAGNOSIS, SPECIAL PROPHYLAXIS AND TREATMENT OF TUBERCULOSIS OF THE SKIN AND SUPERFICIAL FASCIA.

DR. JOHN A. FORDYCE, New York City, discussed the principal features of lupus, and exhibited some lantern slides to show the differences and points of resemblances between lupus and syphilis.

THE TREATMENT OF ICHTHYOSIS HYSTRIX BY ELECTRIC LIGHT.

DR. GEORGE W. COLER, Rochester, gave a brief account of a rapid cure effected in a case by exposure to electric light.

THE DIFFERENTIAL DIAGNOSIS OF ECTOPIC GESTATION WITH SPECIAL REFERENCE TO EARLY ABORTION.

DR. HIRAM N. VINEBERG, New York City, pointed out the liability of confounding ectopic pregnancy with irregular saculation of a pregnant uterus, with elongation of the cervix and with a retroflexed uterus. In doubtful cases he advocated exploration through a posterior vaginal incision. DRs. F. H. WIGGIN, C. C. FREDERICK and E. V. DELPHEY related cases which they had seen, and which well illustrated the difficulties of diagnosis in this class of cases.

THE RESOURCES OF MODERN MINOR GYNECOLOGY.

DR. AUGUSTIN H. GOELET, New York City, exhibited some laminaria tents which he had had covered with rubber sheaths to do away with the objection that they are prone to cause infection. He holds electricity, both faradic and galvanic, in high esteem in the treatment of endometritis and pain and tenderness arising from the presence of pelvic exudates. He had found a combination of potassium bromid and iodid useful in this last class of cases.

STRABISMUS AND ITS MANAGEMENT.

DR. JULIUS H. WOODWARD, New York City, described the symptomatology and treatment of both paralytic and non-paralytic strabismus. He favored early operation, pointing out the disastrous effect on the temperament of the person if the deformity were not corrected at an early date.

INVESTIGATIONS UPON SPECIFIC CORPORAL GRAVITY AND UPON THE VALUE OF THIS FACTOR IN PHYSICAL DIAGNOSIS.

DR. HEINRICH STERN, New York City, pointed out that the important thing for the physician or life insurance examiner to know was not the body weight but the specific gravity of the body. It could be most easily determined by dividing the amount of absolute weight of the body by the loss of weight sustained when submerged in water. It is less in children than in adults, and is greater in the aged than in middle life. His studies had also brought out the fact that it was perfectly possible to estimate the specific gravity of the body by determining the specific gravity of a drop of blood.

ASEPTIC MINOR SURGERY.

DR. DOUGLAS AYRES, Fort Plain, gave a view of the surgery

of the past, and then described the arrangements in the office or home by which one can most easily and successfully practice modern aseptic surgery.

DR. JOHN A. WYETH, New York City, presented a paper, "Amputation at the Hip-Joint: A Report of 200 Cases in Which the Author's Method of Hemostasis was Employed," which will appear in a later issue of THE JOURNAL.

REPORT OF THREE CASES OF INTESTINAL OBSTRUCTION DUE TO MECKEL'S DIVERTICULA.

DR. JOHN F. ERDMAN, New York City, called attention to the similarity in symptoms in these three cases to those of appendicitis, and also to the difficulty of early differential diagnosis between these two conditions.

INTRASPINAL COCAINIZATION FOR THE PRODUCTION OF SURGICAL ANESTHESIA.

DR. S. ORMOND GOLDAN, New York City, detailed his experience with this new method of inducing anesthesia. He advises the use of specially-made needles of gold, and the injection at one time of not more than 20 minims of a freshly prepared and sterile solution of cocain. The syringe should not be removed from the needle for at least two minutes after making the injection. Anesthesia will be complete in from four to twelve minutes. It was his practice now to give whiskey in every case before resorting to intraspinal cocaineization.

DR. J. A. BODINE suggested that some of the failures might be explained by the too rapid diffusion of the solution, and suggested as a remedy the addition of salt solution. In any case, he looked upon this method of inducing anesthesia as by no means free from danger.

DRS. DAWBARN and HARTWIG counseled the exercise of a reasonable conservatism in this matter, the former remarking that he had known of the method being used for the opening of a large boil on the thigh.

DR. GOLDAN replied that he had tried the salt solution, but with a negative result.

THE TECHNIC OF BLOODLESS WORK.

DR. ROBERT H. M. DAWBARN, New York City, described some of the simplest and most practical methods of reducing to a minimum the amount of blood lost in surgical operations of all kinds. Special emphasis was laid upon the great value of temporary ligation of the extremities in hemorrhage from the lungs.

OPERATIVE TREATMENT OF SYMBLEPHARON BY THE USE OF THIERSCH'S GRAFTS.

DR. WILBUR B. MARPLE, New York City, described his method of using a glass shell, something like an artificial eye, as a means of holding the graft in better apposition than was possible by the methods heretofore employed.

Therapeutics.

Dyspepsia.

Sir T. Lauder Brunton, in the *Clinical Journal*, emphasizes the following points in instructing patients troubled with dyspepsia:

1. Eat slowly, masticate and insalivate thoroughly. And, if necessary, follow Sir Andrew Clark's rule—count the bites.
2. Take the solids and liquids separately, so as not to dilute the gastric juice nor weaken the digestive ability of the stomach.
3. If necessary, let the patient take his farinaceous food and the proteids at different meals.
4. The best fluid is hot water, taken early in the morning and an hour or two before lunch and dinner.
 - a. Alkalies before meals stimulate secretion of gastric juice.
 - b. Acids before meals check acid secretions of the stomach.
 - c. Where the food remains in the stomach an unusual length of time lavage should be resorted to.

ERUCTIONS, REGURGITATION AND RUMINATION.

Lincoln, in the *N. Y. Med. Journal*, advises removal of the cause and, next to that, a strong will-power. Have the meals served in company with some one whom the patient respects. Use food, as much as possible, which remains in the stomach

only a short time and use a bitter preparation at meal-times as follows:

R. Ext. condurango fluidi		
Ext. quassia fluidi		
Tinct. gentiana comp., āā.....m. xx	1	33
Tinct. nucis vomicae		
Tinct. capsici, āā.....m. x		66

M. Sig. At one dose.

A regurgitation of the above a second time will rarely occur.
—*Ther. Gazette.*

DYSPEPSIA WITH ACID ERUCTIONS.

R. Bismuthi subnitratris	.....	5iv	16
Mucilag. acacia	.....	5i	32
Sodii bicarb.	.....	5iv	16
Infusi calumba, q. s. ad.....	.....	5vii	256

M. Sig. Shake. One tablespoonful after meals.

WITH ERUCTIONS OF GAS.

R. Pepsini—scales	.....gr. iii	18
Bismuthi subnit	.....gr. x	66
Strychnina sulph.	.....gr. 1/100	0006
Thymol	.....gr. 1/4	015

M. Ft. chart. No. i. Sig. After each meal.

WITH ERUCTIONS OF GAS AND FLATULENCY.

R. Bismuthi subnitratris		
Magnesi sulphatis		
Cretæ preparatæ		
Sodii phosphatis, āā.....	5iii	12

M. Ft. pulveris No. xl. Sig. One powder after each meal, washed down with water.

DYSPEPSIA WITH ERUCTIONS.

R. Tinct. nucis vomicae		
Tinct. belladonnae		
Tinct. physostigmatis, āā.....	5i	4

M. Sig. Fifteen drops, in water, twice daily.

R. Pulv. camphore		
Pulv. zingiberis		
Pulv. piperis, āā.....gr. i		66

M. Ft. pil. No. vi. Sig. One as required for intestinal flatulence.
—Gould and Pyle.

WITH INTESTINAL FERMENTATION.

R. Cinchonidine salicylatis	.....	5i	4
Salol	.....	5i	4
Papainæ-carica	.....gr. xx	133	
Ext. hyoseyani	.....gr. x	66	

M. Ft. cap. No. xxx. Sig. One capsule one-half hour before meals, three times a day.

WITH FERMENTATION.

R. Spts. cajuputi		
Spts. ammoniac arom.		
Spts. chloroformi, āā.....	5ss	16

M. Sig. One teaspoonful in a wineglass of water every half hour until relieved.

R. Acidi salicylici	5i	4
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Ft. cap. No. xxiv. Sig. One capsule after each meal.

FLATULENCY WITH SOUR ERUCTIONS.

R. Tinct. rhei	.....	5i	4
Sodii bicarb.	.....gr. xv	1	
Magnesia carbonatis	.....gr. x		66
Spts. ammonia arom.	.....	5ss	2
Aquæ carui, q. s. ad.....	.....	5i	32

M. Ft. haustus. Sig. To be taken occasionally.
—Yeo.

DYSPEPSIA WITH FLATULENCY.

R. Creosoti—beechwood	.....gtt. x	66	
Sodii carbonatis	.....	5ii	8
Pulv. acacia, q. s.			
Aquæ	.....	5v	160

M. Sig. One dessertspoonful to a tablespoonful one hour after meals.
—Floy.

R. Pepsini puri	.....	5i	4
Creosoti	.....gtt. x		66
Bismuthi subcarb.	.....	5i	4

M. Ft. chart. No. xxx. Sig. One powder one-half hour before meals.

WITH SEVERE FLATULENCY OCCURRING AFTER MEALS.

R. Acetanilidi			
Tinct. nucis vomicae, āā.....	5ii	8	
Tinct. capsici	5ss	2
Tinct. gentiana comp., q. s. ad.....	5iv	128	

M. Sig. One teaspoonful after each meal.

Bishop recommends the above, stating that the addition of acetanilid greatly adds to the efficiency of the prescription.

FLATULENT DYSPEPSIA.

R. Aq. chloroformi		
Aq. destil.		
Aq. mentha piperita, āā.....	5ii	64

M. Sig. A teaspoonful before each meal.

R. Olei eucalypti	5i	32
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M. Sig. Three drops in milk every three or four hours.

WITH FLATULENCY AND PYROSI.

R. Argenti nitratris	.....gr. iv	24
Ext. nucis vomicae	.....gr. iii	18
Ext. lupuli	.....gr. xxiv	150

M. Ft. pilula No. xii. Sig. One pill three times a day.
—Barlow.

FLATULENCY.

R. Pulveris asafetide	.....gr. ii	12
Ext. nucis vomicae	.....gr. 1/4	015

M. Ft. cap. No. i. Sig. One capsule after each meal.

R. Bismuthi salicylatis			
Magnesia—calcined—āā	.....	5iv	16
Pulv. carbonis ligni	.....	5vi	24
Olei anisi	.....	5ii	8

M. Sig. One teaspoonful before meals.

PILL IN FLATULENT DYSPEPSIA.

R. Aloini	.....gr. i	66
Res. podophylli	.....gr. iss	69
Ext. nucis vomicae	.....gr. iii	18
Ext. belladonnae	.....gr. i	66

M. Ft. pilula No. xii. Sig. One pill after each meal for an adult.

CHRONIC GASTRIC CATARRH.

R. Liquoris potassii arsenitis	5i	32
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Sig. One or two drops, in water, after meals.
Never administer arsenic in large doses in treating dyspepsia. Arsenic is highly recommended in this form by Kinger and Brunton.

R. Sodii phosphatis effervescentis	5iv	128
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Sig. One dessertspoonful early in the morning dissolved in cold water. This is especially indicated in intestinal indigestion with inactivity of the liver accompanied by constipation.

ACUTE GASTRITIS.

R. Tinct. nucis vomicae	.....	5ii	8
Ext. caseariae sagradae fluidi	.....	5iiss	45
Glycerini, q. s. ad.....	.....	5iii	96

M. Sig. One teaspoonful at bedtime.
—Gould.

R. Resoreini			
Acidi hydrochlorici puri, āā.....	5ss	2	
Syrupi aurantii	.....	5v	20
Aquæ destil., q. s. ad.....	.....	5vi	192

M. Sig. One dessertspoonful every two hours.

GASTRIC INFLAMMATION.

R. Acidi carbonici	.....m. xxiv	15	
Mucilag. acacia	.....	5i	4
Bismuthi subnitratris	.....	5ii	8
Olei piperite	.....	5iii	8
Aquæ destil., q. s. ad.....	.....	5iii	96

M. Sig. Shake well. One teaspoonful every three hours.

GASTRALGIA.

R. Codeine sulphatis	.....gr. iv	25
Antipyrini			
Tinct. belladonnae, āā.....	m. xl	266	
elixiris simplicis	5iii	12
Aquæ mentha pip., q. s. ad.....	5iv	128

M. Sig. One teaspoonful every three or four hours until relieved.

PAINFUL DYSPEPSIA WITH EXCESSIVE GASTRIC SECRETION.

R. Acidi hydrocyanici dil.	gtt. xl	2	66
Tinct. belladonnae .....	.....	3	iii 12
Bismuthi subnitratris .....	.....	5	vi 24
Aque destil., q. s. ad. ....	.....	3	iii 96

M. Sig. Shake well and take one teaspoonful an hour before meals. —Thornton.

DYSPEPSIA WITH DEFICIENT GASTRIC JUICE.

R. Strychnina sulphatis	gr. ss	1	03
Acidi nitromuriatici dil. ....	.....	5	i 4
Tinct. cardamom. comp. ....	.....	3	iss 48
Tinct. gentiane comp., aa. ....	.....	3	iss 48
Liquoris pepsinae, q. s. ad. ....	.....	5	iv 128

M. Sig. One teaspoonful after each meal, in water.—Wood.

R. Acidi hydrochlorici dil. ....	.....	3	iii 12
Tinct. cardamomi comp. ....	.....	5	i 32
Tinct. gentiane comp., q. s. ad. ....	.....	3	iii 96

M. Sig. One teaspoonful after meals when there is deficient secretion of gastric juice.

GASTROINTESTINAL ANTISEPTIC.

R. Betanaphthol .....	.....	.....	.....
Bismuthi salicylatis .....	.....	.....	.....
Magnesia ponderosa, aa. ....	.....	5	iss 6

M. Ft. divide in chartulae No. xxxvi. Sig. One powder one-half hour before each meal. —Huehard; *Man. of Ther.*

ATONIC DYSPEPSIA.

R. Tinct. nucis vomicae .....	.....	3	iii 12
Tinct. capsici .....	.....	5	v 20
Tinct. cinchonae comp., q. s. ad. ....	.....	3	iii 96

M. Sig. One teaspoonful immediately after eating. —Da Costa.

R. Ext. nucis vomicae	gr. iv	1	24
Ext. quassiae	gr. xx	1	33
Quinine sulphatis	gr. xl	2	66

M. Ft. pil. No. xx. Sig. One pill three times a day.

R. Ext. chirate .....	.....	.....	.....
Ext. gentiane, aa.	gr. xl	1	66
Olei resinae capsici	m. v	1	33

M. Ft. pilulae No. xx. Sig. One pill after each meal.

R. Olei piper. nigrae .....	.....	.....	.....
Ext. nucis vomicae .....	.....	.....	.....
Ext. physostigmae, aa.	gr. ss	1	03

M. Ft. pil. No. i. Sig. Before meals. —*Amer. Book of Ther.*

ATONIC DYSPEPSIA OF ALCOHOLICS.

R. Acidi hydrochlorici diluti .....	.....	3	iv 16
Tinct. capsici, aa. ....	.....	5	v 20
Tinct. nucis vomicae .....	.....	5	v 20
Tinct. gentiane comp., q. s. ad. ....	.....	3	iii 96

M. Sig. One teaspoonful, in water, after meals.

DYSPEPSIA WITH PAIN, DUE TO HYPERACIDITY.

R. Ammonii chloridi	5	i 4
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Ft. chartulae No. vi. Sig. One powder one-half hour before meals, in water.

Dr. Gillespie recommends the above in dyspepsia with hyperacidity.

R. Sodii bicarb. ....	.....	3	iii 12
Tinct. nucis vom. ....	.....	5	v 20
Tinct. cardamomi comp. ....	.....	3	i 32
Tinct. gentiane comp., q. s. ad. ....	.....	3	iii 96

M. Sig. One teaspoonful before each meal, in water.

ACID DYSPEPSIA.

R. Bismuthi subnitratris	gt. x	1	66
Magnesii carbonatis	gr. xv	1	66
Solutionis potasse	m. vi	1	33
Acidi hydrocyanici dil.	m. ii	1	12
Tinct. zingiberis	m. v	1	33
Aque menthae pip., q. s. ad. ....	.....	5	i 32

M. Sig. At one dose, to be repeated two or three times a day.

NERVOUS DYSPEPSIA.

R. Tinct. nucis vomicae .....	.....	5	ii 8
Elix. calisaye .....	.....	3	iss 48

M. Sig. One teaspoonful before each meal, in water.

R. Sodii bromidi .....	.....	5	i 32
Pepsini saech. ....	.....	.....	.....
Pulv. carbo. ligni, aa. ....	.....	3	iii 12
Aque .....	.....	5	iv 128

M. Sig. One teaspoonful, in water, after each meal. —Hammond.

R. Potassii bicarb. ....	.....	3	iss 6
Tinct. nucis vomicae .....	.....	3	iii 14
Tinct. calumbae .....	.....	3	iss 48
Elix. calisaye, q. s. ad. ....	.....	5	iv 128

M. Sig. One teaspoonful, in water, after each meal. —O. S. Armstrong.

INFANTILE DYSPEPSIA.

R. Acidi hydrochlor. dil.	m. viii	1	5
Syr. aurantii corticis .....	.....	.....	.....
Tinct. aurantii corticis, aa. ....	.....	5	i 4
Infusi cascarillae .....	.....	3	vi 24

M. Sig. One or two teaspoonfuls twice a day after nursing. —West.

R. Acidi hydrochlorici dil.	m. xxx	2	6
Aque destil. ....	.....	3	iii 96
Syr. simplicis .....	.....	5	iss 80

M. Sig. One teaspoonful after nursing, three or four times a day.

R. Zinci valerianatis .....	.....	5	ss 2
Ext. belladonnae	gr. v	1	33
Ext. nucis vomicae	gr. viiss	1	5

M. Ft. pil. No. xxx. Sig. One pill after each meal. —Pepper.

LAXATIVE IN DYSPEPSIA WITH CONSTIPATION.

R. Pulv. ipecacuanhae	gr. ʒ 2	1	03
Ext. rhei	gr. ii	1	12
Ext. nucis vomicae	gr. ʒ 3	1	02

M. Ft. pil. No. i. Sig. To be taken one-half hour before eating, twice a day.

DYSPEPSIA ACCOMPANYING TUBERCULOSIS.

R. Menthol	gr. v	1	33
Spiritus vini rect.	gr. x	1	66

M. Sig. Five drops in tablespoonful of water before meals. —Whittaker.

HYPEREXCITABILITY OF STOMACH WITH PYLORIC SPASM.

R. Chloral hydratis	gr. xv	1	33
Aque .....	.....	5	iss 6

M. Sig. Fifteen to twenty drops in half a glass of water after each meal.

R. Spiritus etheris comp. ....	.....	.....	.....
Tinct. valeriane comp., aa. ....	.....	5	i 32

M. Sig. One teaspoonful every three hours.

Medicolegal.

Suspending Trial for Examination by Physician.—One of the grounds on which the Supreme Court of Georgia was sought in *Herdon vs. State*, to reverse a conviction of murder, was that the trial court had refused to allow a medical expert, who had been introduced by the accused, and who was on the stand testifying as a witness, to examine an indention or depression in the skull of the accused, and then testify as to the effect it would produce on his mind. In his statement to the jury, the accused had stated that the depression had been made in his early youth by a falling stone, that he had subsequently had a severe case of typhoid fever, and that since then he had been at times ignorant or unconscious of what he said and did. But the matter of suspending the trial for the purpose mentioned, the supreme court holds, was entirely within the discretion of the trial court. It says that a trial court may or may not suspend a trial for such a purpose, according to the circumstances of each particular case, and that where a matter of practice is within the discretion of the trial court, the supreme court will not interfere unless such discretion is manifestly abused. Continuing, it says that it can not establish

any fixed rules to govern courts in this respect. In some cases an examination of an injury might be made in a few minutes. In others, hours might be consumed before the expert could come to any definite conclusion as to the nature and character of the injuries. Besides, it makes a point here of the fact that this appeared to have been the second trial of this case, and that the accused and his counsel had had abundant opportunity to have had the examination made before the trial. Had he done so, then the expert, it holds, could have testified as to his opinion of the effect the injury would have produced upon the mind of the accused.

Pain and Suffering in Malpractice Case.—A boy bruised his right leg, or shin bone, just below the knee. After about a week, considerable pain ensuing, a physician was called in to treat the wound. According to the allegations, he persisted in diagnosing the case as one of inflammatory rheumatism, and in treating it as such until after a great quantity of pus had formed, and the leg had finally to be amputated. But the physician denied all the allegations which attempted to charge him with liability on account of malpractice. He contended that, although he had made a mistake as to the first diagnosis and treatment, that did not result in the necessity for the amputation, but that the amputation resulted from an entirely different disease, which would have been the result notwithstanding the original mistake. Quite a volume of evidence was introduced pro and con, and the jury returned a verdict for the defendant. However, the Supreme Court of Georgia holds, *Moon vs. McRae*, that the judgment in the physician's favor must be reversed, and a new trial had, on account of an erroneous instruction to the jury. It holds that it was error to charge the jury, in effect, that if the amputation itself did not result from the defendant's treatment there could be no recovery of damages, or, in other words, that damages could not be recovered for pain and suffering from unskillful treatment by the physician, unless such treatment was the cause of the loss of the limb. And it holds that, as elements of damages claimed, pain and suffering were sufficiently set forth in the petition, which set forth the extent of pain and suffering and contained allegations which clearly attributed much of it to an improper diagnosis, and to the delay in administering the proper treatment until pus had so accumulated in the diseased leg as to unnecessarily add to the pain and suffering, the damages claimed in the petition being not only for the loss of the leg by amputation, but also for pain and suffering occasioned by the alleged mistreatment.

Not Liable for Trespass of Health Officer.—A theatrical troupe left New Orleans for San Antonio on the last train before a quarantine was declared in Texas against New Orleans on account of yellow fever. On arrival at San Antonio, several of the members of this troupe registered at a certain hotel, the others taking quarters elsewhere in the city. In the afternoon of that day, under direction of the mayor and city physician, all were taken in charge by police, and taken to the hotel mentioned, where, without the consent and over the protest of the proprietor, they were quartered as yellow-fever suspects and detained by police officers for six days. This greatly injured the business of the hotel, and the proprietor sued the city for damages. The allegation was that the city, by and through its mayor and health officer, committed the acts complained of. It is probable, says the Court of Civil Appeals of Texas, *City of Antonio vs. White*, that this was a sufficient allegation that the city caused the acts to be done. It further says that the acts detailed above constituted an unwarrantable trespass, for which the mayor and health officer were probably liable. But it holds that a fact that is essential to the city's liability in cases of this kind was wanting, namely, the fact that the city was, or had made itself, a party to the trespass. It says that there was absolutely no evidence from which it could be found that the city directed, or had ratified, the proceeding, and a city, it holds, is not liable for acts of its health officers, or for malfeasances. At least it is of the opinion, it says, that, without some testimony connecting the corporation with the transaction complained of, either by showing its previous direction, or participation therein, or

ratification, there was no basis for any claim of liability against it. Again, the court says that it is of the opinion that a city could not, under the guise of exercising a strictly governmental power, evade the constitutional provision that private property is not to be appropriated for public use without just compensation, but it says that it is clear that the act must be the act of the city in such a case. A city can not be held liable for property taken or appropriated by a trespass with which it has no connection at all. Wherefore, it holds that it was error to refuse to charge the jury in this case that the city was not liable for any wrong or trespass committed by its mayor, city physician, or police officers, and therefore to return a verdict for the city.

Husband's Liability for Care of Insane Wife.—The Supreme Court of California has rendered decisions in two cases brought by the St. Vincent's Institution for the Insane vs. John T. Davis. One was for boarding and clothing his insane wife prior to June, 1894, and the other was for keeping and caring for her, providing for her suitable boarding, lodging, clothing, washing, medicine, and medical and other attendance after that date. In both cases, the court cites section 174 of the California civil code, which provides that, when a husband fails to make adequate provision for the support of his wife, then—except in certain cases—any person may supply her with necessaries, and recover the value thereof from the husband. Under this rule, applied to the different circumstances of the two cases, in the first-mentioned case the supreme court affirms a judgment in favor of the St. Vincent's Institution for the Insane, and, in the other case, in favor of the husband. In the first case, there was a very strong presumption that the husband had left his wife in a small town in Illinois, intending that her identity should be lost, that she might no longer be a charge upon him. Under such circumstances, the court holds, the husband would be liable for necessaries, even though the parties supplying them did not know of his existence, or that the woman was married. And with regard to the contention that the evidence was insufficient to sustain a finding that the service was rendered on the credit of the husband, it being argued that it did not appear that he was even aware that she was being kept and provided for by the institution at all, the court answers that, even if he had no such knowledge, it would not follow that he was not liable, or that the service was not rendered at his request. But, in the second case, there was a finding that the husband, desiring in good faith to care for his wife elsewhere, had, in June, 1894, demanded of the institution that she be delivered to him, and that the institution, without legal cause or excuse, had refused to comply with such demand, and against the will of the husband had thereafter retained the wife in its custody. Such being this second case, the court holds that no recovery for keeping and caring for her could be had therein, the section of the civil code quoted requiring that whoever supplies necessaries to a wife must, in order to recover therefor, show neglect on the part of the husband to make adequate provision for her support, which was not shown in this case, it not being enough for the purpose that some suspicion was cast upon the motives of the husband, there also being some evidence tending to show good faith on his part.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, October 20.

- 1 *The Medical and Surgical Treatment of Acute and Chronic Lymph Nodes of the Cervical Region. H. Horace Grant.
- 2 *The Present State of Our Knowledge Concerning the Cause, Nature and Treatment of Asthma. (Concluded.) Walter A. Wells.
- 3 *Electrolysis in the Treatment of Stricture of the Lacrymal Passages. L. L. Mall.
- 4 A Combined Aspiration and Injection Instrument for Sub-arachnoid Coelocentesis. George B. Fisher.
- 5 *Bullous Enlargement of the Middle Turbinate Bone (Concha Bullosa). J. Payson Clark.
- 6 Disturbances of Gastric Motility and Their Significance. (To be concluded.) Andrew Macfarlane.
- 7 The Subarachnoid Injection of Cocain. J. E. Massey, Jr.

- Philadelphia Medical Journal, October 20.**
- 8 The Surgical Management of Umbilical Hernia With Large Ring. E. D. Ferguson.
- 9 *The Germ of Yellow Fever. Charles Smart.
- 10 Report of a Case of Tetanus With Recovery. Andrew H. Whitridge.
- 11 Report of the Milk Commission of the Philadelphia Pediatric Society.
- 12 Angioneurotic Edema of the Salivary Glands. James Ely Talley.
- 13 Two New Pieces of Laboratory Apparatus: Petri Dish Forceps; Exhibition Test-tube Stand. Randle C. Rosenberger.
- Boston Medical and Surgical Journal, October 18.**
- 14 *Suppurative Pericarditis and Its Surgical Treatment. Charles B. Porter.
- 15 *Hydrotherapy in Pneumonia. Simon Baruch.
- 16 *To What Extent Does Rheumatic and Gouty Diathesis Enter Into Traumatic Joints (Sprains and Bruises), Septic and Gonorrhoeal Joints, Acute Articular Rheumatism, Neuropathic Joints, Arthritis Deformans (Osteoid, Rheumatoid) as an Etiologic Factor. What Is the Scientific Basis for Such a Term? William H. Porter.
- 17 *Septic and Gonorrhoeal Joints. Charles A. Porter.
- 18 Neuropathic Joints. Sidney A. Lord.
- Medical Record (N. Y.), October 20.**
- 19 *Some Conservative Jottings Apropos of Spinal Anesthesia. J. Leonard Corning.
- 20 The Treatment of Necrosis of the Entire Shaft of a Long Bone. With Report of a Case. J. Shelton Horsley.
- 21 Treatment of the Patient During the Weeks Previous to Expected Confinement. Edward P. Davis.
- 22 Some Applications of Static Electricity in Dermatology. Henry G. Piffard.
- 23 *Observations on the Surgery of the Gall-Tracts. William Jones.
- 24 *The Soldier's Ration in the Tropics—Its Use and Its Abuse. Louis L. Seaman.
- Medical News (N. Y.), October 20.**
- 25 Some Remarks on the Pathology and Surgical Treatment of Urinary and Urogenital Tuberculosis. Samuel Alexander.
- 26 Progressive Pernicious Anemia. Alfred Stengel.
- 27 *Treatment of Typhoid Fever. Stephen S. Burr.
- 28 Increasing the Therapeutic Value of Cod-Liver Oil by the Addition of Free Iodine and Free Phosphorus. Louis J. Lautenbach.
- Cincinnati Lancet-Clinic, October 20.**
- 29 Treatment of Fistula in Ano. George J. Monroe.
- 30 Acquired and Hereditary Syphilis in Mother and Child. M. L. Heidingsfeld.
- 31 *The Physician as a Sanitarian. Hugh A. Cowing.
- Medical Fortnightly (St. Louis), October 10.**
- 32 Rectal Affections With Especial Reference to the Methods of Examining the Rectum. Lewis H. Adler, Jr.
- 33 Diseases of the Stomach. (Continued.) J. M. G. Carter.
- 34 Visceral Ptosis. Byron Robinson.
- 35 Jacob M. Da Costa—A Sketch of the Man. M. V. Ball.
- The Physician and Surgeon (Ann Arbor, Mich.), September.**
- 36 The Surgical Treatment of Suppurative Diseases of the Middle Ear. Oliver A. LaCrosse.
- 37 *Tuberculosis: Its Clinical History, Diagnosis and Prognosis. George Dock.
- 38 *A Study of the Relations of Graves' Disease. David Ingels.
- 39 The Medical Treatment of Appendicitis. Mortimer Willson.
- 40 The Anatomy of the Fifth Nerve and Its Relation to the Etiology and Treatment of Trifacial Neuralgia. (Continued.) Edward K. Bacon.
- 41 Resuscitation of the New-Born. John J. Mulheron.
- Peoria Medical Journal, October.**
- 42 The Prevention of Post-Operative Hernia. C. U. Collins.
- 43 Diseases of Children. J. T. Stewart.
- 44 A Note on the Treatment of Catarrh and Pyorrhoea Alveolaris. J. M. G. Carter.
- Journal of Mental and Nervous Diseases (N. Y.), October.**
- 45 *A Case of Adiposis Dolorosa, With Necropsy. Charles W. Burr.
- 46 Rigidity of the Spine. J. H. McBride.
- 47 A Case of Primary Progressive Muscular Dystrophy of the Facio-Scapulo-Humeral Type of Landouzy and Dejerine. Allan B. Bonar.
- 48 A Case of Hysterical Aphonia in a Grand Mal Epileptic. L. Pierce Clark.
- Denver Medical Times, October.**
- 49 The Lingual Tonsil. Robert Levy.
- 50 The Use of Pilocarpin in the Treatment of Inebriety. E. P. Hershey.
- 51 The Clinical Appearance of the Blood in the Anemias. G. H. Stover.
- 52 Mistle. James E. Free.
- 53 The Management of Tuberculous Diarrhoea. R. L. Daly.
- The Post-Graduate (N. Y.), October.**
- 54 *The Treatment of the Breasts and Nipples During Pregnancy and Puerperium. George L. Brodhead.
- 55 A Simple and Effective Appliance Used in the Mechanical Treatment of Torticollis, With Report of Case, Due to Spasm. Daniel W. Marston.
- 56 Palatable Prescribing for Children. Herman H. Sheffield.
- 57 Unusual Physiologic Conditions. Abbott C. Combes.
- 58 Clinical Lecture. Daniel W. Marston.
- 59 A Few Cardiac Cases Observed in the Medical Wards of the New York Post-Graduate Hospital, With Comments on the Pathology and Physical Signs in Valvular Lesions. (Continued.) William H. Porter.
- Archives of Pediatrics (N. Y.), October.**
- 60 *Acute Nephritis Following Influenza. Rowland G. Freeman.
- 61 Congenital Cardiac Malformation, With Endocarditis and Anuria. A. C. Cotton.
- 62 Atresia of the Larynx Due to Traumatism, the Result of Faulty Intubation. W. P. Northrup.
- 63 Report of a Case of Pulmonary Stenosis. Samuel McC. Hamil.
- 64 A Case of Suppression of Urine Apparently Due to Ascaris Lumbricoides. Frank W. Bogert.
- Kingston Medical Quarterly, July.**
- 65 Sewage Purification by Bacteria. Willis Chipman.
- 66 Hemeropathy. Edmund J. Melville.
- 67 Double Hare-Lip. With Protrusion of the Os Incisivum—Complete Cleft-Palate. W. G. Arglin.
- 68 Vitality of Typhoid, Diphtheria and Cholera Bacteria in Milk. W. T. Connell.
- 69 Pneumonia and Empyema. John Herald.
- Annals of Gynecology and Pediatrics (Boston), October.**
- 70 *Pelvic Reflexes. Wm. A. Howe.
- 71 *Residual Symptoms of Gonorrhoea in the Female. Edward J. Hill.
- 72 Infantile Diarrhoea. Wm. B. Clapper.
- Columbus Medical Journal, September.**
- 73 Report of Some Operations on the Intestine. C. S. Hamilton.
- 74 Milk Contamination and How Best to Prevent It. D. S. Hanson.
- 75 Asepsis in Obstetric Practice. James U. Barnhill.
- Cleveland Medical Gazette, October.**
- 76 *The Cure of Hernia by Surgical Means. Charles B. Parker.
- 77 A Case of Pyloric Stenosis Without Dilatation—Operation—Cure. L. B. Tuckerman.
- 78 *Remarks Upon the Post-Operative Treatment, With Especial Reference to the Drugs Employed, in 114 Consecutive, Unselected Abdominal Sections Without a Death. Hunter Robb.
- 79 Appendicitis in a Case of Undescended Cecum and Appendix. C. A. Hamann.
- 80 Address Delivered at the Opening of the Fortieth Session of the Cleveland College of Physicians and Surgeons. Charles B. Parker.
- Medical Summary (Philadelphia), October.**
- 81 Accidents and "Pinds." C. W. Canan.
- 82 Germanium Maculatum. Erase S. Horne.
- 83 Pathological Conditions Assuming Typhoid. A. B. Woodward.
- 84 Nasal Catarrh. E. E. Truitt.
- 85 Leg Ulcers. Burton W. Swazey.
- 86 One Way to Abort Pneumonia, and Others—A Form of Malaria. Geo. H. Chandler.
- 87 Intestinal Indigestion—Report of a Case. E. E. Lewis.
- 88 Sleeping Sickness. Ben H. Prodnax.
- Medical Times and Register (Philadelphia), October.**
- 89 *Puerperal Eclampsia. E. F. Posey.
- 90 The Diseases of the Blood in Their Relation to Surgery and Their Treatment. George G. Van Schaick.
- Interstate Medical Journal (St. Louis), October.**
- 91 *Erichsen's Disease—Does It Exist? Isham H. Goss.
- 92 *Middle Ear Disease in Its Relationship to the Cranial Cavity. Otto J. Stein.
- 93 The Growing Necessity for Sanitaria for the Tuberculous. William Porter.
- 94 A Case of Suppurating Ears of More Than Twenty Years' Duration, With Impending Insanity, Cured by the Removal of Adenoids. Fayette C. Ewing.
- 95 Medicine in China. T. C. Minor.
- Doctors' Magazine (Alma, Mich.), September.**
- 96 Neurasthenia. Geo. F. Butler.
- 97 Treatment of Eclampsia. J. W. Ballantyne.
- 98 Dreams. Frederick B. Stevenson.
- Kansas City Medical Index-Lancet, October.**
- 99 *Various Methods for the Destruction of Malignant Growths. Hermann E. Penrose.
- 100 Modern Vaccination. T. W. Peers.
- 101 The Field of Usefulness of the X-Ray of To-day. J. N. Scott.
- 102 Some Notes from the Ninth International Ophthalmological Congress. Elliot O. Sisson.
- 103 Brain Diseases. John Funton.
- American Medical Compend (Toledo, Ohio), October.**
- 104 Heart Lesions Following the Acute Specific Fevers. Wm. A. Dickey.
- 105 Summer Diarrhoea of Children. Claren S. Miller.
- 106 Case of Ulcerative Colitis. T. J. Biggs.
- Western Medical Review (Lincoln, Neb.), October 15.**
- 107 *What Should Be Our Treatment of Fractures of the Anatomical Neck of the Humerus Complicated by Dislocation of the Head? W. Jepson.

- 108 *Clinical Case of Suppuration of the Parotid Gland. H. P. Hamilton.
 109 *Gastroenterostomy in Carcinomatous Obstruction of the Pylorus. Gilbert G. Cottam.
 110 Some Observations in Diets. Martin A. H. Thelberg.

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- 111 Conservative Abdominal and Pelvic Surgery is Life-Saving and Not Ideal. J. G. Carpenter.
 112 *Relation of Visual Defects to Occupations. William B. Meany.
 113 The Medical Profession of St. Louis from 1860 till 1900. I. N. Love.

Colorado Medical Journal, September.

- 114 *Some Neurological Medicolegal Experiences and Reflections. Charles K. Mills.
 115 *Address in Surgery. Should Strict Asepsis Be Demanded of the General Practitioner in Accident Surgery and Emergency Operations? Why? How Can They Do This Most Successfully? Chas. B. Nancrede.
 116 A Pin in the Vermiform Appendix Simulating Tubo-Ovarian Abscess. H. G. Wetherill.

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- 117 Is Inebriety Ever a Disease or Always a Vice? P. C. Remondino.
 118 Psychopathia Sexualis and Divorce. R. W. Shufeldt.
Canadian Practitioner and Review (Toronto), October.
 119 *Some Experiences in the War in South Africa. G. Sterling Ryerson.

- 120 Erythema Bullosum. Graham Chambers.
 121 Infant Feeding. Dr. McKee.
 122 *The Operative Treatment of Prolidientia Uteri in Elderly Women. A. Laphorn Smith.

Memphis Medical Monthly, October.

- 123 Cerebro-Spinal Meningitis. M. M. Smith.
 124 Chloroform in General Anesthesia. A. E. Cox.
 125 A Unique Case of Malarial Hematuria. Alfred Moore.
 126 Traumatic Hematoma—Report of a Case. J. C. Stinson.
 127 Intestinal Hemorrhage of the Newborn Infant, or Infantile Hemorrhage. L. L. McAllilly.
 128 A Potent Cause of Sterility. C. W. Crowell.

Therapeutic Gazette (Detroit), October 15.

- 129 *Treatment of Asthma and Hay Fever. Ernest Kingscote.
 130 *The Use and Abuse of Cardiac Stimulants. H. A. Hare.
 131 Leucorrhoea: Its Cause and Treatment. John C. Hirst.
 132 *Notes on the Use of Large Doses of Strychnin in The Douleuroux. Chas. S. Potts.

Texas Medical Journal, October.

- 133 The Mosquito as a Transmitter of Micro-Organisms. R. Menger.
 134 Treatment of the Insane. Frank R. Ross.
 135 Some Requisites for Successful Work in This Department. J. J. Robert.

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- 136 *Antistreptococic Serum, with Cases. Charles H. Hunter.
 137 *On the Pharmacopieal Recognition of Diphtheria Antitoxin. Joseph W. England.
 138 Diphtheria. J. P. Barber.
 139 Diphtheria—Diagnosis and Treatment. C. S. Bigelow.

American Journal of Surgery and Gynecology (St. Louis), October.

- 140 Hernia of the Bladder in the Femoral Ring. Lucy Walte.
 141 A Case of Traumatic Vesico-Vaginal Fistula; Glass Pessary Retained Twenty-eight Years. Frederick A. Tucker.
 142 Wiring Patella, Excision of Upper Jaw, Removal of Appendix. (Continued.) Henry A. Barr.
 143 Gall-Stone Followed by Spontaneous Rupture of the Gall-Bladder—Operation—Recovery. A. Morgan Vance.
 144 Can Septic Peritonitis Be Cured? Z. H. Evans.
 145 The Modern Cesarean Section. George G. Hopkins.
 146 Do City Surgeons "Divide Fees"? If Not, Why Not? One Way of Overcoming the Difficulty. John J. Gaines.

Georgia Journal of Medicine and Surgery, September.

- 147 *Hinter-Colitis. William E. Flitch.
 148 *What Constitutes Conservatism in the Treatment of Appendicitis? Hugh M. Taylor.
 149 *The Continued Use of the Antiseptic and Eliminating Treatment of Typhoid Fevers Without Any Deaths. T. Virgil Hubbard.
 150 *The Treatment of Puerperal Infection. J. R. Killebrew.

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- 151 Quinin. J. W. P. Smithwick.
 152 Physicians Should Carry and Dispense Their Own Medicines. J. L. Wolfe.
 153 Analgesics in Diarrhea. J. W. P. Smithwick.
 154 Treatment of Chlorosis. J. W. P. Smithwick.

Merck's Archives (N. Y.), October.

- 155 Some Medical Philosophy. W. C. Cooper.
 156 *Dormol (Amylene-chloral) in Private Practice. J. Arnold Goldmann.
 157 Practical Drug Therapy. Joseph Byrne.
 158 *Quinin as an Antipyretic. J. Hobart Egbert.

Medical Times (N. Y.), October.

- 159 Circumcision, Its Moral and Physical Necessities and Advantages. A. W. Taylor.

- 160 Stricture of the Esophagus Following Typhoid Fever. William C. Dugan.

- 161 Thyroid Therapy. W. S. Lindsay.

- 162 *The Abdominal Brain. Byron Robinson.

AMERICAN.

1.—See abstract in THE JOURNAL of October 20, p. 1049.

2. **Asthma.**—Wells thinks that asthma, above all other diseases, requires strict individualization in its treatment, and regard must be had for the existence of complications. He concludes that it has so many points of resemblance with migraine, angina pectoris and epilepsy that it may be reasonable to suspect that they have a similar pathology. Of all the theories of the pathology of the paroxysm, none harmonizes so well with all the facts as the vasomotor theory, and this, when we consider the disturbance as essentially that of arterial contraction, not dilatation. Asthma occurs in reflex neuroses from diseases of various organs, but especially from those supplied by the vagus nerve. The nasal trouble which is so frequently its cause, may not be an obstruction and may often be very difficult to detect. Nearly all cases show evidence of a pronounced psychic element in the curious character of the exciting causes, the capriciousness of the disease and its dependence on emotional states. In the treatment of the paroxysm strict individualization needs to be observed. The best remedies are those which overcome arterial spasm, such as morphin, nitroglycerin, atropin and chloral hydrate. The treatment between the attacks must be directed first, to removing the cause and, second, to the institution of sound hygienic and prophylactic measures as regards the mind, diet, air, exercise, etc. The medicinal treatment is addressed to improving the constitutional state, for which the best remedies are piperazin, potassium iodid and other iodids, the alkalies, and tonics.

3. **Electrization of Lachrymal Passages.**—After noticing the history of the method, technique, opinions and results of authorities, Mial reports his own experience. He used applications of the electric current with the Bowman probe at intervals of a week in six cases, with results so encouraging that he has had constructed a special set of lachrymal electrodes. At present it seems to him that in simple stricture of the lachrymal ducts, the knife is unnecessary and should be wholly replaced by the electric bougie. The chief indication is to keep the passages open; electrization does this speedily, painlessly and without hemorrhage, and is furthermore antiseptic. In his opinion the strength of the current should not exceed 3 milliamperes. The positive pole is a flat sponge applied to the back of the neck, and two minutes is long enough under all circumstances. Short and frequent sittings are preferable to longer ones. After withdrawing the probe, it is well to wash out the canal with a 4 per cent. solution of protargol.

5. **Concha Bullosa.**—Bullous enlargement of the middle turbinate bone or concha bullosa is described by Clark, who reports two cases and mentions the symptoms and treatment. The condition seems to occur almost exclusively in women, a fact which can not be explained. The diagnosis is not difficult. A rounded swelling situated in the region of the middle turbinate should be distinguished by a probe from a polyp or hypertrophy of the mucous membrane. The symptoms are chiefly headache, obstruction to respiration, sometimes, though not commonly, deformity of the nose, reflex symptoms, such as vomiting, etc. The only rational treatment is the removal with the cold-wire snare, conchotome, or cutting-forceps. Hemorrhage is usually insignificant.

9. **Yellow Fever.**—Smart reproduces Sternberg's reply to Sanarelli in the *Centralblatt fuer Bakteriologie*, Bd. xxvii, No. 20-21, and also gives a translation of a letter from Dr. Adolphe Lutz, published in the *Revista d'Igiene e Sanita Publica*, Torino, 1 July, 1900, supporting the views of Sternberg as opposed to those of Sanarelli.

14. **Suppurative Pericarditis.**—The following are the conclusions of Porter's article: 1. Pericardiotomy is indicated in all cases of suppurative pericarditis. 2. Because of the un-

certain and varying relations of the pleura and because of the anterior position of the heart, whenever the pericardial sac is distended by fluid, aspiration of the pericardium is a more dangerous procedure than open incision, when done by skilled hands. 3. Incisions of the pericardium can be done quickly and safely by resection of the fifth costal cartilage and in many cases under local anesthesia. 4. In many cases of serous effusion open incision without puncture will offer less risk and speedier cure than aspiration. 5. The method and detailed technique of the writer proposed in 1897 has been followed out by the majority of recent operators.

15.—See THE JOURNAL, August 18, p. 454.

16. **Rheumatic Diathesis.**—Porter argues against the assumption of the existence of uric-acid diathesis and thinks it reasonable to assume that continued errors in the diet, the action of the various micro-organisms on the intestinal canal and the production of an almost endless variety of these toxic products may be easily made to explain the many symptoms and types of so-called rheumatism, even from a slight neuralgia down to the most extensive destruction of the joint structures. Uric acid, when it rises above the normal in the urine, is simply a symptom of the imperfect state of proteid oxidation and the general condition of malnutrition.

17. **Septic and Gonorrhœa Joints.**—In the paper on this subject, Porter attempts to show that gonorrhœa alone can cause arthritis which may be purulent without the presence of other organisms, and that this gonorrhœal arthritis occurs not only in acute gonorrhœa but in chronic and latent stages and is more permanent than is usually believed. The signs of such chronic infections are often slight and overlooked. Therefore, not a small proportion of cases are diagnosed as arthritis which are really of gonorrhœal origin. He thinks the best treatment in the acute stage is absolute immobilization, and after its subsidence advantage can be taken of the period of diminished sensibility to pain which usually follows the hot-air bath, to employ massage as a preliminary to passive movement. The question of operation is rather coming to the front, and he thinks with proper precautions the danger of sepsis is slight compared with the advantage to be gained, but for general adoption immobilization is the best treatment. Only when pus can be demonstrated by fluctuation, edema and redness, or aspiration, should operation be resorted to.

19. **Spinal Anesthesia.**—Coring notices first the history, with special reference to his own part in the origination of the method, and then describes the technique of spinal cocainization, calling attention to the necessity of antiseptics. He maintains that the outflow of the cerebrospinal fluid is not absolutely essential to ascertain whether the needle has entered the spinal cord. This can be determined by measurements and a tentative injection of a small quantity of the anesthetic. He cautions against too free recourse to the method and believes that deaths will be reported from its use in the hands of unskilled practitioners. He does not think that it will ever supplant entirely or seriously the methods of cerebral anesthesia though it may curtail their use somewhat.

23. **Surgery of the Gall-Tracts.**—The special points emphasized by Jones are: 1. The diagnostic value of the point of maximum tenderness on pressure, which is over the gall-bladder or at near the costal margin of the ninth rib. This point in disease of the gall-tracts corresponds in importance with McBurney's point in disease of the appendix. 2. The diagnostic value of the presence of bile in the urine excreted during or immediately after a very brief obstruction of the common duct. 3. Disease of the gall-tracts is of very common occurrence, and is liable to be mistaken for other troubles which it closely imitates. He urges the physician to observe and recognize early the effects due to diseases of the gall-tracts.

24. **The Soldier's Rations.**—Seaman thinks that the soldiers' ration used by the United States is altogether too rich in proteids and severely taxes the digestion of soldiers in the tropics. He maintains that a small amount of fresh meat or its equivalent in dried and smoked beef with a more ample

allowance of succulent and green vegetables and sugar with chocolate would be a great improvement and would afford the possibility of selecting a light portable ration which would be ample for hard campaigning in hot countries.

27. **Typhoid Fever.**—The principles of the treatment of typhoid fever are: Put the patient to bed at the beginning, as any other course is perilous. Then provide a non-irritating and preferably liquid diet. The mild cases will get well without medication, but Burt does not recommend that altogether expectant course. He is of the opinion that alcohol is used too freely, but there are cases where it is required. The actual tub bath he thinks is less advisable than an application of cold water otherwise. A sponge bath, one-third alcohol and two-thirds cold water, will accomplish the desired results in the majority of cases. He is inclined to believe that where the fever remains within bounds, it is not a matter of much concern, if the pulse remains good and nervous symptoms are absent. If any intestinal antiseptic remedies are to be tried, he considers mild laxatives the best. Where the bowels move more than three or four times in the twenty-four hours he gives bismuth in large doses with a small dose of morphia. The supporting remedies are strychnin, ammonia, alcohol, bismuth, etc. When the fever has gone, he would keep the patient still in bed until the muscular symptoms and heart are in a suitable condition for his getting up, and he would prescribe a soft diet for a week or ten days.

31.—See abstract in THE JOURNAL of October 20, p. 1050.

37. **Tuberculosis.**—The diagnosis and prognosis of pulmonary tuberculosis are discussed by Dock, who insists on the importance of sputum examinations as well as of physical and rational signs. The former appear to him to be very much neglected by general practitioners, not over 10 per cent. of the patients coming to the University Hospital (Ann Arbor) having had their sputa tested. Too much reliance, however, should not be placed in this alone, nor on a good family history; a negative family history should of itself carry no weight. Among the early symptoms he specially notes anemia, dyspepsia, etc. Cough does not always receive the attention it deserves, and hoarseness is also important. Tuberculosis of the genito-urinary tract is commoner than is supposed and pus from it should be examined like sputum. Percussion and auscultation must be comparative to be of value, and attention must be given to the proper use of interrupted breathing, prolongation of expiration and the voice signs. The prognosis depends upon various factors. The condition of other organs than the lungs must be regarded. The abundance of bacilli in the sputum is significant; often a large number may come from a quiescent cavity, and though this may be liable to be lighted up, their presence does not necessarily imply that this has occurred. The condition of the larynx is important, but less so than formerly supposed. Complicating pleurisy is not necessarily a hopeless symptom. Dock lays special stress on the significance of the diazo reaction; when it is positive the outlook must be considered bad.

38.—**Graves' Disease.**—Inglis' theory of Graves' disease is that it is a group of symptoms due to the entrance into the blood of an altered secretion of the thyroid gland. The normal secretion is, he holds, an enzyme affecting tissue growth. In this disease a poison is secreted having an elective action on the nervous system, and especially the sympathetic. In the common cases with early thyroid enlargement, the gland is diseased and its toxic secretion irritates the gland itself. In the rarer cases without enlargement, the gland is not so directly affected by its abnormal products. This theory explains more readily the occurrence of exophthalmic goiter from nervous shock. A comparison of the symptoms with those observed in other disorders assumed to be due to toxins, such as tuberculosis and cholera throws light on the disease.

45. **Adiposis Dolorosa.**—Burr reports a case in a woman thirty-six years of age, weighing three hundred pounds, with symptoms of lethargy, weakness, spinal paralysis, who had lost control of the bladder and rectum. She was in the hospital in a semi-conscious condition for several weeks, and then died with edema of the lungs and acute Bright's

disease. At the necropsy, a tumor of the pituitary body about as large as a walnut was found, involving the optic chiasm and penetrating upward into the ventricles. There was a marked internal hydrocephalus. The thyroid gland was normal in size, and contained a secretion about as large as a chestnut. The lungs were edematous and the ovaries small and hard. Microscopic examination showed a high grade of interstitial neuritis in the nerve filaments and muscles and in the various nerves examined. At the seat of the pituitary body was a glioma. There was marked degeneration of the thyroid gland and absence of the secreting cells. The ovaries were non-functional and sclerotic. The case is of interest as showing the combination of adiposis dolorosa with neuritis and organic brain disease, together with ovarian complication which may have had a bearing on the beginning of the trouble.

54. Treatment of the Breasts.—Brodhead advises that nothing be done during pregnancy in most cases, beyond the precautions for cleanliness, bathing each day with warm water and castile soap and a little massage if the nipples are small; albolene on sterile gauze applied at night is also advisable. With nursing women the nipples should be kept covered with albolene on sterile gauze between nursings, and never handled. If they become cracked or eroded there is nothing equal to a 10 per cent. nitrate of silver solution applied on clean cotton. After two or three applications the crack usually heals. After each nursing the nipples should be bathed with boric acid and the child's mouth treated in the same way. Where the patient does not nurse, a tight breast-binder should be applied after nursing has ceased, and in many cases this alone will suffice and the milk will dry up. In other cases it may be advisable to limit the amount of fluids taken and in all cases where the breasts are caked large doses of Rochelle salts should be given. In very few cases will it be necessary to use massage. In nursing women, where there is extreme over-secretion, a little pressure may be applied, but in ordinary cases this should be avoided. In all cases the breasts should be supported in some way to prevent caking, and the use of Rochelle salts in cases of over-secretion is good practice. Abscess of the breasts is very rare with perfect cleanliness, but when it occurs massage should be used to force the pus out through the nipples and nursing should be stopped. Here also large doses of salts are useful. When this treatment fails, the treatment is the same as for abscesses in other parts of the body.

60. Nephritis Following Influenza.—From the observation of a certain number of cases in the literature, as well as one observed by himself, Freeman draws the following conclusions, premising that they are based on a very limited number of cases: 1. Although albuminuria is fairly frequent with influenza, nephritis is a rare complication. 2. The nephritis complicating influenza is clinically of the acute hemorrhagic type and morphologically shows toxic lesions. 3. It apparently attacks children more often than adults. 4. The kidney disturbances may appear a few days after the acute symptoms of the influenza, or as long as a month later. 5. The prognosis is good.

70. Pelvic Reflexes.—Howe reviews the anatomy of the nervous system briefly to explain the possibilities of pelvic reflexes and insists on close observation of these latter in nervous manifestations in women. If the cause is not found there, seek it elsewhere, but by all means find the cause and remove it. He reports several cases illustrating ovarian and uterine reflexes and the benefit derived from operation.

71. Gonorrhoea.—Residuary pathologic conditions following gonorrhoea are noted by Ill. He finds among the most frequent and persistent forms about the vulva, what has been called a macular vulvitis. The Bartholinian gland itself will often be found as a hard nodular mass and its cysts are commonly the result of gonorrhoeal obliteration of the duct. At the meatus we have the macules, and purulent discharges from the ducts of Skene and stringy mucus showing in the urine-like threads, are prominent residuary symptoms about the urethra as well as stricture of the urethra and periurethral thickening. The same macules and papules are found in the vagina. The very

chronic form of endometritis, where there is a copious mucopurulent discharge from the cervix in which gonococci can no longer be demonstrated, might also possibly be classed under this head. It is this form that baffles our skill in treatment. He has also seen a chronic atrophic endometritis, which he has reason to believe is a very remote residuary symptom of gonorrhoea. The residuary symptoms found in the tubes, ovaries and pelvic peritoneum need no lengthy description. The chronic thickening of the tubes with their adhesions is commonly the result of gonorrhoeal infection, as likewise is the thickened albuginea of the ovary. When these conditions are found with the macules already mentioned we may feel very sure of their cause. Septic puerperal infection rarely leaves such thickening in the pelvis as does gonorrhoea. The writer has often been astonished to find how frequently a granular colitis accompanies the residuary symptoms in other parts. Finally, he cautions circumspection in the diagnosis and close observation before decision.

76. Surgical Treatment of Hernia.—Parker describes his method of treating hernia, which is largely that of Bassini, and sums up the indications as follows: 1. Close the sac. This is accomplished by pulling down the sac and sewing it so that when it retracts it will rest against the abdominal wall. 2. To close the internal ring by sewing together the transversalis fascia and securing a firm union of the internal oblique and the transversalis muscle to Poupart's ligament. 3. The displacing the cord on to the pubes and uniting the pillars of the external ring closely over it. 4. The operation is not to interfere with the functions of the cord or testicle. No veins are removed. No tension is put on the cord and atrophy of the testicle should not occur.

78. Post-Operative Treatment.—Robb's practice in abdominal operations is to give for the restlessness which occurs for the first twenty-four hours after the operation, when the attentions of the nurse are not sufficient, an enema consisting of 2 ounces of milk of assafetida, to be repeated in an hour if necessary, sometimes adding $\frac{1}{2}$ dram or more of potassium bromid. If the restlessness persists and the patient suffers pain it may be necessary to give $\frac{1}{6}$ to $\frac{1}{4}$ gr. of morphin, but it should never be used unless all other measures have failed. Where the pain is excessive and relief by the simpler methods have failed, a drop of the tincture of capsicum in a teaspoonful of hot water every half hour for two or three doses is ordered, or if this fails, fifteen to twenty drops of deodorized tincture of opium is added to a nutritive enema which the patient receives as a routine practice after the operation. Only exceptionally is morphin given hypodermically. Strychnin sulphate, $\frac{1}{30}$ of a grain by the rectum, is given as a routine practice after every abdominal operation, and when the patient arrives in the ward, $\frac{1}{30}$ grain hypodermically, with $\frac{1}{75}$ grain of atropin sulphate every half hour for two doses. After that she is then given strychnin— $\frac{1}{30}$ to $\frac{1}{60}$ gr.—hypodermically every three to six hours, according to the character of the pulse, and in a condition of marked shock six to eight doses may be employed. If the pulse is under 110 on the morning after the operation, as a rule, no strychnin is given, but if it is over 120, $\frac{1}{40}$ to $\frac{1}{70}$ of a grain is given hypodermically every three or four hours until the pulse is reduced. For the tympanites which sometimes occur after abdominal operation, 1 to 2 drops of tincture of capsicum in a teaspoonful of hot water every half hour for three or four doses, or 15 to 20 drops of essence of peppermint, will often prove effectual. A turpentine stupe or a mustard leaf over the epigastrium is a useful adjunct. If these measures do not relieve, a rectal tube is introduced high up in the rectum and is allowed to remain from fifteen minutes to half an hour, or until tympany disappears.

89. Puerperal Eclampsia.—Posey reports a case of puerperal eclampsia in which great relief was obtained from blood-letting, and argues, therefore, from experience in this and other cases that it will greatly modify the mortality of the condition if blood-letting were oftener resorted to.

91. Erichsen's Disease.—Goss' article is written entirely from the standpoint of a railway surgeon, and he has very

little belief in the genuineness of the great majority of cases that come up for damages against railroads. He thinks that in such cases greater weight should be given to the testimony of the surgeon than to that of the neurologist on account of the greater experience of the former with this class of cases.

92.—See abstract in THE JOURNAL of October 20, p. 1048.

99. **Malignant Growths.**—Pearse reviews the various methods of treating malignant growths, especially the non-surgical methods. He recalls a case of sarcoma reported by Dr. E. J. Kuh, pronounced inoperable, cured by alcohol injections, and mentions the value of internal medication with nucleiin, also the advantages from the use of opium and cocaine in the after-treatment of operated cases, as recommended by Herbert Snow. The value of escharotics as testified to by such men as Bernays, Lewis, Wyeth and others is also mentioned; also the use of electricity and the cataphoric method with oxychlorid of mercury, employed by Dr. G. Betton Massey, which he seems to consider promising, though too dangerous to be employed about the head and neck.

107. **Fracture of the Humerus.**—Jepson reports a case in which he diagnosed fracture of the humerus through the anatomical neck and in which he cut down on the head of the bone and removed it with good results. He remarks that it is commonly assumed that all dislocations at the shoulder-joint are classified as occurring either at the anatomical neck or surgical neck, and are presumed to be amenable to the same treatment, viz., reduction of the dislocated head irrespective of line of fracture. He protests against this view and says if the fracture is at the anatomical neck the head will be severed from all blood-supply and is liable to necrosis, and union could not take place unless impaction occurs. Consequently he would lay down the following rule: In fractures through the anatomic neck where a fragment is separated from all blood-supply, the proper procedure is to remove the dislocated head of the bone at as early a period as may be justified by circumstances, and that passive motion be undertaken early with a view of securing a nearthrosis, for if the bone were returned it would not unite and would ultimately have to be removed, and if left in its abnormal position it would in all probability induce deleterious effects. On the other hand, if the fragment had adequate blood-supply—as is possible in a fracture involving the tuberosities or the surgical neck—every effort at reduction should be made by direct manipulation, while the patient is under an anesthetic. If this should fail, then McBurney's method may be called into requisition. When it is impossible to bring about reduction of the upper fragment, then it would appear that removal of the fragment would lead to results superior to those which would follow in event of its being left in situ.

108.—See abstract in THE JOURNAL, xxxiv, p. 1489.

109.—Ibid., p. 234.

112.—See THE JOURNAL of October 13, title 40, p. 975.

114. **Medicolegal Experiences.**—In this address Mills gives some interesting experiences in medicolegal cases showing the tricks of lawyers and the peculiar position in which the medical witness often stands. He cautions witnesses against giving views regarding the books used by the examining counsel, as it is common practice to try to catch the doctor in endorsing what does not there exist. He shows the defects of expert testimony and the probable reasons why it is ineffectual in many cases; prejudice is one of those, as in the celebrated Giteau case. He thinks that the official expert system will never succeed in this country. The real way would be for the experts on both sides to examine the case together and consult about the condition frankly and freely without any effort to come to an agreement for the mere sake of doing so. While the present system is probably the best it is not always properly made use of. Very much depends on the competency of the experts, which it is needless to say is not always provided for. In conclusion he speaks about the physician's conduct as a witness, making the following points: 1. That the witness should not go outside of his own province. 2. That his testimony should

be relevant and his manner respectful. 3. That he should always tell his story in plain language. 4. That he should never pose as an expert outside of his special line of work. When asked about the responsibility of persons on trial he has on one or two occasions himself found it advantageous to disclaim being an expert on responsibility. While as a rule repartee is not advisable there are cases where it may be advantageous, but they are not common. The witness should learn not to say too much. It is exceptional, but it is also possible for the witness, through nervousness or modesty, to be too brief.

115. **Asepsis.**—The history of asepsis is briefly noticed by Nancrede, who insists on absolute asepsis by means of gloves, giving details as to their use. They can be best put on by filling with sterilized water or a germicidal solution and then turning down the gauntlet part, slipping the fingers in carefully, following with the thumb. After both the gloves are on rinse off their outer surfaces with a germicidal solution or sterile water for fear the water escaping from the interior contain germs from the imperfectly cleaned hand. After removing them, dip them in water and turn inside out, dry carefully and dust with powdered talc. If punctured during the operation a thin finger cot must be pulled over the finger. After the operation most tears and all punctures can be readily repaired with cement obtainable from the makers. He concludes his paper with the following recapitulation of its chief points: 1. Air-germs can be ignored if strong currents of air be avoided. 2. The field of operation can be rendered practically aseptic, especially as the deeper layers of the epidermis, which contain the germs impossible to remove, are usually mechanically excluded from the wound proper by the apposition of the derm by suturing. 3. Mechanical removal of germs by friction, assisted by agents such as alkalies, which tend to disintegrate the superficial layers of the epidermis should be the chief means employed to secure asepsis of the field of operation and the hands. 4. Alcohol is preferable to ether for the removal of grease, as it destroys the deeper layers of the epiderm, thus tending to destroy or inhibit the growth of the germs there resident. 5. Caloric is the only thoroughly reliable agent for the sterilization of ligatures, dressings, and sponges. 6. There is no certainly reliable method of sterilization of the hands which renders it safe under all circumstances to tie the ligatures with bare hands. 7. Hence it is our duty to use gloves when tying ligatures and, when possible, at every stage of all operations and during the dressing of all open wounds. Armed with a pair of these gloves, the practitioner can be independent of everything but water and soap, and can protect his patients from the chief danger, viz., his hands. 9. Obstetrical cases can be most safely handled with gloves especially if active intervention, as the mechanical removal of the placenta, be necessary.

119. **War Experiences in South Africa.**—Ryerson gives the results of his observations in South Africa during the late unpleasantness. He found, as others have found, that the Mauser bullet is not as serious in its effects as the older missiles. He also noticed that lyddite was not especially destructive, and the Boers found that the escaping gas could be counteracted by a few drops of vinegar. He remarks also on the good results following penetrating wounds of the abdomen, and says that while usually interference was not advisable he saw one case where excellent results were obtained by section. In conclusion he remarks on the hospital management in South Africa, vindicating the medical corps from the charges that have been made.

122. **Procidencia Uteri.**—Laphorn Smith reports results of the treatment of cases with complete procidencia. We have two operations, he says, to choose from, according to the degree of the prolapse and the size of the uterus. If the latter is small and not so far out of the body as to become ulcerated, the safest operation is to make a small incision in the abdomen, and catching the fundus with the bullet forceps, draw it up to the incision and scarify the whole anterior surface and then sew it to the abdominal wall with buried chromicized catgut, after which the vaginal outlet is narrowed by a large anterior and posterior colporrhaphy. If, however, the uterus is very

long, especially if it is badly ulcerated, it is better to amputate all but the upper two inches of it and then narrow the outlet. There is one advantage which ventrofixation and amputation of the cervix have over complete removal of the uterus; namely, that the bladder and vagina are drawn up by ventrofixation better than when the uterus is removed. However, by doing a Stolz operation to narrow the anterior vaginal wall, and a Hegar operation to narrow the posterior one, the outlet generally becomes quite small enough to keep the cystocele and rectocele in. In some cases, however, the cystocele is one of the most difficult conditions to cure.

129. Asthma and Hay-Fever.—Asthma is a symptom not a disease. We must look for the cause of it in some tissue or tissues supplied by the vagi and sympathetic. With the wide range of these nerves the organs supplied by them are numerous. We may, therefore, have cardiac asthma, bronchial, hepatic, pelvic, renal, splenic asthma, etc. There are three pretty constant factors, however, in all cases of asthma of long standing, viz., cardiac dilatation, acute vesicular emphysema, and chronic hepatic congestion. They must be relieved to cure the patient. As regards cardiac dilatation, Kingscote has endeavored to show in previous papers how the dilated organ may impinge on the vagi and so irritate them as to produce asthmatic spasm. Emphysema tends to produce asthma by dilating the heart and interfering with pulmonary circulation. In some cases these may be the only remaining causes of asthma, the original cause having worn itself out. It is easy to diagnose emphysema, but the exact amount of cardiac dilatation is difficult to determine on account of the former. If we can find the origin, whatever it may be, gastric trouble, or oral or nasal irritation, proper treatment is called for. To reduce the cardiac dilatation Kingscote knows of no better or surer means than the Schott treatment, while the emphysema may be reduced by the breathing exercises suggested by Harry Campbell. These are intended to induce thoracic respiration by fixing the lower ribs after expiration and slowly inhaling through the nose. The upper thorax is thus compelled to expand. He has seen many cases where this method produced several additional inches expansion of the chest. He has also been in the habit of giving these patients showing suboxidation of blood and anemia, inhalations of pure oxygen gas several times a day, and peptonate of iron, which is not assimilated until it reaches the alkaline influences of the intestines and, therefore, does not disturb the stomach and is not astringent. The patient is also encouraged to be in the open air as much as possible. In a period extending over six years, 10 per cent. of his patients suffering from asthma have been improved and 90 per cent. cured by the foregoing treatment. Hay-fever is allied to asthma and all his patients suffering from that symptom have been cured.

130. Cardiac Stimulants.—Flare calls attention to the disregard to essential details as to the action of this important class of drugs. In many cases he finds that symptoms supposed to be serious heart trouble that are entirely due to the excessive use of digitalis. Not infrequently is the cardiac distress augmented by the use also of strong coffee. He therefore thinks it well to call attention to the fact that the best medicine for a tired heart is rest, not stimulants, unless they be conjoined with rest. Another misuse of cardiac stimulants is their employment in states of undue excitement of the heart when cardiac sedatives are really needed. They are also often given without regard to the state they are expected to meet. The degenerated heart muscles can gain no advantage from the drug, and it actually increases the labor of the heart by contracting the blood-vessels. If any drug is used in such conditions it should be one like strophanthus or cactus, in its action only slightly, if at all, vascular. It is not rare to find digitalis given in full doses in cases of failing heart where the chief trouble is not in the heart itself but in the condition of high arterial spasm or atheroma. If it is given in such cases, its vascular effect must be relieved by vascular relaxants such as the nitrites. In all heart disorders it is well to make an effort to discover if any cause exists which may be removed before using powerful heart tonics. Not rarely the stopping of

tobacco, alcoholic drinks, over-eating, sexual excitement, etc., will relieve the condition without the use of drugs.

132. Strychnin.—Potts reports two cases in which he used hypodermic injections of large doses of strychnin, together with rest in bed, light diet, diuretics, the use of potassium iodid, and tincture of iron for neuralgia as advised by Dana. The results obtained show that, within the limitations detailed by Dana, the treatment is of value and should always be given a fair trial.

136. Antistreptococcic Serum.—Experience with this serum by Hunter has not led him to be very enthusiastic in regard to it, though in his tabulated statement it would appear that in some cases at least the results following the treatment were good. He is inclined to think that the serum is comparatively inactive and says that the useful judgment of the value of these remedies can not fairly be expected from the general practitioner. He thinks the movement which he understands is on foot to refer such remedies to some authoritative body before their general recommendation would be a very excellent thing.

137. Diphtheria Antitoxin.—England's article is a plea for the pharmacopoeial recognition of a standardized preparation of diphtheria antitoxin instead of having to depend solely upon the manufacturers' standards.

147.—This article has appeared elsewhere. See THE JOURNAL of September 1, '95, p. 582.

148.—Ibid., August 25, title 25, p. 518.

149.—See abstract in THE JOURNAL xxxiv, p. 1130.

150.—This article has appeared elsewhere. See THE JOURNAL of July 14, title 14, p. 118.

156. Dormiol (Amylene Chloral).—The value of a hypnotic is determined: 1, by its reliability and promptness in action; 2, by the duration of its effects; 3, by its harmlessness as regards by and after effects. Goldmann remarks that it is an excellent idea to combine chloral, which is rather toxic and the unfavorable action of which is not always controlled, with the harmless and reliable amylene hydrate and thereby obtain a preparation uniting in itself the qualities of a good hypnotic. This combination, which has been called dormiol by its introducer, Dr. Fuchs, is a mixture of a molecule of chloral with one of amylene hydrate. It is a colorless oily fluid of a camphor-like odor and peculiar though not very unpleasant pungent taste. Fuchs and Koch found that about 24 per cent. more chloral was borne in this combination than when taken uncombined. From this they deduce that "the lesser toxicity of dormiol is due to the gradual occurrence and slow progress of disunion of the preparation." Goldmann reports his experience with this remedy as a hypnotic in a number of cases, including insomnia from various causes and finds that it has a prompt and reliable hypnotic action and also an undeniable sedative effect. It can be called upon to manifest itself in the relatively small dose of 5 min. and in larger doses up to 24 min. or more, has apparently no depressing action. As compared with other hypnotics it is well borne on account of its slow absorption, is more harmless and more durable in its effects. The desired sleep often sets in in a quarter of an hour without any preliminary excitation and continues undiminished for several hours. It has no cumulative action, establishes no tolerance by its long-continued use, agrees well with the patient and has no untoward by- or after-effects.

158. Quinin as an Antipyretic.—Egbert finds quinin a valuable antipyretic, especially so in lobar pneumonia and idiopathic peritonitis. It should be administered early and freely. He does not recommend its promiscuous use nor advise that it be given preference to other remedies even in the diseases mentioned. For example, in pneumonia diaphoretic measures must not be neglected. We are treating in its first stage active congestion rather than virulent inflammation and such can be done to modify the occurrence of the disorder by measures which dilate the peripheral capillaries and further the excretions. In peritonitis he would strongly recommend the quinin

treatment in preference to that by opium. Excessive pain may demand the latter, but the less the amount of opium, the better the results. He favors moderate doses of quinin; over 5 gr. for an adult is seldom called for, and then when we have to press the drug the point of tolerance will be found to be removed by the exigency of the case. Quinin pills should be tabooed if other forms are available, capsules and cachets are preferable, and it is still more regular in its action in solution. Its activity is greatly augmented by combining it with aromatics, cholagogues and a moderate amount of alcohol, and it can also be aided by combining or administering it with remedies that relax capillaries, such as Dover's powder and those which have such a definite antifebrile effect by acting on the nervous centers, such as acetanilid, atypyrin, etc.

162.—This article has appeared elsewhere. See THE JOURNAL of August 25, title 45, p. 518.

FOREIGN.

British Medical Journal, October 13.

A Discussion on the Treatment of Internal Hemorrhages.—DR. W. G. SMITH opened the discussion by noticing the various remedies recommended for internal hemorrhages and remarked that drug treatment, simply because there is hemorrhage, is often superfluous and sometimes mischievous. There is no doubt as to the efficiency of local styptics, but the principle of their action does not apply to the remedies given internally for hemorrhage. After discussing the action of ergot and other drugs, he details the rational treatment in an urgent case of hemoptysis as follows: 1. Reassure the patient and calm his natural alarm and excitement and that of his friends by a few judicious words and simple directions, and emphasize the fact that hemorrhage *per se* is rarely a matter of urgency. It is curious to observe that gastric hemorrhages, which are often of much more serious import, have not the same depressing effect upon the patient as a slight tinge of blood in the expectoration. 2. Avoid irritation of the gastric ends of the vagus nerve. Therefore do not administer cold drinks or pieces of ice to patients suffering from phthisis complicated with hemoptysis. Cold drinks irritate the gastric branches of the vagus, give rise to cough and thus aggravate bleeding. Moreover, by causing contraction of blood-vessels of the stomach they may tend to increase the flow of blood to the lungs, and intelligent patients the subject of hemoptysis, usually discover the truth of this by experience, and avoid cold drinks (Eklund). Allow, on the contrary, warm mucilaginous drinks. An icebag to the outside of the chest is perhaps of use. 3. Keep the patient absolutely quiet in mind and body. 4. Give morphin hypodermically; this is the best thing of all to do. 5. Relieve the bowels freely by magnesium sulphate or by calomel. 6. Let the diet be simple and nutritious, reduce the amount of fluid, and give no alcohol. In the discussion which followed, Dr. Wynter referred to the use of gelatin for increasing the coagulability of the blood and suggested that this means had been employed in internal hemorrhage.

A Contribution to the Study of the Vascular Mechanism of the Testis. WALTER E. DIXON.—This article gives the results of experimental researches in the laboratories of the Royal College of Physicians and Surgeons of London. The author employed the plethysmograph to record the vasomotor changes of the testis, experimenting chiefly on dogs, and gives skiagraphs showing the effects of cantharidin, nicotin, etc. He says that it shows that the testis is supplied with vasomotor nerves; that it undergoes changes in volume passively with the blood-pressure, and actively as a direct result of vasomotor activity. These alterations, although well defined, are insignificant in comparison with the changes in other organs, such as the kidneys. The testis does not necessarily follow the vascular alterations of either the kidney or splanchnic areas; thus, after the injections of testicular substance, the volume of the testis and intestine expands, while the kidneys contract. On the other hand, after smaller injections of euntharidin, the testis and kidney contract while the splanchnic area becomes dilated; in contrast to both these, nicotin usually produces immediate constriction of both in-

testines and kidney, but induces dilatation of the testis. Of the substances inducing vasodilatation of the testis the following are among some of the most defined: Cantharidin (late), valerian, gold (late), spermin and allied bodies, caffeine, and fresh extracts of testis. The question of "internal secretion" and the significance of a dilated condition of the testis need not be discussed, but it is evident that, as in other glands, an active dilatation of vessels will lead to increased activity.

A Discussion on Serumtherapy.—After first giving a review of the theories of immunity in which he mentions the greater probability of Ehrlich's side-chain theory, Bokenham remarks that serumtherapy is no longer considered a treatment coming from haphazard experimentation, but one based on strictly sound scientific principles, that the specificity of any given serum is absolute and it is illogical to expect the least benefit to follow the use of, say a diphtheritic serum in whooping-cough, or any other disease than diphtheria, and that the benefits said to follow the use of specific serum in uncorresponding affections might be due to the alexins present in all serum, but certainly not to any specific element contained therein and absent from normal serum. He notices the antidiphtheritic serum, remarking that his experience, covering 500 inoculations, is altogether in its favor. One point of direct importance is the rash-producing effect and no method is at present known to obviate this unpleasant difficulty. The makers should eradicate all serums found to contain rash-producing products, even if satisfactory in other respects. As regards antistreptococic serum he found, with Professor Denys, of Louvain, that the way to secure the best results is to immunize the animals against as many strains of streptococcus as possible. In this way they have both obtained serums of far greater activity than can be gained otherwise. His own clinical results were very encouraging so long as he had at his disposal a fresh active serum recently prepared by himself, but it appears that it rapidly deteriorates, hence the uncertainty of the results of commercial serums. It should be used within three or four weeks after having been obtained from the animal. He has had no clinical experience with anti-pneumococic serum and suggests that what it apparently does is to prevent a general septicaemia and in this way is held to save life. He remarks, in conclusion, that no doubt research will lead to the addition of other serums to those now available in clinical use, but that at present we must not expect too much from applications of serumtherapy to the treatment of typhoid fever, cholera and the plague. Preventive inoculation rather than serumtherapy should for the present be our sheet-anchor.

The Treatment of Gouty Eczema. GILBERT J. K. MARTYN.—The eczema associated with gout is one of the most irritating troubles of the disease and Martyn confines his remarks to avoidance and prevention of irritation of the skin. The types of eczema met with in gout are, roughly: acute dry, acute moist, chronic, and what he terms latent. By the last he means the burning, itching sensation of the skin, with nothing visible on the surface. The treatment consists in regulation of the diet and the avoidance of everything that would produce dyspepsia, alcohol especially. Bismuth and the alkalis must be freely given for periods of three weeks, with short intervals. To relieve the intense burning and itching nothing does so well as a lotion or ointment containing carbolic acid. The clothing of the patient subject to attacks of eczema should be such as will assist healthy action of the skin, avoid extreme loss of heat, constant chillings, and reduce irritation to the minimum. The changes between winter and summer should be confined to the outer garments. Woolen is apt to be irritating and is made denser in the wash. The most rational is cotton or cotton with wool, which allows ventilation of the skin. The extremities must be especially protected with warm socks and mittens. The climate is of importance; a sea-climate is the worst; the best is an equable, fairly bracing one where the action of the skin will not be suddenly interfered with. Of the articles of diet which should be especially avoided, the first and foremost is alcohol; then all forms of raw or cooked food containing much fermentable

sugar or acid, such as strawberries, gooseberries, apples, lemons and rhubarb. All stimulating foods should be avoided. The patient can judge for himself what aggravates his case and what does not. Martyr has never seen colchicum, lithia or piperazin have the least effect on the eczema. The only valuable drugs are those that relieve the indigestion and increase the alkalinity of the blood. In some extreme cases morphin may be required to relieve the irritation. Arsenic is difficult to handle, but the nearer the eczema approaches the dry or scaly type the better its effects. The use of aperient water in the morning before eating should never be omitted. The local treatment is more important. For the acute, moist, inflammatory type, soothing lotions with lead and opium should be used constantly. When the irritation begins to disappear and the exudation lessens, he substitutes a dusting powder of carbonate of magnesia and Fuller's earth. For the dry irritating type nothing excels the old-fashioned tar in the form of liquor carbonis detergens. It should be used in a very diluted form as an ointment, 10 minims of the liquor to an ounce of lanolin. Owing to the great extent of the eczema, baths are very valuable, though when there is much irritation or inflammation they only serve to make matters worse. A lime sulphur water is admirably adapted to the dry, irritating, scaly eczema. In the more obdurate types he orders an addition of sulphur-water, prepared by boiling sulphur and slaked lime. The temperature of the bath should never exceed 98 F. In the aged the treatment must be, as a rule, palliative. Daily sponging with warm sulphur-water is of the greatest value and free use of dusting-powder after drying. Sleep must be procured, with mild sedatives if necessary.

Contribution to Our Knowledge of Proteid Metabolism in Children. F. W. TUNNICLIFFE and OTTO ROSENHEIM.—The authors made experimental investigations on the value of a special substance, prepared from skimmed milk, called plasmon, which is really a milk-proteid, with special reference to determining whether milk-proteid is capable of replacing meat in the diet of children between 3 and 6 years of age. Their article is illustrated by diagrams and their conclusions are: 1. Milk-proteid (plasmon) is capable of replacing meat as a nitrogenous food in the mixed diet of children according to its nitrogen percentage. 2. A greater increase in body weight took place during the milk-proteid periods in all three cases than during the meat periods. 3. The phosphorus of the milk-proteid is capable of being assimilated and retained in the body.

The Medicinal and Dietetic Treatment of Heart Failure in the Aged. F. W. FORBES ROSS.—This article deals with the results observed and maintained with strophanthus and digitalis, and the modifications of their action likely to occur under the influence of certain dietaries. The author finds that digitalis stimulates the vagus, depresses the reflex action of the cord and motor nerves, prolongs the cardiac diastole, increases papillary resistance, is irregular in results, is cumulative, irritating to the alimentary canal and induces suppression of the urine in the aged. Strophanthus does not stimulate the vagus, prolongs the cardiac systole, renders the nervous system hyperæsthetic and does not have any effect on the peripheral circulation till long after it increases the force of the cardiac systole, is unaccumulative, is not any more than if as irritating to the alimentary canal as digitalis, and acts regularly. It can be given with benefit for very long periods, even up to four years, without any other than good effect. Its cardiac stimulant dose does not affect the nervous system adversely unless administered with a mineral acid. Finally, strophanthus does not act like digitalis on the heart, as it can be given at once even after digitalis has produced ill effects, and these effects pass off while the patient is actually taking strophanthus. The drug, next to a direct cardiac stimulant that can be classed as most useful is mercury. In high-tension cases it acts as a strong diuretic, opens up the peripheral circulation and is said by some to be an actual heart tonic. It relieves portal engorgements in this, and in conditions of low tension and feeble pulse with cardiac embarrassment. Diarrhea is rather an indication for its use than the contrary.

Ross has found potassium iodid beneficial as a diuretic and cardiac tonic. Potassium and sodium nitrate will be found of great service from their dilating action on the peripheral circulation. He mentions here an undescribed physiologic effect of potassium nitrate and potassium citrate given in combination as a nocturnal dose, which seems to him very interesting. If given to even healthy persons whose hair is white, it will be noticed that within a week or ten days the hair over the ears, nape of the neck and beard begins to be restored to its natural color, and this progresses all over the scalp until the color is in a great part restored, but streaked with gray. This he takes as his barometer, and as long as he can see this continuing he feels confident of good results. He says one can prove this for himself. He raises a warning voice against the employment of rapid and violent arterial dilators such as the nitrites. The aged must receive the wherewithal to renovate the cardiac machine, and muscular-tissue building material must form a part of the dietary.

Journal of Laryngology, Rhinology and Otolaryngology, October.

A Plea for Early Naked Eye Diagnosis and Removal of the Entire Organ, With the Neighboring Area of Possible Lymphatic Infection, in Cancer of the Larynx. JOHN NOLAND MACKENZIE.—This article is a plea for greater attention to the naked-eye appearances in the diagnosis of malignant disease of the larynx, and the author protests against removal of tissue for diagnostic purposes, holding that it gives the disease a start. The moment the continuity of the growth is broken, the pathway for self-poisoning is opened. Early diagnosis and early radical treatment are of prime importance, especially in this condition. When the diagnosis is made, of course total extirpation should be the rule. He maintains that operations for laryngeal cancer through the mouth, so universally done at the present time, should be abandoned. No operation for laryngeal cancer is completed without removal of the neck lymphatics.

Annales de l'Institut Pasteur (Paris), April to September.

Microbe Pathogenic for Rats. J. DANYSZ.—A coccobacillus with all the characteristics of the bacillus coli was isolated from a spontaneous epidemic among field-mice and tested on rats after its virulence had been enhanced. The results have convinced Danyesz that rats could be completely exterminated by the systematic inoculation during a year or two of the young generations, which are most susceptible. Only eight were found alive out of 200 rats placed in a closed portion of a sewer and given bread smeared with the cultures.

Experimental Research on Symptomatic Anthrax. E. LECLAINCHE and H. VALLEE.—The research reported establishes that the bacterium of symptomatic anthrax is capable of producing an active toxin. Spores free from the toxin are unable to germinate and produce infection when introduced into an organism. The resistance to infection is connected with phagocytosis and everything that tends to inhibit it favors infection. Vaccination of cattle with pure cultures heated at 70 C. for two hours, supplemented by inoculation of a pure, non-heated culture, enables the animals to bear without reaction extremely large amounts of virulent juices. The pure vaccin can be prepared in the form of a powder. An effective immunizing and preventive serum can be produced, but its effect is transient.

Improved Differentiating Process for Typhoid Bacillus. L. REMY.—The formula of the differentiating culture-medium urgently recommended by Remy is as follows: Distilled water, 1000 gm.; asparagin, 6 gm.; oxalic acid, .5 gm.; lactic acid, .15 gm.; citric acid, .15 gm.; bisodium phosphate, 5 gm.; magnesium sulphate, 2.5 gm.; potassium phosphate, 1.25 gm.; sodium chlorid, 2 gm. The different salts, with the exception of the magnesium sulphate, are pulverized; mixed with a liter of distilled water and 30 gm. of peptone, heated in the autoclave for fifteen minutes, and poured, while boiling, into another vessel containing 120 to 150 gm. of gelatin. When dissolved, soda is added until the mixture is slightly alkaline. It is then cooked in the autoclave under pressure for fifteen minutes and rendered acid with a demi-normal solution of sulphuric acid in the proportion of .5 gm. of sulphuric acid to the liter. After stirring it is returned again to the autoclave for

eight to ten minutes, then filtered and the acidity tested by adding 10 c.c. of the gelatin to 100 c.c. of distilled water and 4 to 5 drops of phenolphthalein. The demi-normal solution of soda is then dropped from a pipette until the red tint appears, which should be when 2 c.c. of the soda solution have been added to 10 c.c. of the gelatin. The magnesium sulphate is then added—2.5 to the liter of the gelatin—which is distributed in the tubes and sterilized three times. To each tube is added 1 c.c. of a 35 per cent. solution of lactose and 1 c.c. of a 2.5 per cent. solution of phenic acid. Colonies both of the bacillus coli and Eberth's bacillus appeared in two days and differentiation was possible by the third, fourth and fifth day in six out of the twenty-three cases described. The colonies of Eberth's bacillus are a bluish white, with no gas-formation nor fermentation of lactose, and do not give the indol reaction. The bacilli are motile and agglutinate at 1 to 80,000. The colonies of the bacillus coli are yellowish-brown.

September

Spermotoxin. S. MATALINKOFF.—Further extensive research on the cell poisons has confirmed Metchnikoff's theory that they are formed inside the phagocytes and are merely intracellular digestive ferments. Spermatozoa introduced into the peritoneum of a spermotoxic guinea-pig are rapidly destroyed when there is phagolysis, but not when it is prevented by any means. On the other hand, they survive in the peritoneal fluid when the leucocytes are intact. Another argument is the prolonged resistance of the spermatozoa when introduced subcutaneously without phagolysis. Also the fact that it is easy to obtain an autopermotoxic serum by injecting spermatozoa from one guinea-pig into the peritoneum of another.

Archives de Med. Exp. (Paris), II, nos. 1 to 4

Saponifying Power of Serum in Pathologic Conditions. CH. ACIARD.—Research on seventy-two patients with various affections demonstrated that hyperlipasias is frequent in diabetes, and established the grave significance of any marked decrease in the lipasic activity of the serum.

Influence of Food on the Excretion of Urea. E. MAUREL. This monograph is based on years of study of guinea-pigs as herbivorous animals, hedge-hogs as carnivorous, and of man on a mixed diet. The chief practical conclusions are that urea in health is derived from the disassimilated albuminoid substances, from combustion of the excess of the nitrogenized elements of the food in the blood and from the excess of albuminoid substances in the blood found in certain pathologic conditions. The quantity of urea excreted has no diagnostic value unless the character of the food is known, as it varies with the latter more than is generally recognized. The minimum of urea from disassimilation is about .15 to .2 gm. per kilogram in a healthy, active man. This includes .07 to .09 gm. of nitrogen. The excretion of urea can be increased at will by increasing the amount of nitrogenous food. The normal average is .25 to .35 gm. This leaves a balance of .10 to .15 gm. for the urea derived from the food above the disassimilation urea. To maintain this normal average and supply the calories required the food should contain one part of nitrogenous ingredients to four of the carbohydrates. This proportion of nitrogen is ample in health, and in case of defective elimination should be diminished rather than increased.

Toxins of the Pneumococcus. P. CARNOT.—The toxins were obtained for this research by dialysis. The pneumococci were cultivated on the usual media, but in a long, slender bag of collodion, tied to the end of a glass tube passing through the cork of a large vessel filled with the same fluid, in which the bag was suspended. A second tube through the cork regulates the atmospheric pressure. The pneumococcus develops with exceptional luxuriance under these conditions, while the toxins escape by dialysis through the bag into the surrounding fluid.

July.

Septicopychemia in Man, Simulating Plague. BONDET.—A young Parisian was taken with a rapidly fatal septicemia, characterized by signs of "dramatic general infection," pulmonary symptoms and a supraclavicular adenophlegmon with multiple abscesses in the lungs. A small anaerobic bacillus was

found in large numbers, pathogenic and pyogenic for the rabbit, guinea-pig and dog, but not for rodents.

Buccal Leucoplasia. E. GAUCHER.—When the patch is smooth, Gaucher gently paints it once or twice a day with an aqueous 2 per cent. solution of potassium bichromate. This treatment should be continued patiently, as instances have been known of a cure after three years. If the patch is papillomatous, the excrescences should be removed with the galvano-cautery and the mouth frequently rinsed with a 10 per cent. solution of magnesium chloride. The patient should be kept under surveillance to detect incipient cancerous degeneration.

Action of Purgatives on Nutrition. H. MOREIGNE.—This study scientifically demonstrates the general hyperactivity of the phenomena of disassimilation and increase of the oxidations which are caused by a purgative, in addition to its action in stimulating peristalsis. The purgative used in the tests was .25 gm. of aloes with .02 gm. of podophyllin. Research on the action of sodium salicylate was reported by the same writer in the preceding number. This stimulates the biliary functions while it does not diminish the intraorganic phenomena of oxidation and hydrolysis.

Bulletin de la Soc. Med. des Hop. de Paris, August 2.

Typhoid Pleurisy. F. WIDAL.—Eleven writers have reported cases of typhoid pleurisy, but Widal has observed the astonishing number of eleven during the last year. He describes three in detail. They establish that the effusion may be serofibrinous, hemorrhagic or purulent. A slight, apparently insignificant effusion may rapidly become hemorrhagic or purulent, with a grave prognosis. The effusion is more or less bactericidal and Eberth's bacilli may be discovered in it only now and then or not at all. The three cases described terminated in recovery with absorption of the effusion. The agglutinating power of the latter was usually less than that of the serum, but occasionally equalled it. In one case exploratory punctures of different portions of the pleura showed the three types of an effusion developing simultaneously in the different regions.

Bulletin Medical (Paris), October 3.

Circumcision in the Senegal. LASNET.—All the native races in the Senegal practise circumcision with more or less ceremony. Bands of a hundred boys between 10 and 15 are circumcised in public, each lad sitting astride a log in turn for the operation. A thread is passed through the prepuce and the village blacksmith or shoemaker performs the operation. Girls are circumcised in private at home by the excision of the clitoris before the fourth year.

Nouvelle Iconographie de la Salpêtrière (Paris), March to August.

Seven Months' Sleep From Tumor in the Hypophysis. F. SOCA.—The case was observed at Montevideo. A young woman entered the hospital complaining of progressive blindness, and slept for seven months continuously, when death occurred, the autopsy disclosing a tumor in the hypophysis. The sleep was apparently physiologic during the first months. The patient could be aroused and would sit up, stretch, yawn and reply intelligently to questions and then drop off to sleep.

Fracture of Jaw First Sign of Tabes. SABRAZES.—A healthy workingwoman began to suffer with intense toothache, the pains radiating through the head and face. The teeth and gums appeared normal in every respect, but she applied to a dentist to have the right canine extracted, from which she suffered most. As he pulled it, the entire alveolar process of the upper maxillary bone broke off with it, with all the solidly-implanted, sound teeth. Two years later unmistakable symptoms of progressive tabes appeared.

Myxedema in Children. E. HERTOGHE.—The photographs of several children in different stages of thyroid treatment illustrate the remarkable benefits to be derived from it in benign, chronic hypothyroidism or latent myxedema, and in Lorain's infantilism. Falling of the hair and incontinence of urine are among the signs of the latter. Hertoghe adds the photograph of the mother in nearly every case as an important factor in the study of the child, pointing out in them the characteristics and defects that distinguish the parents of cretins.

The last illustration in each case represents an intelligent, normally developed boy or girl. In one case of pronounced myxedema, an umbilical hernia receded spontaneously under thyroid treatment.

Presse Méd. Belge (Brussels), August 12.

Errors of Diagnosis in Syphilis. MATAGNE.—The writer describes several unusual cases in his experience in which unrecognized syphilitic lesions were vainly treated for years until accident suggested the true treatment. In one a woman had a supposed white swelling of the foot and multiple tumors in the rectum, all of which promptly yielded when specific treatment was instituted. In another case, a pulmonary lesion simulated tuberculosis, and a few years later an intracranial affection was diagnosed as cancer, but both subsided on mercurial treatment, which also cured lupus and pleurisy in another and intense, incessant cephalgia which had persisted for months in two young women.

Semaine Médicale (Paris), October 10.

Phlebitis in Tuberculosis. E. LESNE.—It is evident from the experimental research reported that the tubercle bacilli may pass into the blood in a consumptive, but not remain in it, settling promptly in some vein and inducing an ordinary phlebitis without tubercle formation. No bacilli could be found in the vein or its contents in the cases examined. No cultures could be derived from them of any kind, but guinea-pigs inoculated with them soon succumbed to pure tubercular infection.

Arch v f Klin. Chirurgie (Berlin), lxxi, 1.

Absorbable Metal for Suture of Blood Vessels and Nerves. E. PAYR.—Magnesium is the absorbable metal referred to. It can be filed, turned, polished and drawn into a wire or rolled in a sheet. At the same time it dissolves in water and still more rapidly in alkalis and diluted acids. Payr has been using a short tube of this metal in suturing arteries. He slips the tube over the central stump and turns the end of the stump up over the tube, which he then invaginates into the distal end. The intima on both stumps is thus brought into contact. He sutures a nerve by inserting both stumps into a short magnesium tube and passing a thread through each, beyond the tube, and tying it above, or by slipping the tube on one stump and after suturing the two ends together, bringing the tube over the spot to protect the suture. The time required for the absorption of the magnesium tubes varies with their size and thickness.

Surgery of the Spleen. F. BESSEL HAGEN.—Three cases are described which emphasize the necessity of surgical intervention in primary or idiopathic hypertrophy of the spleen as the only rational treatment, and this should not be delayed until a serious stage has been reached. The mortality during the last decade has been only 2 in 15 cases, and one of these deaths was due to another cause. Recovery followed splenectomy in 13 out of 16 cases in which a primary hypertrophy of the spleen accompanied cirrhosis of the liver. In one of the observations reported by Hagen primary hyperplasia of the spleen with interstitial hepatitis, was cured by splenectomy. In another, suppuration and necrosis of the spleen consecutive to a gangrenous chancre was cured by splenotomy and extensive resection of spleen tissue, which also cured a third case with multiple intrasplenic abscesses following appendicitis. The spleen was reached by an incision along the tenth rib with resection of a portion of the rib. All of his cases have been carefully followed to date and no disturbances have been noted that could be imputed to the loss of spleen tissue.

Beitragce z. Klin. Chirurgie (Tuebingen), xxvii, 2.

Tetanus Nearly Six Years After a Gunshot Wound. H. KAPOSI.—A young man carried a bullet in his abdominal wall for five and a half years without symptoms. The region then became sensitive and the bullet was extracted. During the operation at Czerny's clinic a deep abscess was discovered and evacuated. The intervention was followed in ten days by a rapidly fatal tetanus. This is the first case of post-operative tetanus which has ever occurred at the clinic, and the only plausible explanation of the infection seems to be that a non-virulent tetanus germ was carried into the wound by the bullet

and became encapsulated with it. The operation opened a passage for the germ into the circulation and the conditions aroused it to virulence.

Berliner Klinische Wochenschrift, September 24.

Treatment of Anasarca by a Siphon Cupping-Glass. K. MIURA.—A small cupping-glass with a spout in one side, is applied on a spot where the edema is prominent, usually on the thigh, after a few incisions have been made. It is important to avoid drawing blood, as a clot might stop the flow of the serous fluid. A rubber tube is put on the spout and both cup and tube are filled with salt solution. When the serum is escaping from the incisions the cup is turned over the spot and the salt solution allowed to flow out of the tube. It acts as a siphon and aspirates the serous fluid from the tissues. In one case the fluid was siphoned out in this way fifty times between February and June and the patient improved remarkably. The amount withdrawn at a time was 1600 to 2800 c.c. in about eight hours.

Virchow's Archiv (Berlin), September.

Percussion in Diagnosis of Affections of the Frontal and Maxillary Sinuses. LIPOWSKI.—Hajek has called attention to the almost invariable occurrence of a lesion of one or more of these sinuses in influenza, typhoid fever, erysipelas, measles, scarlet fever and croupous pneumonia, but experience shows that spontaneous recovery is frequent. The signs of an affection of a sinus are a polyp, swelling of the middle turbinated bone, hypertrophy of the concave surfaces of the middle turbinated bone in the septum, where it is bathed by the secretion, scabs, atrophy of the inferior turbinated or fetidities. Resection of the front end of the middle turbinated bone affords convenient oversight of the hiatus semilunaris and the openings into it. Electric trans-illumination of the frontal and maxillary sinuses is an important aid to diagnosis. All these means, however, frequently fail and Lipowski announces that valuable supplementary information can be derived from percussion and auscultation of the cavities, the resonance in the nose, mouth and throat being increased by inserting a "sound-funnel" in the nostrils. Direct percussion of the antrum of Highmore is most instructive when the phonendoscope is placed on the nasal process, and the upper lip drawn upward and outward to expose the anterior wall of the sinus on the side toward the mouth.

Gazzetta Degli Ospedali (Milan), October 7.

Disturbances in Respiration in Hemiplegia. G. BOERI.—Examination of sixty-one patients with hemiplegia showed that the respiration was diminished in nearly all, but there was a difference between the excursions of the sides of the thorax in more than 80 per cent. of the cases. In more than 63 per cent. the respiration was less on the hemiplegic side, but in 16.4 per cent. the respiration was much more intense on the hemiplegic than on the sound side. Tracings of the involuntary respiration in one case showed curves on the paralyzed side nearly four times the length of those on the other, and slightly anticipating them, although the latter were physiologic. Boeri is inclined to attribute this phenomenon to irritation of the respiratory center, as in six of the ten cases of this kind convulsive phenomena were noted, and in three on which autopsy was made, an intraventricular effusion was found. Exaggerated respiration in these cases may prove an aid in diagnosing the cerebral affection.

New Patents.

- Patents of interest to the medical profession, Oct. 2 to 9:
 659,130. Syringe. Charles A. Bucklin, New York City.
 659,058. Surgeon's case. Emil A. Elden, Moline, Ill.
 658,889. Heriatic truss. John F. Kampf, Toledo, Ohio.
 658,998. Pocket case for thermometers. Wm. A. Randall, Swampscott, Mass.
 659,112. Device for emptying leeches. Benjamin Sykes, Curwensville, Pa.
 659,188. Inhaler. George B. Underwood, New York City.
 658,903. Massage apparatus. Franz L. Ungethum, Oetzsch, Germany.
 33,320. Design. Abdominal band. Adele M. Kauffman, St. Paul, Minn.
 659,513. Device for inducing artificial respiration. Eugene L. Doyen, Paris, France.

659,470. Syringe. Anton C. Eggers, New York City.
 659,621. Disinfectant. David M. Kelsey, Saratoga Springs, N. Y.
 659,308. Invalid-bed. John A. Lemmons, Anderson; J. J. Hubbard and E. C. Hummel, Juggals, Ind.
 659,542. Inhaler. Harry A. McTosh, Liberty, Ind.
 659,551. Vapor-treatment apparatus. Fortnee R. Ryan, Memphis, Tenn.
 659,422. Surgical instrument. George W. Shidler, York, Neb.

Change of Address.

A S Horsley, Gay and Park Sts., to 1724 Washington Ave., Knoxville, Tenn.
 D. B. Blake, 2102 West End Ave., to Jackson Bldg., Nashville, Tenn.
 T. H. Tuten, Crockettville, to City Hospital, Charleston, S. C.
 F. B. Miner, Gardner, N. D., to 524 Penn Ave., Pittsburg, Pa.
 H. H. Hyndt, 1728 Spring Garden St., to 612 S. 45th St., Philadelphia, Pa.
 Chas. A. Hofer, Camden, N. J., to 540 S. 49th St., Philadelphia, Pa.
 M. McHenry, Benton, to Exchange, Pa.
 W. W. Feidt, Oakville, to Williamstown, Pa.
 J. S. Scott, Gervais, to Abington Bldg., Portland, Ore.
 W. R. Kelly, Weatherford, to Watonga, O. T.
 J. M. Lewis, 176 Euclid Ave., to Rose Bldg., Cleveland, Ohio.
 Wm. Hendry, 176 Euclid Ave., to Rose Bldg., Cleveland, Ohio.
 T. A. Burke, 176 Euclid Ave., to Rose Bldg., Cleveland, Ohio.
 Wm. Klemm, Coshocton, to Linden Ave., Zanesville, Ohio.
 L. D. Mason, Greenwich, Conn., to 171 Joramleon St., Brooklyn, N. Y.
 S. Smith, Skaneateles, to 640 Madison Ave., New York City.
 T. D. Merigan, 1985 Amsterdam Ave., to 167th St. and Kings Bridge Rd., New York City.
 L. P. High, Danville, Va., to 156 E. 34th St., New York City.
 Oscar Essenson, 16 E. 113th St., to 1644 Madison Ave., New York City.
 A. N. Sloan, Sioux City, Iowa, to Randolph, Neb.
 R. H. Burrell, Maunistic, Mich., to Ashland, Neb.
 W. G. Schauder, Jefferson, N. H., to Lakewood, N. J.
 F. A. Meechan, Havana, Cuba, to Manila, P. I.
 H. A. Haskell, Chicago, to Aguas Calientes, Mexico.
 G. Morton, Oklahoma City, O. T., to St. Louis, Mo.
 Chas. Hodgkinson, Ypsilanti, to Roseville, Mich.
 W. C. Martin, 40 Howard St., to 57 Fort St., W., Detroit, Mich.
 H. A. Brown, Boston, to Whittinsville, Mass.
 J. M. H. Rowland, 1126 Penn. Ave., to 1204 Madison Ave., Baltimore, Md.

J. D. Tuten, Jasper, Fla., to Cooper, La.
 W. H. Stagg, Whitehouse, to Villettafle, La.
 C. A. Lehman, Galveston, Tex., to Alexandria, La.
 T. S. Dabney, 1466 Magazine St., to 1429 Jackson Ave., New Orleans, La.
 A. G. Henderson, Crystal Lake, Ia., to Leonardville, Kan.
 A. H. Thornton, Superior, to Pochontas, Iowa.
 H. C. Hunter, Coldwater, to Dougherty, La.
 T. F. Beveridge, Chicago, to Atalissa, Iowa.
 J. G. Wolfe, 403 Jackson Boul., to 457 Jackson Boul., Chicago.
 F. E. Lambert, Cedar Falls, Iowa, to Rush Med. College, Chicago.
 S. K. Falls, 1049 Madison St., to 151 S. Western Ave., Chicago.
 R. E. Dvorak, 192 W. Division St., to 718 Milwaukee Ave., Chicago.
 D. B. Dent, Van Buren and Leavitt Sts., to 208½ Warren Ave., Chicago.
 A. Cornibus, 92 Crystal St., to 589 W. Van Buren St., Chicago.
 F. G. Connel, 381 E. Superior St., to 290 LaSalle Ave., Chicago.
 W. V. Bryant, Madison, Wis., to 460 Adams St., Chicago.
 J. M. Byrne, Augusta, to Waynesboro, Ga.
 J. P. Atkinson, Atlanta, to Ferrouette, Ga.
 R. H. Born, Montoursville, Pa., to P. O. Box 3, Washington, D. C.
 D. K. Dickinson, Lead, S. D., to 1003 Beacon St., Los Angeles, Cal.
 H. R. Johnson, St. Johns, to Springerville, Ark.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Oct. 11 to 17, 1900, inclusive:
 Lewis Hulch, major and surgeon, Vols., honorably discharged from the service of the United States to take effect Nov. 7, 1900.
 William H. Corbuser, major and surgeon, U. S. A., member of a board at Governor's Island, N. Y., to examine officers as to their fitness for promotion; also member of an army retiring board at Governor's Island, N. Y., vice Major John L. Phillips, surgeon, U. S. A., relieved.
 Guy C. M. Godfrey, captain and asst.-surgeon, U. S. A., now in Brooklyn, N. Y., to report to the commanding officer, Department of the East, for assignment to duty with recruits en route to the Philippine Islands on the transport *Kipatrick*; on arrival at Manila, P. I., to report to the commanding general for further orders.
 Joseph M. Heller, acting asst. surgeon, member of a board at Governor's Island, N. Y., to examine officers as to their fitness for promotion.

James H. Hysell, major and surgeon, Vols., previous orders revoked; he is relieved from duty in the Department of Eastern Cuba to report to the Surgeon-General.
 James E. Pilcher, captain and asst.-surgeon, U. S. A., to report at Fort McHenry, Md., for examination by a medical officer as to his physical condition.
 Dwight B. Taylor, acting asst.-surgeon, member of a board at Columbus Barracks, Ohio, to examine officers as to their fitness for promotion.
 Timothy E. Wilcox, major and surgeon, U. S. A., member of a board at Columbus Barracks, Ohio, to examine officers as to their fitness for promotion.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Oct. 20, 1900:
 Medical Inspector E. S. Derr, detached from the navy yard, Portsmouth, N. H., on reporting of relief, and ordered home to wait orders.
 Surgeon P. B. Stephenson, ordered to the navy yard, Portsmouth, N. H.; commissioned, medical inspector from May 31, 1900.
 Asst.-Surgeon H. E. Odell, order to the Asiatic station modified; to take passage on the *Solace*.
 Asst.-Surgeon H. A. Dunn, detached from the *Dorothea* and ordered to the *Frolic*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Oct. 18, 1900:
 Surgeon J. A. Gassaway, leave of absence for four days from Oct. 15, 1900, under provisions of paragraph 179, Regulations, M. H. S.
 Surgeon G. W. Stoner, granted three days' extension of leave of absence.
 P. A. Surgeon J. B. Stoner, granted leave of absence for twenty-two days.
 P. A. Surgeon G. B. Young, granted leave of absence for one day.
 Asst.-Surgeon D. H. Currie, to proceed to Indianapolis, Ind., in charge of the laboratory exhibit of the service to be shown at the meeting of the American Public Health Association.
 Hospital Steward E. B. Scott, granted leave of absence for twenty days.

BOARD CONVENED.

Board convened to meet at the Purveying Depot, New York City, on Wednesday, Oct. 24, 1900, for the purpose of revising the official supply table of the service. Detail for the board: Surgeon G. W. Stoner, chairman, and Surgeon C. E. Banks.

APPOINTMENTS.

Albert M. Roehrig, appointed temporary hospital steward and assistant chemist for duty at Immigration Depot, New York City.
 W. F. Schlar, reappointed senior hospital steward.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Oct. 19, 1900:

SMALLPOX—UNITED STATES.

Kentucky: Lexington, Oct. 6-13, 1 case.
 Louisiana: New Orleans, Sept. 30-Oct. 13, 1 case, 1 death.
 Minnesota: Minneapolis, Oct. 6-13, 2 cases.
 Nebraska: Omaha, Sept. 30-Oct. 6, 1 case.
 Ohio: Cleveland, Oct. 6-13, 9 cases.
 Utah: Salt Lake City, Oct. 6-13, 10 cases.
 West Virginia: Wheeling, Sept. 30-Oct. 6, 1 case.
 SMALLPOX—FOREIGN AND INSULAR.
 Brazil: Rio de Janeiro, Aug. 1-Sept. 15, 57 deaths.
 England: London, Sept. 22-29, 2 cases.
 France: Paris, Sept. 22-29, 6 deaths.
 India: Bombay, Sept. 6-18, 3 deaths; Calcutta, Sept. 1-15, 17 deaths.
 Philippines: Manila, Jan. 1-Sept. 8, 35 cases, 1 death.
 Russia: Moscow, Sept. 8-15, 4 cases; Odessa, Sept. 22-29, 9 cases, 4 deaths; St. Petersburg, Sept. 15-22, 9 cases, 4 deaths.
 Scotland: Dundee, Sept. 22-29, 1 case.

YELLOW FEVER—UNITED STATES.

New York: New York, quarantine, Oct. 9, 1 case on steamship *Havana*, from Havana.
 YELLOW FEVER—FOREIGN AND INSULAR.
 Brazil: Rio de Janeiro, Aug. 1-Sept. 15, 10 deaths.
 Cuba: Havana, Oct. 5-12, 76 cases, 14 deaths.
 Mexico: Progreso, Sept. 15-30, 3 cases; 3 deaths; Vera Cruz, Sept. 30-Oct. 6, 10 deaths.

CHOLERA.

India: Bombay, Sept. 6-18, 224 deaths; Calcutta, Sept. 8-15, 20 deaths; Karachi, Sept. 1-16, 34 cases, 26 deaths; Madras, Sept. 1-14, 133 deaths.
 Japan: Yokohama, Sept. 1-8, 1 case, 1 death.
 PLACE—POISON AND INSULAR.
 China: Amoy, Aug. 11-Sept. 8, 90 deaths, estimated.
 India: Bombay, Sept. 4-18, 155 deaths; Calcutta, Sept. 1-15, 100 deaths.
 Japan: Osaka, Sept. 17-23, 12 cases.
 Philippines: Manila, Jan. 1-Sept. 8, 215 cases, 146 deaths.
 Scotland: Glasgow, Aug. 31-Oct. 6, 29 cases, 8 deaths.

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Original Articles.

TUBERCULOSIS OF THE TESTICLE.

WITH SPECIAL CONSIDERATION OF ITS CONSERVATIVE
TREATMENT.

JOHN B. MURPHY, M.D.
CHICAGO.

Before entering into our subject, let us briefly review the anatomy and physiology of the testicle, that we may better understand the pathologic changes and processes of repair which take place when it is the seat of tubercular infection.

The testes are suspended in the scrotum by the two spermatic cords, the left being slightly lower than the right. Each is oval in form, compressed laterally, and occupies an oblique position in the scrotum, the upper extremity being directed forward and outward, the lower downward and a little inward. The surface of the gland, excepting its posterior border, is free, smooth and covered by the visceral layer of the tunica vaginalis. Lying along the posterior border is a narrow flattened body, the epididymis, which consists of three parts, namely, first, the upper enlarged extremity, globus major; second, the pointed lower extremity, globus minor, and, third, the intermediate portion, or body of the epididymis. The globus major is intimately connected with the upper end of the testicle proper by means of its efferent ducts, while the globus minor is attached to its lower end by cellular tissue and a reflection of the tunica vaginalis. This membrane, the tunica vaginalis, as it leaves the testicle proper at its posterior border, is reflected on to the epididymis, covering its outer surface and upper and lower extremities and completely investing the body, excepting along its posterior border, from which it is again reflected on to the inner surface of the scrotum. It will thus be seen that a sort of mesentery is formed by the membrane between the testicle proper and the epididymis. Attached to the upper end of the testicle or epididymis are one or more small pedunculated bodies, the most constant of which is called the "hydatid of Morgagni."

Besides the tunica vaginalis, which is the most external, the testis is invested by two tunics, the tunica albuginea and the tunica vasculosa. The tunica albuginea is beneath the serous coat and surrounds the glandular structure of the testis. It is thick and dense, and composed of white fibrous tissue. At the posterior border of the gland it is reflected into the interior, forming an incomplete vertical septum, the mediastinum testis, or corpus Highmorianum, from the edge and lateral surfaces of which numerous fibrous trabeculae pass, to be attached to the inner surface of the tunica albuginea. These trabeculae divide the interior of the gland into a number of cone-shaped spaces, the bases of the cones being at the periphery and the apices at the mediastinum.

The tunica vasculosa consists of a plexus of blood-vessels, which line the inner surface of the tunica albuginea and the fibrous trabeculae.

The glandular structure of the testis (Fig. A) consists of numerous cone-shaped lobules (lobuli testis), each contained in one of the spaces described above and composed of one or more convoluted tubules, $2\frac{1}{4}$ feet in length and $1/150$ inch in diameter, the convolutions being held together by an intertubular connective tissue. The connective tissue presents large interstitial spaces lined with endothelium, the rootlets of the lymphatic vessels, and masses of large cells—the interstitial cells—accompanying the finer blood-vessels.

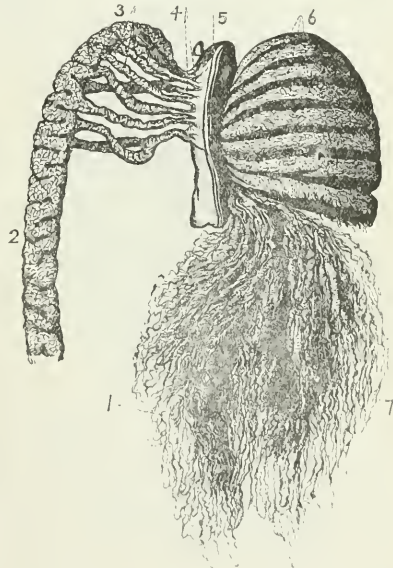


Fig. A.—Showing testicle partly macerated in KOH solution, which has loosened the connective tissue framework. (After Todd.) 1. Tubuli seminiferi coarctati. 2. Body of epididymis. 3. Coni vasculosi. 4. Vasa efferentia. 5. Tunica albuginea at hyalum. 6. Lobuli testis. 7. Tubuli seminiferi.

Each seminiferous tubule consists of: 1, a hyaline membrana propria; 2, several layers of epithelial cells—the seminal cells—which are usually arranged as follows: *a*, an outer (deeper) layer of polyhedral cells, the spermatogonia; *b*, an intermediate layer, the cells of which are in active proliferation, the spermatogenic cells; *c*, an inner layer, the spermatoblasts. The latter are granular, indistinctly outlined, and show no signs of proliferation.

At the apices of the lobules the tubes become straight,

join together to form larger tubes (vasa recta), and enter channels in the mediastinum (rete testis). At the upper end of the mediastinum the channels of the rete unite to form from 13 to 20 larger tubes (vasa efferentia), which perforate the tunica albuginea and enter the epididymis. At first straight, they become convoluted and form a series of cone-shaped masses (coni vasculosi), which together form the globus major. Opposite the bases of the cones the efferent vessels open at narrow intervals into a single duct, which constitutes, by its complex convolutions, the body and globus minor of the epididymis. This tube, the convolutions of which are held together by fine arcolar tissue, is about 20 feet in length, and is continuous at the globus minor with the vas deferens.

The vasa recta and channels of the rete are lined by a single layer of flattened epithelial cells. The vasa efferentia and tube of the epididymis are lined by columnar ciliated epithelium, and their walls contain circularly arranged muscular fibers.

The vas deferens is a continuation of the tube of the epididymis. (See Fig. 1.) Commencing at the lower part of the globus minor, it ascends along the posterior border of the testis and inner side of the epididymis, and along the back part of the cord to the internal ring. From the ring it curves around the epigastric artery and descends into the pelvis at the side of the bladder to its base. In this situation it lies between the bladder and



Fig. 1. Skiagraph showing Vas and Tube of the epididymis injected with mercury. *a* Vas. *b* Tube of epididymis.

rectum and along the inner border of the seminal vesicle of the same side. Here it becomes enlarged to form the ampulla, then narrows and unites with the duct of the vesicula seminalis to form the ejaculatory duct. It is about 2 feet in length, the walls are thick and the lumen small, measuring $1\frac{3}{35}$ of an inch. The vas consists of three coats: 1, an external or cellular coat; 2, a muscular coat; and, 3, an internal or mucous coat, arranged in longitudinal folds and covered by columnar epithelium.

The blood-supply of the testis is principally from the spermatic artery, which arises from the abdominal aorta, and accompanies the other structures composing the cord through the canal. As it approaches the testicle it divides, some small branches continuing onward to supply the epididymis, while the larger ones perforate the tunica albuginea and enter the mediastinum to supply the glandular portion through the vessels of the tunica vasculosa. The vessel does not always divide so high as is pictured in the text-books. This is shown in Fig. 2, where the artery was injected with mercury and then skiagraphed. The bifurcation takes place close to

the testicle, a fact to be borne in mind when operating.

The spermatic veins commence in the testis and epididymis, pass out at the posterior border and ascend in the cord as the pampiniform plexus. (See skiagraph Fig. No. 3.) Finally, two or three larger veins are formed from the plexus, pass into the abdomen with the artery and unite to form the spermatic vein. This, on the left side, empties into the renal vein, and on the right side into the ascending vena cava.

The lymphatics of the testicle (see Fig. 4) commence as minute vessels around the seminal tubules. These coalesce and most of them pass through the septa into the mediastinum. Others pass outward to join the plexus beneath the tunica albuginea, which plexus also communicates with a more superficial one beneath the tunica vaginalis. In the mediastinum the deep and superficial sets unite to form from four to six trunks, which pass upward in the cord into the abdomen. On the left side these vessels enter the glands near the aorta and left renal vein, while on the right they empty into the lumbar glands just above the bifurcation of the aorta. Afferent vessels from the glands of both sides empty into the receptaculum chyli.



Fig. 2. Skiagraph of Spermatic Artery injected with mercury. *a* Spermatic Artery. *b* Branch to epididymis. *c* Branch to testicle papae.

The nerves are derived from the sympathetic system, branches from the aortic, renal and hypogastric plexuses, forming the spermatic plexus, which descends upon the spermatic artery and artery of the vas deferens. They are not provided with ganglia and have not been traced into the tubules. The terminal filaments ramify on the surface of the tubules and are distributed to the blood-vessels.

Physiology.—The functions of the testicle are two in number: 1, the production of spermatozoa; 2, the formation of an internal secretion, which is necessary to normal metabolism.

The spermatozoa are formed in the seminiferous tubules by a series of changes which take place in the spermatoblasts, or cells of the internal layer. These changes are as follows: The cell first assumes a pear-shape, the pointed end containing the nucleus, being directed toward the basement membrane. This portion forms the head of the spermatozoon. By a drawing out or elongation of the broad part of the cell the middle piece and tail are formed.

After puberty the semen is probably being constantly secreted, although most of the time in small quantities. As the spermatozoa are formed they are forced along the tubules by the pressure of accumulated secretion, aided by the ciliary movements of the cells lining the vasa recta, vasa efferentia and tube of the epididymis. In the two latter its expulsion is also aided by contraction of the muscular fibers in their walls. From the vas deferens the semen passes into the ejaculatory duct and seminal vesicle, in which latter, unless discharged immediately by emission, some of it is retained. It is probable, however, that the principal function of the vesiculæ seminales is secretory and that the ducts of the testes, rather than they, act as reservoirs for the semen.

The second and more important function of the testicles is the formation of an internal secretion. While the active principle of this secretion has never been isolated, nor the secretion itself been definitely proved to exist, experimental and pathologic evidence leaves

little doubt as to its presence under normal conditions. Its importance to the normal development of the body is shown in cases of cryptorchidism, or where both testicles have been destroyed or removed before the age of puberty. These cases invariably show a lack of the sexual characteristics which are normally developed at this time. Its influence is also shown, though to a lesser degree, in cases where both organs have been removed after puberty in early and middle adult life. In many of these, sexual desire is entirely lost, the prostate and other parts of the remaining genital apparatus atrophy, and in a few there is a loss of the sexual characteristics which were formerly possessed. The experiments of Zath, reported in 1896, are interesting in this connection. Under daily injections of testicular extract the working power of a man's neuro-muscular system was increased 5 per cent., and during rest his powers of recuperation were greatly increased.

It can thus be seen that the preservation of this normal secretion is worthy of careful consideration, and the purpose of this paper is to emphasize its impor-

tance. In addition to the physiologic effects on the general metabolism produced by the removal of the testes, in many cases grave mental states, such as melancholia, are induced. Finally, there is the practical side, that many patients will not consent to the removal of both testes for tubercular disease until the bladder and prostate have become involved, or until they realize that death will result if the diseased organs are retained, while they will readily consent to the removal of both epididymi, upon the physician's statement that the testicles proper will be preserved.

Etiology. Age.—Tuberculosis of the testicle may occur at any age, but it is much more common during early adult life, between the ages of 20 and 35 years,



Fig. 3.—Spermatic Veins injected with mercury.

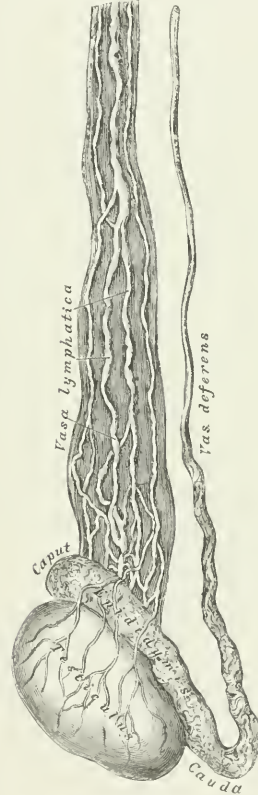


Fig. 4.—Lymphatics of testicle. (Heitzmann.)

when the activity of the sexual gland is at its height. In Koenig's cases the different decades were affected as follows: Under 4 years, 3; between 20 and 30 years, 24; between 30 and 40 years, 8; between 40 and 50 years, 4; between 50 and 60 years, 4; between 60 and 80 years, 2. Of the latter, one was 67, and one 72 years of age.

The age statistics quoted by Senn from the various authorities are as follows: Salleron in 17 cases observed the period of greatest liability to be between 20 and 30 years. Kocher from 50 cases also between 20 and 30 years, while Simonds, from an analysis of 69 cases, found the greatest number between the ages

of 20 and 30 years.

of 20 and 30 years.

of 40 and 50 years, with 20 to 30, and 30 to 40 years coming next in frequency.

Jullien reported 16 cases of tubercular testicle in infants, 6 of which were under 1 year of age, and Dr. Dreschfeld a case where the disease was present at birth. In one of Koenig's cases the disease was noted a few days after birth.

As regards the other extreme of life, Gibson has reported a case in a man aged 81 years. In the cases here reported the average age was about 33 years.

Hereditary Influence.—This may be shown in two ways: 1, where the disease is present at birth or develops very soon after; 2, as an inherited condition of lowered vitality, in which there is a tendency to the development of tuberculosis, due, probably, to a lessened resistance of the tissues.

In perhaps the majority of the cases no tubercular family history can be obtained, this absence of hereditary influence being especially marked in cases which develop in adult life. In 10 cases of testicular tuberculosis in children, reported by Jullien and Lannelongue, 4 presented a distinct family history. In 5 of Koenig's cases, in which the disease was distinctly localized in the testis, and in which he believed it to have originated from pre-existing tubercular deposit, there was a family history in 3.

In 16 cases reported by Jullien, 6 were in patients less than one year of age. An inherited tendency is probably present where the disease develops so soon after birth.

Injury.—In many cases there is a history of traumatism preceding the onset of the disease. The injury in most cases, slight and insignificant, may be forgotten by the patient, who does not connect it with the onset of his trouble. In other cases the relation between the two is so striking and direct that it can not be overlooked. This etiologic factor is beautifully illustrated in Case 10, where the disease developed almost immediately after a kick in the testicle. The rule is that the tubercular process does not manifest itself conspicuously until at least six weeks or more have elapsed from the time the injury was received.

Previous Inflammatory Processes.—Of all affections of the genito-urinary tract, which predispose the testicle and epididymis to a subsequent tubercular infection, gonorrhoea is the most important, either a gonorrhoeal epididymitis or a posterior urethritis. In 52 cases collected by Kocher, 14 had suffered from it previously. The tubercular process may follow the gonorrhoeal immediately, while the latter is yet in the acute stage, or at any time after the subsidence of the active symptoms. It must not be forgotten, however, in this connection, that the gonorrhoeal inflammation may be simply the means of lighting up a latent tubercular focus, which had been lying dormant in the epididymis for years, without, perhaps, the patient being aware of its existence.

The explanation of this phenomenon is simply that of a *locus minoris resistentie* left after subsidence of the acute inflammatory process. This area of diminished resistance may perhaps in some cases be a defect in the mucous lining, through which germs may enter from the surface. Tuberculosis of the testicle does not commonly follow the acute infectious diseases, even when these have been complicated by an orchitis. J. B. Shaw reports a case where it was supposed to have followed an attack of measles.

Atrium of Infection. This at the present time is undergoing most rigid scientific investigations. The

channels through which infection may take place are, in order of frequency, as follows: 1, respiratory tract; 2, gastrointestinal tract; 3, genitourinary tract; 4, skin.

That the respiratory tract, with arrest of infecting organisms in the mediastinal glands, is the most frequent atrium of infection, is shown by the researches of Jens Bugge. This investigator has shown that 75 per cent. of all human beings who come to the post-mortem table have had mediastinal glandular tuberculosis. As is well known, this disease may exist without producing any symptoms, and it will therefore be seen how readily a crypto-tubercular infection in this locality could precede a localized infection of the testicle. It is our belief that the mediastinal glands are the most common sources of supply for tubercle bacilli in the body.

Carious teeth with ulceration of the gums about them, and defects in the mucous membrane of the nose, mouth, tonsils and middle ear, with subsequent infection of the cervical lymph-glands may, especially in children, be the primary sources of infection.

That the gastrointestinal tract admits of infection from tuberculous material taken in as food, can not be questioned, but that it is attacked much less commonly than is generally supposed is proved by the infrequency of tuberculosis of the mesenteric glands. (Northrup and Boviard.) Dr. W. J. Mayo, of Minnesota, has found that in the rural districts, where milk is largely used as an article of diet, a localized tuberculosis of the intestinal mucosa is not very uncommon, but that the mesenteric glands are very rarely involved without a demonstrable lesion in the intestine. In this respect the intestinal tract differs from the respiratory, where in many cases no physical changes can be demonstrated at the point where the bacilli have gained entrance.

That infection can take place directly through the urinary outlet, the urethra, or through the genital outlet, the vagina, is generally admitted, and cases have been reported where it was transmitted from a tubercular uterus or vagina to the glans penis, or prepuce (Jonin, Cornet.) Reclus denies that infection ever takes place in this way.

That tubercular infection is often admitted into the system through the skin is shown by the number of cases of the local disease among physicians, and in the children of tuberculous parents, these children so often developing lesions about the cheeks, lips and mouth.

The tubercle bacilli having gained entrance into the system, the next subject for consideration is: How do they find localization in the testis? There are a number of routes by which the infection may be carried to the sexual glands: 1, by the blood-stream; 2, along the surface of the mucous membrane of the genito-urinary tract; 3, by the lymphatics.

1. Transmission by the blood-stream has been, by most authors, considered to be the most important. The bacilli contained in the blood localize in the epididymis at some point where there exists a focus of diminished resistance, either congenital, or produced by previous injury or disease. The frequent localization in the epididymis is accounted for by the fact that the spermatic artery divides opposite that organ, and that the vessels of the epididymis are smaller and more tortuous than those of the vas or testicle proper, the current therefore being slower. (Saltzman.)

2. In some cases the infection undoubtedly travels along the surface of the mucous membrane. This view

is supported by Koenig in his recent paper on the subject. He believes that in a very great majority of cases the testicular affection is preceded by tubercular disease higher up in the genito-urinary tract, especially in the vesiculae seminales and prostate. In the 45 cases reported by him, these organs were involved 31 times. In the majority of cases, however, there were distant foci in the lungs, bones, glands, etc. Kocher holds the same view. Cayla thinks that a descending infection along the mucous membrane is most common, and believes that the infection travels in the same direction as the current of urine, and against that of the semen. His views are based on 100 sections, in which he observed that tubercular disease of the genito-urinary organs was always preceded by tuberculosis higher up.

Guyon and Lancereux have observed that the process often begins in the vesiculae seminales. Virchow has always held that the infection was a descending one, beginning in some of the higher genito-urinary organs. Saleron is opposed to this view, as in 51 cases examined by him, organs, other than the testicles and epididymis, were involved in only one case. Senn states that frequently the infection descends from the prostate, seminal vesicles or kidneys. Weigert (cited by Kocher) thinks that the prostate favors localization of all kinds of micro-organisms, and Keziwicki, in 15 autopsies on cases of genito-urinary tuberculosis, found the prostate involved 11 times.

M. Verneuil believes that infection often takes place during coitus, and gives anatomical reasons for his views. This seems very doubtful, however, when we consider the frequency of tubercular epididymitis in children. Furthermore, if this were the case, we should more frequently meet with tubercular lesions of the penis and urethra, for there must be ample means for inoculation in the abrasions of the urethral mucosa so commonly found in gonorrhoea.

While we can undoubtedly have a descending infection, it is our observation and that of many other investigators, that the disease is usually an ascending one, the epididymis being affected primarily and the bladder, prostate, etc., secondarily, the process extending upward along the surface of the mucous membrane of the excretory duct.

3. Transmission of the infectious material to the testicle by the lymph channels, while usually given as one of the routes, must be very rare, as the lymph-current is directed away from the organ rather than toward it. No cases have been reported which show the infection to have taken place in this way.

Koenig thinks that in some cases the disease begins as a primary tuberculosis of the testicle, the infection having been carried to the organ some time before and remaining dormant until lighted up by the occurrence of one of the exciting causes, such as injury, acute inflammatory processes, etc. This view is based on the studies of Jani, who found bacilli in apparently healthy testicles of patients suffering from pulmonary phthisis. Koenig thinks that this may explain some cases where no atrium of infection can be demonstrated.

(To be continued.)

TUBERCULAR TUMOR OF THE ORBIT.*

HOWARD F. HANSELL, M.D.

PHILADELPHIA.

In the spring of 1899, a small tumor appeared between the upper lid and the superior margin of the right orbit in a girl of 13. It received no medical attention until the autumn, when she applied to the out-patient department of the Jefferson Medical College. She stated that recently the tumor had increased in size and that the lid was swollen and drooping. The growth was painless and insensitive except on hard pressure; it was hard and inelastic, and projected about two millimeters beyond the vertical plane of the anterior margin of the orbit. The tumor was partly movable and was attached to the roof of the orbit a few millimeters back of the bony margin. Its anterior edge was rounded, quite smooth and thin, as though it belonged to a flat tumor about the size of a silver dollar. The lid was edematous and its elevator parietic. The eyeball was not discolored nor were its movements abnormally restricted. Refraction was low myopia. The media were clear and the fundus was healthy. The left eye was normal in all respects except the refraction, which was slightly myopic.

The parents of the girl are living and healthy, and there is no family history, however remote, that shows a trace of tuberculosis. The patient is anemic, but makes no complaint of disordered health. The lungs are sound and the abdominal organs free from disease. She had not menstruated.

The diagnosis of the nature of the growth could not be determined. After several weeks of observation and treatment the tumor was enucleated without disturbing the eye or its muscles.

The report of the microscopic examination, made in the laboratories of the college by Dr. H. F. Harris, is as follows:

The specimen as received consisted of two masses of tissue. The larger was irregular in form. On section, this piece of tissue was found to be quite firm and to present a uniform pinkish-gray color. It has an average length of 3 cm., an average width of 1.5 cm., and a thickness of about 5 mm. Weight was 4 gms. The smaller piece of tissue was irregular in form, being about 12 mm. long, 5 mm. thick and 6 mm. wide. This piece of tissue did not weigh more than 1 gm.

Specimens were fixed in Heidenhain's solution, embedded in paraffin, sections stained with hematoxylin and eosin, carmalum and picric acid, toluidin blue alone and with eosin, and by the method of Weigert for bacteria.

On microscopic examination the specimen is found to be made up of a basis of collagenous tissue intermingled with a considerable quantity of adipose tissue and involuntary muscle fibers. Around the edges of the specimen the tissue is for the most part practically normal, although in some situations the changes presently to be described extend to the very margin. In the upper portions of the specimen there are two well-defined and undoubtedly separate processes to be observed. Especially in the regions occupied by fatty tissue there is every evidence of the action on the tissues of some agent which produces suppurative change. The tissues here are infiltrated with, and in a measure replaced by, masses of polymorphonuclear leucocytes which show the usual fibrillar properties of these cells. Intermingled with these cells are some red cells, some mononuclear leucocytes and quite a number of plasma and mast cells. Here and there may be observed a swollen connective-tissue cell in addition, though they are comparatively rarely seen. The blood-vessels in this situation do not show change of any kind. The fibrils of collagenous tissue which pre-exist in the part are practically unaltered.

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Senile Alterations in Ganglion Cells.—The *Berliner Klin. Woch.* quotes Marinisco to the effect that the atrophy of the ganglion cells from advancing age is manifested first by chromatolysis, then pigment-formation and shrinking of the processes. He has suggested that this senile atrophy of the nerve cells might be prevented by introducing into the organism the serum of young animals as dynamogenic substances.

In other parts of the specimen, and at many points merging into the altered tissues, as just described, there are changes which are characteristic of bacteria and other disease-producing causes which do not cause the leucocytes to be attracted to the part, but which, notwithstanding, produce a low degree of inflammatory change. These alterations are most numerous in the perivascular lymph spaces, where there are enormous collections of lymphoid cells. These lymphoid cells do not remain confined to the lymph spaces, but may be seen to permeate the surrounding tissues. In these regions the cells show an increased protoplasm which is faintly basophilic—the daughter plasma cells of Unna—and still farther outward perfectly characteristic plasma cells are seen in considerable numbers. Mixed with them are a considerable number of mast cells. The connective-tissue cells in the vicinity are often swollen and many present the peculiarities of fibroblasts. The walls of the blood-vessels, which lie generally eccentrically placed in these masses, appear but little altered. Some of the fibrils occurring in these walls seems to have undergone a slight degree of hyaline change, and the number of nuclei in the muscle walls appear to be increased in many cases, but these changes are by no means constant and are of a not pronounced kind. The endothelial lining of these vessels appears normal. The connective tissues which lie in the vicinity of these blood-vessels do not show appreciable alteration, though it is quite possible that the amount of this tissue is increased. This appears to be unmistakably the case in the adventitial coating of some of the smaller vessels around which there is no collection of lymphoid cells. In these cases the amount of collagenous tissue is, in the situations mentioned, undoubtedly increased. The inner coats of these vessels show no alteration. In the central portion of this specimen there is a comparatively large area in which the tissues have undergone complete necrotic change. What still remains of the original tissue in the part takes intensely the acid stain, while there are a few fragments of nuclei included in the mass which still retain the power of reacting to basic dyes. At one side of the necrotic area there are found three large and very typical giant cells, the nuclei of which, as is usual, lie toward the periphery of these bodies. Forming a well-defined border to this area are tissues undergoing necrobiotic change. In this area the nuclei of the cells, which are for the most part in a fragmented state, still stain intensely with basic dyes, and the protoplasm and intercellular substance with the acid dyes with a little more than the usual intensity. A little farther outward there is a wall composed almost entirely of fibroblasts intermingled with which are a few lymphoid cells. In this region and in the area of necrobiotic change just referred to, there is an amorphous, intensely basophilic, intercellular substance in many situations, which appears to be mucin. Still farther outward the fibroblasts are gradually replaced by the normal fibrous tissue of the part, but even here there are found lymphoid cells, plasma cells, mast cells, and an occasional bit of mucin. On one side of this area the involuntary muscle fibers, which were at first referred to, are seen to be considerably altered. The fibers are ill-defined and the nuclei are enormously increased in number, and are exceedingly irregular in form. Mucin is also found in these situations.

Specimens stained for bacteria were very disappointing, inasmuch as no bacteria could be found in any part of them. Many sections were stained and organisms were carefully searched for, but as none were found it seems obvious that though tubercle bacilli must be present they are in such small numbers that they were overlooked. As regards the cause of the suppurative change nothing can for a like reason be definitely said, though it seems in the highest degree probable that some of the pyogenic organisms must have been, at least at one time, present in the mass.

Diagnosis: The tumor is beyond doubt primarily of tuberculous origin, added to which there has been some cause inducing a mild degree of leucocytic infiltration. The mass may be said to be at present both tuberculous, and, parts of it, in a condition akin to abscess formation.

A short time after the operation the case passed under the care of my colleague, Dr. de Schweinitz, who has repeatedly examined her during the past three months and

to whom I am indebted for the opportunity to make a final examination, April 19. The ptosis that had been made complete by the operation was slowly recovering. The skin at and near the scar of the incision was slightly pigmented, but the tissues were healthy. A small hard mass could be readily felt at the previous site of the tumor, but it had fewer of the characteristics of a recurrence than of solid exudation from the incised and wounded periosteum. My colleague believes this new tumor has decreased in size under arsenic.

I have been unable to find the record of a single case in ophthalmic literature of tubercular tumor of the orbit. The nearest approach was the description of a case of tuberculosis of the orbit by Sureau¹. A 13-year-old boy had a persistent fistula and discharge from the upper part of the right orbit since the opening of an abscess seven months before. The pus that had collected in the fistula contained numerous bacilli of Koch. The incision was enlarged and the roof of the orbit and the adjoining soft parts were curetted. Cure was complete in three months. There was no sign of disease of the sinuses, although Panas believes that caries of the orbit always has its origin in sinus disease.

DISCUSSION.

DR. G. E. DE SCHWEINITZ, Philadelphia—I had the pleasure of examining this growth before it was operated on by Dr. Hansell, and, as he says, I have subsequently seen the patient very often. Certainly, it is a most unusual neoplasm, which I was inclined to regard as a lymphoma before the report of the pathologist was made. The question of recurrence is a little difficult to decide. There is present at the seat of operation a swelling, which has decreased somewhat in size, but there is still a hard flat nodule in the upper and outer part of the orbit, and with the concurrence of Dr. Hansell I shall remove it very soon.

DR. HANSELL—It was surprising to me to find that there were no similar cases reported in literature. I found some cases of tubercular abscess, and plenty of tuberculous disease of the eyeball and lachrymal gland, but nothing like this tumor.

OSSIFICATION OF THE CHOROID LEADS TO THE IDENTIFICATION OF THE BODY IN AN INSURANCE CASE.*

ROBERT L. RANDOLPH, M.D.

BALTIMORE, MD.

Early in October, five years ago, a well-known wholesale clothier of Baltimore telegraphed to his wife from a point in Canada to meet him on a Saturday, at 4 p.m., in the Grand Central Station, New York. She was there on time, but failed to find her husband. She ascertained from the sleeping-car conductor and porter that her husband had occupied a berth on the train, and some of his clothes were found in the berth. The porter said that he had seen Mr. A. passing through the car door, presumably on his way to the car ahead, and that the train at this time was crossing the Niagara River. The following week the wife appeared at the office of the insurance companies and claimed the insurance, which the companies refused until more conclusive evidence was forthcoming of the man's death. Weeks passed and still the family were unable to bring forward absolute proof of Mr. A.'s death. A minute description of him was put in all the papers in that section of the country, rewards were offered and notices posted throughout a stretch of country along the Niagara River.

Nine months after Mr. A.'s disappearance, his wife

1. *Annales d'Ophthalmologie*, cxvi, p. 367.

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received notice that the body had been discovered and that all this time it had been in the river. The body was brought to Baltimore, and as it was in an advanced state of decomposition it was promptly buried. It might be well to state here that when found the body had on a pair of drawers, an undershirt and a collar which was marked with his initials. The companies then came forward and claimed the right to inspect the body, at the same time asserting that the latter in all likelihood was unrecognizable from having been nine months under water. I need not go into the details of the autopsy, which was made by a prominent pathologist in Baltimore. It can easily be imagined, however, that a body which had been exposed to such conditions would have lost many of the physical characteristics peculiar to it before death. It may be sufficient for me to say, however, that much of the flesh on the face and head was gone, and this brings me to the eyes, which were submitted to me for an examination. It was remembered by his family that he had lost his left eye as a child from a blow with a stick. This eye then had been blind for many years, and I elicited the fact that it had a whitish appearance in the pupil, which no doubt was a shrunken lens capsule, probably the result of a traumatic cataract.

The question then was, if it were possible to find in the left eye anything which would indicate that the man had been blind in that eye for most of his life. The following was the result of my examination:

MACROSCOPIC EXAMINATION.

Right Eye: Cornea perfectly and uniformly opaque. This opacity was remarkable for its density and it evidently involved the entire substance proper of the cornea as well as the epithelial layers.

The cornea was sunken in the middle, and this was explained by the loss of the intra-ocular fluids, a fact revealed when the eye-ball was opened. The eye-ball was soft and mushy and its sides could be pressed together at any two opposite points, just like a collapsed balloon or bag. On opening the eye-ball there was no evidence of vitreous body or crystalline lens. The retina and choroid were not separable, but they formed a dark, indistinguishable mass that went to pieces when picked up with the forceps. These two coats seemed to be absolutely disorganized. The iris seemed devoid of pigment and was recognized as a delicate, colorless membrane, resting against the posterior surface of the cornea. This membrane, too, like the choroid and retina, was decomposed. The optic nerve was shrunken.

Left Eye: The cornea was hazy and faintly transparent over an area comprising about two-thirds of the entire surface. This transparency allowed one to see beyond, and on pressing the eye-ball at its posterior pole a grayish mass could be seen to advance toward the cornea. This mass occupied the position of the crystalline lens. The entire periphery of the cornea was opaque. This opacity was not sharply cut as to its inner borders, as is the case with the arcus senilis, but had a ragged inner edge with here and there a more marked jutting out into the clearer cornea.

This eye-ball, too, was collapsed like its fellow. On cutting open the eye-ball, both retina and choroid were found in a condition similar to that of the right eye. The iris, too, lay against the posterior surface of the cornea and appeared devoid of pigment. When picked up, this part of the eye fell to pieces. The grayish mass mentioned as being visible through the cornea proved to be a small body about the size of a grain of rice and of irregular shape and nearly solid. In the posterior part of the eye a hard substance was felt. This substance was apparently loose and lying in disorganized choroid and retina. It was picked up with the forceps and seen to be a thin sheet of what was evidently ossification of the choroid. It was 7/16 of an inch long and about 3/16 of an

inch wide, and posteriorly it was perforated by a round hole. The optic nerve was shrunken. Nothing further was noteworthy in this eye.

The striking points about this part of the examination were, 1, the dense and uniform opacity of the right cornea, and, 2, the existence of the plate of bone in the posterior part of the left eye-ball.

MICROSCOPIC EXAMINATION.

Cornea of Right Eye: Impossible to get any reliable differential stain. The tissue could be recognized as that of the cornea, but beyond this nothing could be said of its ante-mortem condition.

Left Cornea: The same want of definiteness existed as was seen in the cornea of the right eye.

Grayish mass in left eye-ball, composed of a cloudy, round large center, made up largely of bands looking like the layers of the lens. This mass was surrounded by clumps of pigment. All that could be said of this mass was that it resembled lens substance more than it did anything else. The retina, choroid and iris stained so diffusely that nothing valuable could be made out. This was the case in both eyes. It was impossible to demonstrate the existence of cataract.

The substance removed from the left eye-ball, and pronounced by me to be the condition known as ossification of the choroid, was shown under the microscope to be bone, as I had said.

It will be seen from this that while the small body, of irregular shape and about the size of a grain of rice, might reasonably be regarded as a shrunken lens the result of a traumatic inflammation, it could not of itself be regarded as positive evidence that the man had been blind for many years, for such a condition of the lens can be brought about in probably one or two years. With the discovery, however, of the plate of bone there was immediately obtained unmistakable evidence that the man had been blind in that eye for many years before his death. In those cases of ossification of the choroid which I have seen, the patient had been blind from early childhood. This conclusive proof then that the left eye had been blind for a long time, was evidence enough in the opinion of the insurance companies to establish the identity of the body, and the money was paid.

It is clear from all this that the microscopic examination of an eye which has been exposed to such conditions reveals nothing of any value, owing to the post-mortem changes in the cell structure. Indeed, the disintegration of the various parts of the eye is so far advanced that it is impossible to draw any conclusions as to the ante-mortem condition, even as to the color of the iris. The effect of the water on the eye for so long a period was to completely obliterate ante-mortem characteristics, with one exception, ossification of the choroid. There was present in this case then, the only ocular condition which would have been valuable in establishing the identity of the body.

MEASLES AND THE EXANTHEMATA.

SHALL CHILDREN BE KEPT THEREFROM? LIKEWISE FROM DIPHTHERIA AND PERTUSSIS.*

C. F. WAHRER, M.S., M.D.
FORT MADISON, IOWA.

It might be stated as an axiom, that as long as a child does not have a disease, it can not die from it; and the first step to prevent such a death, is to prevent a child from acquiring the disease. Hence, we have now in nearly all the states quarantine laws that prevent largely the spread of all contagious diseases, and this

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is certainly, in the vast number of cases the proper thing to do, namely, prevention is much better than cure, at least for the patient, if not for the physician. There is one element in many of these diseases we can not control, namely, the epidemic element; but in a municipality placed under strict health laws, put into ideal sanitary conditions, even the epidemic element will thus be largely modified. Could these ideal sanitary regulations be everywhere enforced, and always exist, then it were worth while to quarantine against everything to which the least suspicion of contagion is attached, even such mooted diseases as consumption, cancer, typhoid fever, cerebro-spinal meningitis, and many more whose status is not yet fully defined. But I have thought a great deal about the matter; if it is with as good a show of reason that we keep our children from measles as we do from röteln, variella, variola, scarlatina, diphtheria and pertussis, and to this purpose this paper is dedicated.

I have no desire to say anything for the purpose of evoking useless criticism or captiousness, or to be in anywise pyrotechnic or make a display of being queer or finicky, but to honestly make an inquiry whether we are acting wisely or not.

I shall hold that it is not always best to keep our children from acquiring measles, at least not with as good a reason as we have for preventing their acquiring such virulent diseases as scarlatina, variola or diphtheria, for the following reasons:

Röteln and variella may at once be dismissed, as it matters little whether a child has them or not, as neither is ever fatal, only chicken-pox may leave a few disfiguring scars, or even blindness in some remote cases by a scar remaining on the cornea in the pupillary axis of vision.

Now, we have weighty reasons as to scarlatina. First, because it is always a dreadful disease that not only kills thousands of our children, but no one can ever tell what fatal or troublesome sequelæ or complications it may have with it. Many children who do not die outright, may afterward have diabetes, Bright's disease, or paralysis of one or more limbs, from which they may die after lingering illness, or remain hopelessly diseased all their lives.

Also, another reason for quarantine against scarlatina is that this affection is not likely to be acquired after one has reached adult life, and even if acquired, runs usually a much milder and less complicated course.

While diphtheria is not an exanthem, I should like to include it in my list of diseases, and will just mention that what I have said of scarlatina is largely true of it, with the exception that since we are using diphtheria antitoxin, it is not so fatal a malady as before.

In variola we have at all times of life a dangerous, loathsome malady, which has a large mortality, with intense suffering to the afflicted one, and even those who recover are forever horribly disfigured on account of the ugly pockmarks it leaves. So terrible is this pestilence that we are not only content to quarantine against it, but in this case we fight fire with fire; we substitute another disease for it, namely, vaccinia, by vaccinating ourselves with the virus of cowpox, and though this is by no means a pleasant disease to have, yet we prefer it to its horrid analogue, one of the scourges of mankind. And here we have a hint in fighting the measles of adult life, always a dangerous affection, by substituting the measles of childhood, which is less dangerous.

While pertussis is not an exanthem, I desire to mention it because it comes under my line of reasoning also, for we know this often proves not only a long and tedious malady of childhood, lasting, according to the season of the year, from three to seven weeks, and often longer, but is in early life very fatal, and frequently accompanied by complications, such as pneumonia, bronchitis, pleurisy, emphysema and others, and often when recovered from leaves the child weak and of frail constitution, making it an easy prey for other diseases. Again, as in some of the others mentioned, adult life, while not entirely exempt from it, does not become so easily affected, nor is the mortality nearly so great nor do adults easily acquire it, if exposed thereto.

Now, premising that these foregoing statements are true or as nearly so as we can gather from our varied experiences, and a summary of the knowledge we can obtain from our most reliable sources, let us see whether the same reasoning holds good as to measles, or whether we can show good reasons for a different or modified course.

That measles is always to be regarded seriously on account of the possibilities with which it is surrounded or associated, no one can successfully deny. The mortality from this affection in the aggregate is great, but mostly during adult life, and that it is often associated with ugly complications we all must admit, also the same is true of some of its sequelæ; are they not principally true during adult life? I do not mean to obtain your assent by begging the question, but by suggesting your assent or denial according to your varied experiences. Many epidemics of measles are so mild, especially during the warmer seasons, that the majority of those sick, if children especially, never go to bed, but remain outdoors and play, and scarcely show any signs of distress. When a mild epidemic shows its character, why not expose all children above 2 years and under 12 to 14 years to it? Measles, ever so mild, is prophylactic against any future exposure, as much or more than vaccinia is against smallpox. Whatever phase measles exhibits during childhood, we will all admit that generally it is very severe among adults, causing a great mortality *per se*, and still greater on account of its complications.

It is true the hygiene of prisons and camps, as well as other places of detention such as the various hospitals, is to-day more perfect, yet much is to be desired, and we know that if measles breaks out in such places, especially among adults, the mortality is usually great and the epidemic hard to manage. But my observations on a large number of epidemics, it is true, in Iowa, where we have small cities and many small country towns and rural districts, have invariably shown very light mortality among children under 14 and a much greater number of deaths among the adults. It is undeniably true also that the very young, say under 2 years of age, also bear the disease very poorly.

In the discussion before us, of course, much must be considered. I think the disease should always be quarantined against in children's hospitals, in private schools, in severe winters, and in the unsanitary districts of crowded tenement wards or other unhealthy communities, since in these cases complications are easily evoked, especially tuberculosis following the disease as a sequela. But when we can expose children in ordinary health to a mild epidemic of measles, there would probably be the same gain as we experience in the substitution disease of cowpox for smallpox.

Even in an epidemic recently observed in a small rural community, where there were 68 cases of measles, no one under 15 years of age died, but 3 adults died out of 23 cases over 25 years of age. This epidemic is a fair sample out of many I have observed in rural districts, villages and small towns from 2000 to 30,000 inhabitants.

In case the susceptibility to acquire measles diminished much, as adult age is reached, it would be more worth our while to quarantine, but such is not the case; adults are just as likely to acquire measles as children, when exposed to the contagion or an epidemic, and when acquired become usually more dangerous. I am aware that while I had my experiences with thousands, there are those here who have had theirs with tens of thousands, yet I hope that no javelins will be thrown on account of the difference, rather if my suggestions appear weak before the strong let them deal kindly with the erring, and thus show us the better way. There is, however, a margin always in favor of quarantine, and that margin is the doubt in diagnosis. Until that is fully established, while we fear a case of measles or varicella may be scarlatina or variola, a mistake that not only happens to the neophyte but to the oldest veteran in practice at times, it is best not to allow patients to come in contact with others.

I now submit these few premises for your conclusions, and trust you will accept them in the spirit offered, namely, let our contentions be in quest of truth, and the greatest good for all. Undoubtedly your varied experiences may cause you to differ as the parallax depends on the different stations occupied by different observers viewing the same object. One may see the same shield black that another sees white and if it were turned, opinions as to color would change. As for me I am glad I had the measles when I was a child, and so are all of you who are in the same boat.

ROETHELN.

ITS DIFFERENTIATION FROM MEASLES OR SCARLET FEVER.*

HENRY KOPLIK, M.D.

NEW YORK CITY.

It is very difficult, even from a historical standpoint, to accept a description of an epidemic, exanthematous affection of a century ago and try to adapt this description of disease to what we see to-day. Our point of view is entirely at variance with that of observers of an early clinical school. With such a disease as roetheln or rubella our confusion is more marked if we study the epidemics of this disease described by Hildebrand in 1832, Heim in 1812, and Forney in 1784-1796. It is not surprising that such a writer as Jurgensen is thrown into doubt. It would be well if we should reject all but the most modern descriptions of epidemics of roetheln, as these modern writers can be more easily understood by us to-day. We do no injustice then to older, or we may say to antiquarian, historians: their descriptions are obscured by lack of accurate clinical methods. Even in such simple matters as the description of an eruption, its location and characteristics, with roetheln, the lack of explicit and modern description, in older writers can only be appreciated by any one who will study the history of this disease. As far back as the 18th century we find

descriptions of a disease which often accompanied or occurred, as it were, on the outskirts of epidemics of measles and scarlet fever. Though resembling cases of both diseases, they could not be classed as belonging to either of the well-known exanthemata. The early descriptions of this disease are marred by bitter polemics, some physicians contending that they were in the presence of a distinct disease, roetheln; others, that the disease in question was but a mild measles or scarlet fever. To-day we find such observers as Hensch and Jurgensen still in doubt as to the entity of roetheln.

These are the considerations which have induced the writer to present his views on this subject. He agrees with Trouseau, Cheadle, Thomas, Baginsky and Eminghaus, that roetheln is a distinct and definite disease, independent of measles or scarlet fever. It has a distinct semeiology, and can to-day be differentiated especially from measles or scarlet fever. Trouseau describes under the heading of roseola, rubella exanthema fugax, a disease which he places in the same relation to measles or rubella that varicella holds to variola. He describes the exanthem, lays stress on its evanescent character, its characteristic location, the absence of affections of the mucous surfaces—conjunctiva, nasal passages, and lungs—and the absence of any sequelae or complications. He calls attention to the fact that an attack does not prevent subsequent attacks, nor protect against measles. It occurs epidemically and is contagious. Thomas¹ gives the most modern, and to me a very classical, description of some epidemics of roetheln which he has observed. His descriptions, to which I will freely refer, have done much to place the disease on a firm, independent basis. He describes two forms of exanthem, the small and the large papular. He describes minutely the appearances, if any, on the mucous membranes, the temperature and course of the disease. Eminghaus² also describes an epidemic of roetheln and concludes that it is a disease sui generis. His descriptions are not as definite nor as simple and classical as those of Thomas. In the transactions of the International Congress at London, 1881, a full discussion of the position of roetheln to the other exanthemata took place. The disease was discussed by various leading authorities of the times, most of whom are living to-day—Cheadle, Shuttleworth, William Squire, Kassowitz, Baginsky, Jacobi, and Lewis Smith. Smith's description of a New York epidemic is particularly full and definite. The consensus of opinion was that roetheln, rubella sine catarrho, rubella, was a disease, giving no protection from measles or scarlet fever and distinct from them. Returning to the textbooks, Barthez and Rillicz, 1861, acknowledged the great difficulty in distinguishing between roseola and rubeola—measles. They place more reliance on the absence of marked general symptoms than on characteristics of eruption for a diagnosis. Kaposi (1887) is inclined, with Hebra, to look on roetheln as a mild or anomalous form of measles, and denies its right to the dignity of a distinct disease sui generis. He cites Kassowitz, who at first disapproved the view that roetheln was a distinct disease, but subsequently observed an epidemic which caused him to rather support the view of its being a disease distinct from measles or scarlet fever. Gerhardt, in 1881, believes that roetheln is distinct from measles or scarlet fever, though he admits that roetheln occurs epidemically with measles. Gerhardt mentions the school of Shoelenin, which regards

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1. Jahrb. f. Kinderheilk., 1869.

2. Jahrb. f. Kinderheilk., 1871.

roetheln as a mixed or bastard form of measles or scarlet fever; on the other hand, he is inclined to side with Thierfelder, Koestlein and Thomas, who regard the disease as distinct from measles and scarlatina, which it resembles in several characteristics. E. Husset,³ regards roetheln as distinct from measles and scarlet fever. In closing this historical review we need but mention the work of Griffith, of Philadelphia, who describes a severe form which occurred epidemically and which seems to have been observed by few other authors. Forcheimer, in the "Transactions of the American Pediatric Society," has recently described an epidemic in Cincinnati in which he made a minute study of the appearances on the mucous membrane of the soft palate, to which we shall return again.

Looking over the work of those who have studied roetheln in large or small epidemics, we are struck by the incompleteness of most of these studies. The number of cases observed by each author is not only small, but limited for the most part to one epidemic. The experience of many writers numbers at most only 50 or 100 cases. A great number of observers do not seem to have approached their cases with sufficient experience in the diagnosis of skin eruptions which might resemble that seen in roetheln. In one case we find an author a violent opponent of the view of roetheln being an affection independent from measles or scarlet fever; a few years later this same author has had an opportunity to observe an epidemic and he straightway becomes convinced of the specific nature of the affection.

During the past seven or eight years the author of this paper has made a special study of the relationship of roetheln to measles and the other exanthemata. During these years, and especially later in his studies, the exact characteristics of roetheln have formulated themselves in his mind. He has seen probably as large a number of cases as has fallen to the lot of most writers on the subject, having passed through many small local outbreaks of the disease. Though it may occur in cities at a time when measles is epidemic or prevalent, roetheln has no relation to this disease. It does not protect the patient from measles; it may occur in subjects who have had measles. It may even occur in the same patient a number of times. In other words, one attack does not give immunity from subsequent attacks. Though highly contagious, the author has met children who have been exposed and yet did not develop the exanthem.

Age.—It attacks every age from the youngest infant to adult life. The author has, as Thomas also records, seen the disease in adult life. Unlike in measles, adults do not seem to be any sicker than children, when attacked with roetheln. The throat in adults appears to present the only disagreeable symptom. Personally, I have met roetheln in nurslings as young as 7 weeks of age, as well as in adults. Thomas' youngest case was 19 months old. It shows no predilection for sexes. The prodromal period in the children I have observed gives no symptoms, except that for a few days previous to the outbreak of the eruption I have noted in the last epidemic a suffusion of the eyes, such as is often seen in an attack of grieppe. The conjunctival folds have a deep-scarlet color. There is, however, no marked conjunctivitis. The children do not complain. This was so in a case I recently met in a public conveyance: the boy's eyes were of a deep-pink color. I told the mother of this fact. Four days after this, the eruption broke out on the body. In adults I had occasion to note

an interesting case in a nurse who had been in an assistant capacity in a large children's clinic. For six days previous to the outbreak of the eruption she came to me to ask about a chain of glands on both sides of the neck behind the sternomastoid. Those glands had enlarged to the size of a half bean, were not painful, but only aroused uneasiness by their peculiar abrupt appearance. Six days after daily observation of these glands the exanthem appeared. There was absolutely no fever in this prodromal period. In another case, a boy 6 years old, who had been exposed, his sister having a decided attack of roetheln, the lymph-nodes along the posterior border of the sternomastoid were distinctly enlarged at the time of the appearance of the exanthema in his sister. The boy had no other symptoms. He had no fever and was at play. Two weeks after this the eruption appeared on the body of the boy and was out only one day.

The period of incubation, which may include these mild affections of the prodromal period, is placed by Thomas and Eminghaus as varying from 15 to 20 days. Eminghaus says that before the outbreak of the eruption there is some headache, nausea and irritation of the bronchial mucous membrane. Forcheimer, who was able to observe the disease in his own family, says that his child complained of slight malaise just before the outbreak of the eruption. In the largest number of cases, however the eruption is the first symptom and will bring the patient to the physician.

The Exanthema.—We may say that the exanthema of roetheln resembles that of measles so closely that at the time of onset it is quite common with physicians to mistake the one for the other. The mode of appearance is also similar to that of morbilli, in that it is first noticed around the *alæ nasi* and on the upper lip in an indistinct way, as is seen in the invasions of morbillous exanthema. All writers who have to-day retained any authority on the subject of roetheln agree that the exanthema appears first on the face. It is seen on the forehead at the side, at the temporal region, on the cheeks and chin. It is preceded in some cases by an erythematous flame-like blush, which is diffused over the whole face. This deep erythematous blush was described by Eminghaus. The writer has had a very good opportunity to observe it also. It breaks out on the face; it may again in a few hours disappear and reappear, to finally, in six to twelve hours, disappear and leave the real exanthema in all its characteristics spreading on the face and neck. In all the epidemics which I have observed this exanthema has the same characteristics. It is papular, of a deep rose-red color. As a rule, it remains discrete. The rose-red or roseolar papules are distinctly arranged in a crescentic manner. This arrangement can always be made out where the exanthema is spreading. On the face and neck at the outset this crescentic arrangement, present at first, gives place to a blotchy appearance characteristic of measles. At this stage, if we look at the trunk, where the exanthema is advancing, we see the crescentic arrangement of rose-red papules above referred to. The skin between and in the center of the crescentically arranged papules has a normal hue. Sometimes, in the parts where the eruption has become confluent, I have seen an appearance, punctate in character, which may be mistaken by the superficial observer for scarlet fever. In such cases, a study of other parts of the body will immediately reveal the above papules disposed in a crescentic fashion. I have been able to verify, with Thomas, that in many cases the individual rose-red papules are punctate in size all over

the body. These cases might be mistaken for mild scarlet exanthema; but here, as in the larger form of rose-red papules or roscola, the crescentic arrangement on the other parts, as the thorax, back, buttocks, and extremities, has in all my cases been very apparent and a distinct element in establishing the diagnosis. In other words, this crescentic arrangement is exactly similar to what is seen in measles in the discrete stage of the exanthema. The exanthema will in many cases fade on the face while it spreads from the trunk to the lower extremities. In the parts in which it is spreading the exanthema retains its discrete form and crescentic arrangement. Thus it happens, if the eruption is diffuse on the face and trunk after it has been out a few hours, to the superficial observer it looks like a typical case of measles, with certain very important diagnostic reservations, which the writer will emphasize. After remaining out in full efflorescence on the face and trunk only from a few hours to a day, the exanthema begins to fade, first from the face and then from the trunk. A patient may in the next twenty-four hours present a perfectly normal skin. As a rule, evidences of the eruption continue for two or three days, especially on the extremities and lower trunk. In some cases the disappearance of the papules is complete, leaving a white skin. In other cases, though the exanthema has completely disappeared, it leaves after forty-eight hours indistinct bluish or brownish crescentic pictures occupying the place of the roseolar spots. This reminds us quite forcibly of what is seen in cases of simple erythematous eruptions. After another twenty-four hours no trace of the eruption is left. I have never seen the pigmented spots seen in true measles, which persist for days or weeks on the skin. After the disappearance of the exanthema—one to three days—there is in some few cases an indication here and there as though there might be attempted desquamation. It is not always easy to decide this point. For, among the poor, it is impossible on account of filth to decide the presence or absence of so delicate a matter as desquamation after roetheln. In the better class I have found it equally difficult to come to any definite conclusion. Thomas accepts the presence of a fine desquamation of the skin.

Mucous Membranes.—My own studies have convinced me that, unlike measles, roetheln is not a disease of the mucous membranes. In all the cases I have studied, their number is large and the severity varied, I have never seen the coryza, cough and bronchitis as it is seen in measles, even of the milder types. We find a mild and evanescent cough, seemingly caused by the injection of the pharynx and enlargement of the tonsils, which is always present. In other words, the conjunctivæ are injected, as in grippé, but there is no secretion or conjunctivitis, nor even photophobia, as in measles. In fact, the children will ask to be permitted to read. There is no conjunctival inflammation; it is simply an injection. This injection will sometimes persist for days after the exanthema has disappeared from the skin. The eyes will retain a sleepy look, but give no symptoms. If we look into the mouth at the outset of the disease we see a varying redness of the pharynx, pillars of the fauces and enlarged red tonsils. It is rather an angina that we see, similar to what is seen in very mild scarlet fever or simple angina. The glands at the angle of the jaw may be enlarged, also, as mentioned, those behind the posterior border of the sternomastoid muscle. The disease seems to have spent itself, as in scarlet fever, on that part of the chylipoietic

system connected with the skin, as the lymph-nodes, rather than on the mucous membranes.

Thomas speaks of a spotted appearance of the mucous membrane of the soft palate and cheeks. The individual spots are not raised as those on the skin. They do not resemble the skin eruption. Eminghaus mentions the discrete red spots of the soft and hard palate. Thomas, in another article,⁴ characterizes the appearance of the mucous membrane of the hard and soft palate as streaked in red in some places, in others spotted. Kassowitz, in the discussion at the International Congress, mentioned the presence of isolated red spots on the mucous membrane of the hard palate on the first day of the disease in a small percentage of the cases. Jurgensen describes an exanthema on the soft and hard palate similar to what is found in measles. Gerhardt, also, while calling attention to the injected pharynx, describes a spotted hemorrhagic eruption on the palate. Forcheimer is the most recent writer to describe a characteristic exanthema on the soft palate, consisting of a "macular, distinctly rose-red eruption on the velum of the palate and uvula, extending to, but not on, the hard palate." These spots were arranged irregularly, not crescentically. The author of this paper wishes to emphasize the fact that he does not consider any eruption on the soft or hard palate as pathognomonic or characteristic of roetheln. He has observed all of the above eruptions. In some cases the soft and hard palate are irregularly spotted or streaked red in places. In other cases, he has observed small stellate or round rose-red spots. In other cases again, the soft palate was studded with an eruption of red spots, in the center of which could be seen small vesicular formations. None of these are characteristic. They are met with in other exanthemata, such as scarlet fever or measles.

The buccal mucous membrane, however, is the crucial test in making a diagnosis of roetheln in the vast majority of cases. We never see in this location the characteristic measles spots described by the author as pathognomonic of measles. The buccal mucous membrane in most cases of roetheln is of a normal pale-pink hue. In some few cases, a vanishing percentage, I and my assistants at the clinic have observed and subsequently studied cases of roetheln in which a few rose-red spots were seen on the buccal mucous membrane. In no case, however, of true roetheln have I observed the rose-red spots with the bluish-white speck in the center seen in measles. From a study of a large number of classical and doubtful cases, the author has come to rely on the buccal mucous membrane as the only reliable means, with other symptoms and skin eruption, of distinguishing roetheln from measles. The cases of roetheln observed in New York show the buccal mucous membrane free from any eruption or exanthema throughout the disease. The buccal mucous membrane retains its pale-pink normal hue.

We find in roetheln that the temperature is highest at the outset of the disease, when the eruption has appeared on the face. The temperature does not rise when the eruption spreads on the trunk, but falls, within a few hours from the outset by a sort of crisis (Thomas), to within one or a half degree of the normal. Or the temperature may be normal in the rectum and still the eruption be at its florid state on the face or trunk. The eruption, spreading as it does in stages from the trunk to extremities, does not cause any marked disturbance of the temperature curve at the time of its spread to

4. Jahrb. f. Kinderheilk., 1872.

other parts. The temperature at the outset may be 99.8 F. in the rectum, or it may reach 102 in the rectum. I have rarely seen cases in which it was higher. It falls fully within twelve hours to 100 F. in the rectum, and may continue for a day or two at that temperature in the rectum and then fall to the normal. I have noted in those cases in which the evening rectal temperature remained 100 or 100.4 for a day or more, the throat was inflamed more than usual or the lymph-nodes at the side of the neck persisted longer.

The Lymph-nodes.—In the cases of roetheln which I have observed, the lymph-nodes behind the sternomastoid muscle, both in children and adults, were enlarged. The enlargement in the prodromal stage has already been mentioned. I have seen cases in which the patients have been distinctly exposed to the disease, who for days or weeks showed enlarged lymph-nodes in chains exactly similar to those who presented the exanthema. In these cases, in spite of daily observation, the exanthema never was seen on the skin and the nodes gradually returned to the normal without temperature. In these cases I have wondered whether the exanthema might not have been so slight and evanescent as to escape observation and disappear within a few hours. The enlargement of the nodes denotes to me an infection only of an abortive character. In one adult case, the lymph-nodes were much enlarged and the angina was marked. The exanthema appeared for only a few hours on the face and nowhere else. It was not apparent to others in the family, but was very characteristic to me. It had the papular, roseolar, circinate character.

In a recent outbreak of roetheln I and my assistants have made a study of the lymph-nodes elsewhere than in the neck. In the eleven appended consecutive cases studied in my clinic the lymph-nodes were enlarged at the bend of the elbow, the axilla and the groin. The nodes were the size of a bean or pea, in some cases larger. In all cases the lymph-nodes remained enlarged long after the eruption had disappeared from the skin. The nodes may sometimes be felt for weeks after. In other cases they rapidly grow smaller. I append the following cases simply as a matter of record:

CASE 1.—Male, 6 years; temp. 100.2; eruption full; general lymph-node enlargement.

CASE 2.—Male, 6½ years; temp. 100; eruption; general lymph-node enlargement; disappeared in two days.

CASE 3.—Male, 1 year, 2 months; temp. 99.8; eruption; lymph-nodes generally enlarged.

CASE 4.—Male, 7 years; temp. 98.5; eruption; lymph-nodes generally enlarged.

CASE 5.—Female, 5 years; temp. 99; eruption; lymph-nodes generally enlarged.

CASE 6.—Male, 6 years; temp. 100.8; eruption; lymph-nodes generally enlarged.

CASE 7.—Male, 5 years; temp. 100; eruption; lymph-nodes large.

CASE 8.—Male, 4 years; temp. 100.2; eruption; lymph-nodes large.

CASE 9.—Female, 19 months; eruption; lymph-nodes large.

CASE 10.—Female, 7 weeks old; temp. 98.6; only lymph-nodes of neck large.

CASE 11.—Male, 2 years; general enlargement of nodes.

The Angina.—In the great majority of cases there is a distinct enlargement of the tonsils; they are red and inflamed, and the pillars of the fauces are inflamed also. The lymph-glands at the angle of the jaw may be slightly enlarged. The angina is never as severe as in scarlet fever. The patients do not complain much of

the throat if they are older children; adults complain of slight pain in swallowing and a feeling of "cold in the head." In no case have I seen any membranous formation on the tonsils. I have examined a number of cases with special reference to the size of the spleen. In varicella the spleen is sometimes palpably enlarged. In roetheln I have never noted this. In one case of roetheln, occurring in a girl of 7 years, in whom the exanthema was profuse, there was dysuria of a very annoying character. In this case an examination of the introitus vagina revealed intense redness and slight secretion. The symptoms disappeared without further treatment.

Eruptions Resembling Those of Roetheln.—There are some forms of erythema multiforme, which by an inexperienced observer might be mistaken for that of roetheln. I refer to the forms of erythema which occur in small papules. These erythemas fail to show the crescentic arrangement of papules, and in places will have a blotchy character to the eruption. Erythemas also have an ecchymotic or bluish color, especially at the center of the papule. In some cases we can understand how a papular rose-colored eruption caused by a drug or antitoxin might be mistaken for the exanthema of roetheln. Scarlet fever does not affect the face so distinctly, and on the trunk scarlet fever shows the acute dermatitis as a background for the punctate character of the general eruption. In scarlet fever the small punctate spots have no particular arrangement; in roetheln, if the papules have the minute size of those of scarlet fever, the skin between the papules has a normal color. In all of these cases, also, we can make out a crescentic arrangement of the papules.

The exanthema of measles of the discrete type is the only eruption which so closely resembles that of roetheln as to be constantly mistaken for it. In fact, I have frequently seen physicians unhesitatingly pronounce a case of measles and insist on the diagnosis when only roetheln was present. In all such cases the buccal mucous membrane has been the crucial test for me. It has invariably maintained the truth of the diagnosis in the subsequent course of the disease. As the disease progresses I have never noted in roetheln the tendency of papules to become confluent over any great extent of surface as seen in measles. At least in the New York cases we have always seen the skin not affected by papules of a normal color and consistency.

Roetheln deserves the dignity of a disease distinct from measles or scarlet fever. It does not protect the subject from either of the two affections named. This will, in my mind, account for a vast number of cases in which there is said to have been two attacks of measles. Roetheln is a mild affection, resembling very much varicella. There have never, to my observation, occurred complications which could give rise to any uneasiness. The temperature at the very highest never goes beyond 103 F., and in most cases in New York the temperature never mounts above 101 F. The general condition of a patient is that of a person suffering only a slight malaise. I have never seen nephritic complications in this disease. It requires little or no treatment. I advise the parents to keep the children indoors until all signs of the exanthema have disappeared; the children are then allowed in the open. In the winter months the children are kept indoors about a week after the first day of the eruption. I have seen no sequelæ in any of my cases. The most important point to me has always been the positive differentiation of this disease from measles or morbilli. We may thus avoid

isolation of the children for three weeks in summer and four weeks in winter, which is necessary in measles. This, in private families, and even in institutions, is a most important matter.

As the writer closed this article he received a reprint of an article by Ad. Schmidt, coming from Escherich's clinic. Among some very interesting data, we find that in a roetheln epidemic in Graz, the "Koplik spots" were studied as to the frequency of their occurrence or absence. It was found that they were invariably absent. Schmidt concludes that the absence of this sign is valuable in building up the diagnosis of roetheln. It will be admitted on all sides that in marasmic children, in whom the mucous membrane has been the subject of prolonged traumatism, the diagnosis of "Koplik spots" may at times be difficult.

A CLINICAL AND PATHOLOGICAL STUDY OF THE RASH OF SCARLET FEVER.*

WITH ESPECIAL REFERENCE TO THE ORIGIN AND CHARACTER OF THE DESQUAMATION.

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PHILADELPHIA.

The eruption of scarlet fever is a dermatitis presenting a remarkable constancy in its general characteristics. This is true to such an extent that the clinician has in his mind a concrete picture of this efflorescence. Yet, like inflammation in any other structure, this pathologic process in the skin varies in severity in different patients. There must therefore be a certain degree of variation in the clinical appearances of the eruption.

The redness of the skin of scarlatina has been variously described as bright red, scarlet, raspberry-juice tint, boiled-lobster tint, etc. It is a matter of the greatest difficulty to carry color valuations in one's mind. It is an impossible task for the artist to view a sunset, and then at some future time transfer its coloration to canvas. It is equally impossible to view an eruption and later accurately compare its color with that of some other object. One must have both colors simultaneously before the eye. When pieces of the shell of boiled lobster are compared at the bed-side with the color of the rash of scarlatina a wide difference in the tints is observed. So, too, is it impossible to match the eruption of scarlet fever with any of the shades of bright red or scarlet. In order to accurately reproduce the tint with water-colors one must employ an admixture of red, burnt sienna, yellow and blue. The color of any inflammatory eruption is due to the blood appearing through the texture of the skin. The amount of blood in the part, as determined by the caliber of the cutaneous blood-vessels, and the character of the blood itself influence this coloration. It is therefore evident that the color must vary within certain limitations in different individuals. The color of the eruption in scarlet fever is reddish, sometimes bright, at other times dull or dusky, with an appreciable element of brown. Sometimes the eruption is so brownish-red as to almost approach a bright terra-cotta. Sometimes the element of blue is so well marked, particularly in dependent areas of the skin such as on the back, as to be quite purplish, owing to

venous congestion. The majority of eruptions, it appears to me, would deserve the description of dull-red rather than bright-red. The color varies not only in different individuals, but at different stages in the same individual. A bright-red eruption may become dusky or brownish-red in the course of a few days.

On close inspection the rash of scarlet fever is seen to be made up of small deep-red puncta surrounded by erythematous areolæ of somewhat brighter hue. When the areolæ coalesce, as is usually the case, a diffuse eruption is presented. At times, however, there is some intervening normal skin giving the eruption a more or less speckled appearance. This is more particularly noted upon the flexor surfaces of the fore-arms, in which region the efflorescence may be so blotchy as to excite a suspicion of measles. These deep-red puncta represent, for the greater part, inflammatory cellular infiltration about the hair follicles, and will be discussed more fully in the pathological report to follow.

Many scarlatina eruptions exhibit small pin-point to pin-head sized elevations occurring, in the main, at the sites of hair follicles. This condition has been termed by the older writers "scarlatina papulosa." In addition to these elevations, an appearance not infrequently noted is a general "goose flesh" condition of the skin. This is best marked upon the abdomen and chest, and is characterized by numerous pin-head sized papules bearing a close resemblance to the "cutis anserina" evoked in the normal skin by exposure to either extreme of temperature. These papules may be of the normal skin tint or reddish. They may make their appearance a day or two after the onset of the disease, and usually persist from three to six days. At times this condition is so marked as to give the skin a "nutmeg grater" feel and appearance.

In the older descriptions of the scarlet fever eruption, one reads of the occurrence of sudamina. Inasmuch as the skin in scarlet fever is hot and dry, with no tendency to sweating, one would scarcely expect to find such lesions present. Sudamina are dew-drop like vesicles with an extremely thin roof, occurring at the mouths of the sudoriferous ducts, and merely represent drops of sweat retained by an obstructive epithelial pellicle. That true vesicles do occur, however, in scarlet fever has been noted by numerous observers. To this condition the term "scarlatina miliaris" or "scarlatina vesicularis" has been given. The term miliary vesicle should be understood as referring to a vesicle the size of a millet seed, and in no way related to miliaria or prickly heat, which is an affection associated with disorder of the sweat glands and ducts.

The vesicles of scarlet fever are conical, epidermal elevations, pin-point to pin-head in size, with turbid contents, and usually disseminated, although they may occur in groups. They are commonly situated on the abdomen and chest, to a lesser extent on the extremities. On the back they are less common. The region in which they are frequently most profusely present is the mons veneris, for here the erythema is apt to be most intense. In this region they are prone to develop into well-marked yellowish pustules. The accompanying photograph shows a group of these vesicles occurring about the anterior axillary folds in a well-marked eruption in an adult. (Fig. 1.) Rarely these vesicles may coalesce, forming blebs of the size of a pea or larger, constituting the "scarlatina pemphigoides" of the older writers.

What is the frequency of these vesicles and what is their nature? Do they, or do they not bear a relation-

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ship to the intensity of the scarlet fever eruption? Do they influence the desquamation? These are questions which have a direct practical import, and have been argued variously. During the past few years I have had the opportunity of examining several hundred cases of scarlet fever, with the object of studying the character of the eruption in general, and the vesiculation in particular. From these observations I should conclude that vesicles are present in the vast majority, if not all of the cases, of scarlatina. In decidedly exceptional cases they are so marked as to confound the clinician in the diagnosis, by suggesting a disease other than scarlet fever. Dr. J. P. C. Griffith, of Philadelphia, has recently reported several such cases. In these cases the vesicular character of the eruption is its most striking feature. In perhaps 20 per cent. of all the cases, and 50 per cent. of well-marked eruptions, vesicles are visible if looked for. Ordinarily pin-point or pin-head sized lesions do not intrude themselves upon one's vision



Fig. 1.—Grouped military vesicles about the anterior axillary fold in a case of scarlet fever.

and are apt to be overlooked in a cursory inspection of the rash. In a large number of the remaining cases they can only be seen by the closest scrutiny of the skin under the best possible illumination. Finally, there are some which can not be seen with the naked eye but are demonstrable under the microscope. In certain excised sections of the skin, I found vesicles microscopically which I could not previously detect by the closest examination of the integument.

Vesicles are more often and more prominently visible in severe eruptions than in mild rashes. It is true that they may be quite conspicuous at times in patients who have but little rash, and this has led some observers to conclude that they bear no relation to the intensity of the eruption. A study of a large number of cases will, however, demonstrate that they are more copious in intense eruptions, and this is confirmed by the appear-

ances under the microscope, demonstrating the vesicles to be distinctly inflammatory in character.

I believe the intensity of desquamation to be directly proportionate to the amount of vesiculation. If one will watch for the first appearance of desquamation on the trunk, it will be noticed as a number of discrete, pin-point, powdery scales. These represent the summits of the desiccated vesicles. In a day or two this scale is cast off, thus producing a small jagged ring of desquamation. The horny layer of the epidermis is now lifted off by centrifugal extension of these rings, which grow constantly larger. On meeting enlarging rings of neighboring lesions they produce gyrate and geographic configurations resembling the contours of a map. This is



Fig. 2.—Unusually intense desquamation in a severe case of scarlet fever. Ring character of desquamation shown.

well illustrated in the photographs (Figs. 2 and 3) which I herewith present for your inspection. In this manner the entire corneous layer of the skin is removed.

This I believe to be the almost invariable character of the desquamation on the trunk. On the hands and feet the desquamation is different, and this because of a difference in the anatomical structure of the skin. The horny layer of the epidermis on the hands and feet is tougher and thicker than elsewhere on the body. Inasmuch as a serous exudate from the blood-vessels travels in the direction of least resistance, it burrows its way beneath the horny layer instead of lifting it up at different points in the form of vesicles. In this manner, in severe eruptions, the horny cuticle is raised *en masse*, with the result that there is shed an entire epidermal cast of the hands or feet. The photograph (Fig. 1) herewith shown well represents this type of

desquamation. In less severe cases the epidermis of the hands peel off in lamellae or flakes. This, beginning at the free border of the nails or at the nail folds, constitutes a highly diagnostic picture. (Fig. 5.)

I am convinced that too much stress in the diagnosis of scarlet fever has been placed on the mere occurrence of desquamation. Desquamation is the terminal stage of certain inflammatory changes in the skin and is not at all peculiar to any one disease. The rash of scarlet fever is an infectious dermatitis. There are other forms of eruptions of infectious origin bearing such a striking resemblance to scarlet fever that they can not by themselves be differentiated. They are grouped under the



Fig. 3. Desquamation upon the neck and chest in an average case of scarlet fever.

one term "scarlatiniform erythema," although there may be a variety of causes giving rise to them. One distinguishing feature of these rashes is a tendency to recurrence.

The persistence of the scarlet fever desquamation and its special characteristics are of more diagnostic importance than the mere existence of scaling. It is rather remarkable that a rash lasting but five or six days should continue to scale for seven, eight or nine weeks. This may be explained by certain pathologic phenomena presently to be described. At the same time it should be borne in mind that it is possible to have a rash so extremely mild and fugacious as to be followed by a barely detectable desquamation.

I am not able to say to what extent vesicles occur in the erythematous resembling scarlatina, and the differential importance of the "jagged-ring desquamation" is

therefore still to be determined. I have occasionally seen a few small vesicles in severe cases of measles, and these may account for the scaling that sometimes takes place in this disease.

HISTOPATHOLOGY.¹

The pathology of the skin in scarlatina has been investigated by Kaposi, Klein, Neumann, Delafield and Prudden, Unna, Pearce and others. They all agree, in the main, as regards their findings: There is a dilatation of the blood-vessels and lymphatics; an infiltration of lymphoid cells and polymorphonuclear leucocytes into the papillary layer; later an invasion of the rete mucosum by leucocytes; mitosis and proliferation of the deeper rete cells. Neumann mentions slight proliferation about the hair-follicles. All of these observers evidently excised for examination areas of the smooth skin. The sections referred to in this paper represent papules, vesicles, puncta, etc., as well as the erythematous rash surrounding them. My results are in accord with those above mentioned, but in addition I have attempted



Fig. 4. Pair of epidermal casts of the hands cast off in a fatal case of scarlet fever.

to describe the histopathology of these other elements of the rash.

The histopathologic data herewith presented are based on a study of about 400 sections of skin representing 13 specimens removed during life from 12 cases of scarlet fever. The skin was excised by means of a Keyes skin-punch, after previous injection into the subcutaneous tissue of a 1 per cent. solution of cocaine. The excisions were performed upon patients representing stages of the disease from the second to the seventh day.

The sections were hardened in successive strengths of alcohol, imbedded in paraffin, and stained in hematoxylin-eosin, thionin, eosin-polychrom-methylene blue and the Weigart-Gram stain. A brief description of the different specimens is herewith appended, with a clinical note describing the lesions before excision.

CASE 1.—J. B., age 6. Profuse erythematous-vesicular rash. Redness very vivid and vesicles remarkably numerous. Area showing a pin-head central vesicle with a hair perforating, and a few smaller peripheral epidermal elevations, excised from the trochanteric region.

Under low power the section is seen to contain four hair follicles. At the mouth of the central follicle is a

¹ From the Polyclinic Laboratory, Philadelphia.

large crateriform cup filled with a mass of leucocytes and epithelial débris. (Fig. 6.) This connects with the lumen of the follicle. The epithelium of the hair-follicle is infiltrated with numerous polymorphonuclear leucocytes. To the right of this is another smaller hair-follicle, which is also the seat of extensive pathologic change. At the surface of this follicle is a small horizontally oval space containing serum and a deeply-stained mass of cells, and covered by the horny layer of the epidermis. The lower half of the follicle is extensively disintegrated by a serous exudate, which has broken into the follicle, separated the epithelial cells and formed a lake in which may be seen numerous leucocytes. (Fig. 7.) The follicle is furthermore infil-



Fig. 5.—Marked desquamation in large flakes upon the hands.

trated with and surrounded by a dense mass of lymphoid cells and polymorphonuclear leucocytes. At the extreme end of the section is another follicle showing a circular space at the surface, filled with serum and leucocytes. The middle third of the follicle exhibits a serous and leucocytic invasion, which surrounds the hair seen *in situ*. (Fig. 8.) Between the two follicles just described there is seen a circular abscess in the epidermis filled with fluid and densely packed with leucocytes. This occupies an area between the horny layer above and the lowermost strata of cells of the rete mucosum. Numerous rete cells are seen detached and floating about in the exudate. The neighboring portions of the Malpighian layer are invaded with polymorphonuclear leucocytes. (Fig. 9.) The specimen, furthermore, shows a dilatation of the blood-vessels and lymph-spaces, a deep-cell infiltration throughout the corium and about the coils of the sweat glands.

CASE 2.—S. M., age 7. Well marked rash. Superficial vesicle excised from abdomen on fourth day of disease.

Sections were stained in hematoxylin-eosin and eosin-polychrom-methylene blue. Under low power the center of the section is seen to be occupied by a vesicle having its seat in the rete mucosum and its roof formed by the horny layer. Directly contiguous to this is a hair-follicle which shows extensive serous exudation and leucocytes in its lower extremity deep in the corium. (Fig. 10.) The papillary layer is the seat of an extensive infiltration of lymphoid cells and polymorphonuclear leucocytes. There is marked dilatation of the papillary blood-vessels, which are seen to be filled and surrounded by cell exudate. In sections stained with hematoxylin-eosin, are seen numerous multinucleated perivascular cells with red granular protoplasm. These are eosinophile cells. Sections stained with the eosin-polychrom-methylene blue show numerous mast-cells, particularly about the blood-vessels and walls of the hair-follicles. The epidermis exhibits a marked invasion of migratory cells which may be seen at all levels. There are also visible mitotic figures in the prickle-cells of the Malpighian layer. The accompanying photograph (Fig. 11) represents a section which shows several nuclei undergoing karyokinetic change. The daughter asters are well seen in the lowermost of the cells. These mitoses occupy cells about the center of the Malpighian layer.

CASE 3.—B. S., age 12. At the outset, a typical punctiform rash. On the sixth day the patient was seen again and showed a distinct goose-flesh papular appearance. A goose-flesh papule of normal skin tint was excised from the lateral aspect of the chest. Several smaller papules present.

Under low power the center of the section is seen to be occupied by a hair-follicle. Smaller follicles are situated at either end. About the central follicle is a well-marked infiltration of lymphoid cells and polymorphonuclear leucocytes. The epithelial cells of the follicles are broken into and pushed aside by a serous and cellular exudate. The same process, omitting the serous effusion, is present in the smaller follicles. The papillary and subpapillary vessels are dilated and filled and surrounded by lymphoid cells. There is a moderate number of oval and stellate mast-cells in the neighborhood of the walls of the follicles. In the perivascular infiltration may be seen small numbers of eosinophile cells. Sections stained in hematoxylin-eosin, thionin and polychrom-methylene blue.

CASE 4.—F. H., age 10. Well marked rash, punctiform with scattered small vesicles. An area of skin, on which was seated a barely discernible vesicle, was excised from the side of the chest about the seventh day. (Lesion is probably a vesicle, but can only be detected on close scrutiny of the skin.)

Under low power there is seen in the center of the section a superficial hair-pocket, the lumen of which is dilated and filled with leucocytic débris. The epithelial walls are disintegrated by an invasion of leucocytes. (Fig. 12.) The papillary layer of the corium is the seat of an intense infiltration of lymphoid cells and polymorphonuclear leucocytes. There is a dilatation of the blood-vessels and lymphatics and a marked perivascular cell infiltration. Leucocytes are visible between the prickle-cells of the rete mucosum. Mast-cells are present in small numbers. Sections stained in hematoxylin-eosin and eosin-polychrom-methylene blue.

CASE 5.—B. C., age 29. Eruption intense with hemorrhagic tendency. A punctuated spot, not disappearing on pressure, excised from right side of chest on fourth day of disease.

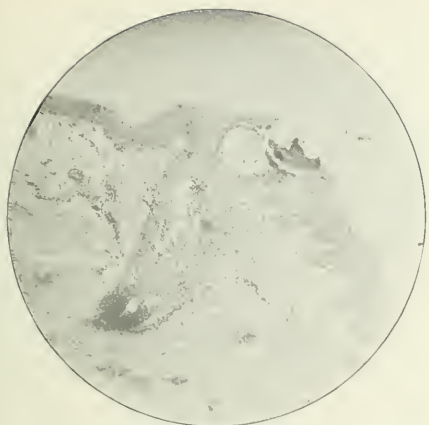


Fig. 12.—Hair follicle showing vesicular summit and serous cellular infiltration. Magnified 70 diameters.

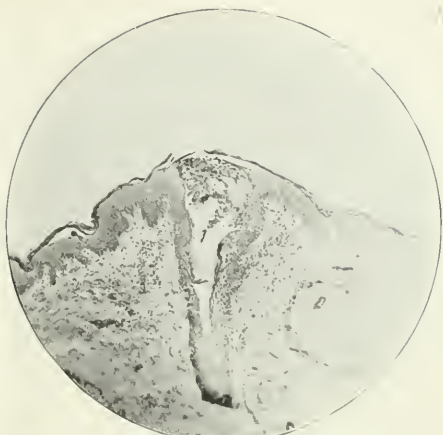


Fig. 13.—Vesicle at mouth of hair follicle connecting directly with the lumen. Magnified 70 diameters.

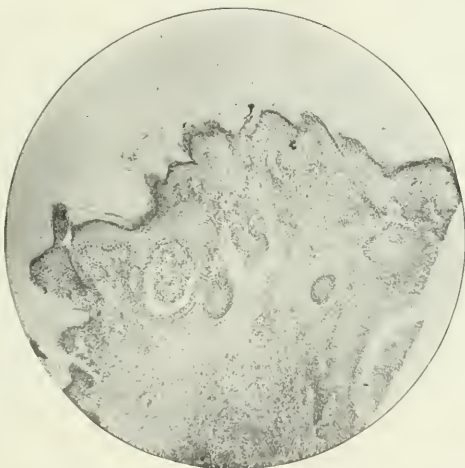


Fig. 15.—Circumscribed vesicle in the epidermis. Magnified 140 diameters.

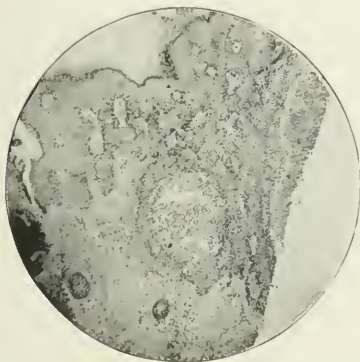


Fig. 14.—Circumscribed vesicle deep in the epidermis. Magnified 140 diameters.

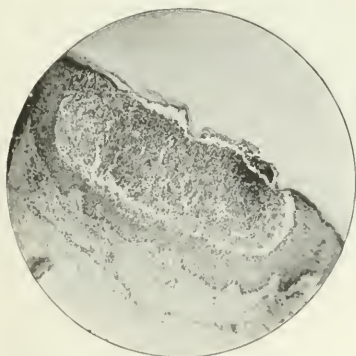


Fig. 16.—Flat superficial vesicle in the epidermis. Magnified 70 diameters.



Fig. 6.—Large vesicle at the mouth of a hair follicle. Magnified 145 diameters.

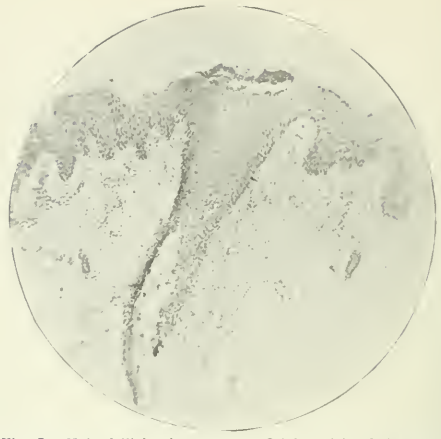


Fig. 7.—Hair follicle showing superficial vesicle, disintegration by severe exudate, and surrounding cell infiltration. Magnified 115 diameters.

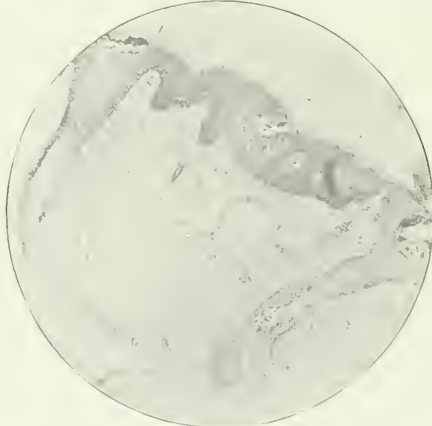


Fig. 8.—Two hair follicles with vesicles at the surface; both follicles disintegrated by serous exudate and surrounded by cellular infiltration. Also small vesicle in epidermis. Magnified 70 diameters.



Fig. 9.—Vesicle in epidermis showing circumscribed lake of serum filled with leucocytes. Magnified 300 diameters.

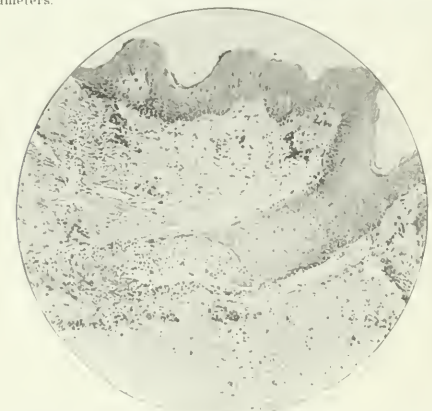


Fig. 10.—Serous and cellular infiltration involving the base of a hair follicle. A superficial vesicle contiguous to the hair follicle is not shown in the cut. Magnified 145 diameters.

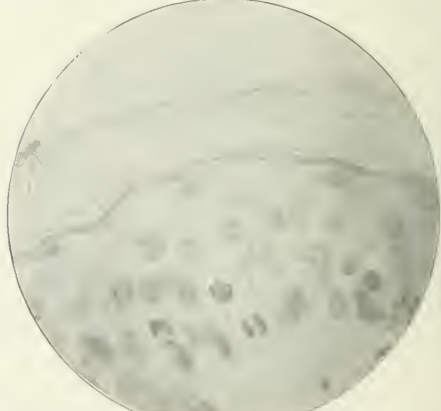


Fig. 11.—Karyokinetic figures in the prickle cells of the rete mucosum. Magnified 1150 diameters.

In the center are a hair-follicle and sebaceous gland seen in cross section. These are surrounded by an extensive infiltration of polymorphonuclear leucocytes. The papillary blood-vessels are dilated and surrounded by an exudate of lymphoid cells and polymorphonuclear leucocytes, chiefly the latter. The rete mucosum shows leucocytes infiltrated between its cells.

CASE 6.—R. O., age 4. Well-marked eruption. Small epidermal elevation (vesicle) was excised from lateral aspect of chest on the second day of the disease.

The center of the section is occupied by a hair-follicle. In the mouth is seen a vesicle filled with serum and leucocytes. In some sections the vesicle is shut off from the lumen of the follicle; in others, however (Fig. 13), it is seen directly communicating with the lumen, so that there is practically a clear space extending from the horny layer to the base of the follicle. The epithelium of the follicle is disintegrated as a result of serous and cellular infiltration. The walls of the hair-follicle are surrounded by an extensive cell infiltration running parallel to the walls. The papillary blood-vessels are enormously distended and are filled and surrounded with lymphoid cells and polymorphonuclear leucocytes. Sections stained with the Weigert-Gram stain were examined for micro-organisms, but none were found.

CASE 7.—R. O. Same patient as Case 6. Redness fading. Minute vesicle with scaly summit was excised from the side of the chest on the fourth day.

The center of the section is occupied by a hair-follicle, which is surrounded by an intense lymphoid cell and polymorpholeucocytic infiltration. The papillary and subpapillary blood-vessels are dilated and are surrounded by an intense cell exudate. Mast-cells are present in small numbers.

CASE 8.—E. C., age 25. Well-marked eruption. Skin infiltrated. Section of skin with small vesicle on it excised from anterior surface of forearm.

Under low power, are visible two large circumscribed vesicles occupying the rete mucosum, which is cut obliquely and appears to be considerably hypertrophied. The larger of these extends from the horny layer to lowermost strata of rete cells. It is filled with serum, in which are visible densely packed leucocytes. The walls of the vesicle are made up of several layers of flattened rete cells. The other vesicle occupies an area of the rete mucosum at the nether extremity of a prolongation, and appears almost to be snared off in the corium. (Figs. 14, 15 and 16.) There are visible in different places, in the upper portion of the rete, in the granular layer and even in the horny stratum circumscribed masses of leucocytes, without serous effusion. It is possible that desiccation has taken place through absorption of the fluid. Polymorphonuclear leucocytes are seen in abundance invading the rete mucosum. The papillary and subpapillary blood-vessels are distended and surrounded by a marked cell infiltration. The entire corium is infiltrated with cells, many of which appear to be derived from fixed connective-tissue cells. No hair-follicles or sebaceous glands are visible in the section.

CASE 9.—M. M., age 25. Well-marked rash. Reddish elevated punctum (apparently at the site of a hair-follicle), excised from the lateral aspect of the chest on fourth day.

In the center of the section are a hair-follicle and sebaceous gland in cross section. The follicle is surrounded by considerable cell infiltration. Many of the cells of the sebaceous glands are undergoing fatty degeneration; their nuclei are shrunken and distorted. The subpapillary blood-vessels are greatly distended and

exhibit an intense perivascular infiltration. The lymph spaces are dilated and contain a cell infiltration.

CASE 10.—J. N., age 4. Well-marked eruption. A papule (possibly papule-vesicle), excised from thigh on second day of disease.

Under low pressure there is visible a cell infiltration in the papillary layer and throughout the entire corium. In the center of the section is a hair-follicle surrounded by an intense cell infiltration. The sweat coils are likewise infiltrated. No evidence of any vesicle present.

CASE 11.—H. M., age 6. Well-marked eruption. Section of skin 6 mm. in diameter, on which were several small puncta but no vesicles, excised from trochanteric region on third day.

Section shows an enormous dilation of the blood-vessels and lymph spaces. These are surrounded with lymphoid cells and polymorphonuclear leucocytes. A large hair-follicle in the section is surrounded by a moderate cell infiltration. There is also visible a sweat duct, the lumen of which is blocked with endothelial cells. Free blood is seen in many of the lymph spaces.

CASE 12.—R. F., age 4. Little or no redness present. Small area of skin excised third day, on which were seated two or three goose-flesh papules.

The papillary layer of the corium shows an infiltration of lymphoid cells, chiefly about the blood-vessels. Blood-vessels and lymph spaces are dilated. No hair-follicles present in the sections examined.

CASE 13.—H. G., age 22. On entrance to hospital she presented a deep, diffuse, smooth eruption over entire body. No visible elevations at this time. On sixth day redness largely faded. Scattered pin-head translucent vesicles (with difficulty visible). One of these excised from lateral aspect of trunk.

Cell infiltration appears in papillary layer of corium; likewise dilatation of blood-vessels, which are filled and surrounded by lymphoid cells and polymorphonuclear leucocytes. Small number of mast-cells and eosinophiles are present. There is no evidence of vesiculation. (It is possible that the central sections which should have shown the vesicle, were lost in the section cutting.)

Let us now interpret the clinical lessons in the light of the histopathological findings. When an area of skin representing a smooth erythema is excised, one finds the common phenomena of an acute simple dermatitis. There is dilatation of the blood-vessels, an exudation of lymphoid cells and polymorphonuclear leucocytes into the papillary layer, with some invasion of the epidermis by the migratory cells.

The goose-flesh population is not a mere temporary condition due to contraction of the hair-muscles, but results from an extensive infiltration in and about the hair-follicles, and therefore persists until the inflammatory phenomena subside.

Papules represent cellular infiltration, for the greater part in and about hair-follicles. The transition from a papule to a vesicle is a comparatively rapid one, and papulo-vesicles are of common occurrence.

Vesicles are invariably characterized under the microscope by a lake of serum containing a leucocytic infiltrate. These vesicles may have their seat in the deeper layers of the rete, or they may be intrafollicular, involving the hair-follicles. In either case there is a pushing aside and disintegration of the cells of the rete layer by a fluid exudation from the papillary blood vesicles. The turbidity of the contents of these vesicles is due to their invasion by leucocytes. In the attempt on the part of nature to eliminate the materies morbi, the leucocytic mass travels toward the surface lifting up the horny layer. Desiccation of the liquid contents of

the vesicles now takes place. This is immediately followed by a throwing off of the effete products. At this stage, clinically, the small powdery scale is seen at the summit of the dried vesicle. The leucocytes in the epidermis wander laterally as well as directly toward the surface, and lift off the horny layer on the periphery of the vesicle. In the section from Case 1, which represented an area of skin $\frac{1}{4}$ of an inch (6 mm.) in diameter, there were four vesicles, only one of which could have been seen by a casual inspection of the skin; two were visible on close scrutiny, and one not at all with the naked eye.

The punctated spot in several sections proved to be a hair-follicle surrounded by marked cell infiltration. The punctum may, however, show merely dilatation of the blood-vessels, with intense perivascular cell exudation. The number of puncta examined was too small to form any absolute conclusion as to the frequency of their occurrence about hair-follicles.

It will be noted that the hair-follicles and sebaceous glands suffer very greatly in the inflammatory process in the skin in scarlatina. It would seem that goose-flesh papules, puncta, and vesicles all occur more frequently about the pilary pockets than elsewhere in the skin. The depth at which these follicles are involved explains the persistence of desquamation. The walls of the hair-follicles are made up largely of cells corresponding to the rete layer of the epidermis. These being disintegrated by the leucocytic infiltration, must be thrown off with it. The depth from which these cells are derived necessarily makes the process a slow one. The persistence of the infectivity of the scales is explainable on the same grounds. There is every reason to believe that the infectious principle is contained in the leucocytes or epithelial debris cast off from the skin. Unfortunately but a few sections were stained for microorganisms and in these none could be discovered with the ordinary stains employed for this purpose.

In none of the sections was there any enlargement of the papillæ, and therefore the statement made to the contrary in some text-books would seem to have no basis in fact.

Karyokinetic figures are seen in many sections and indicate a proliferation of the epidermal cells, which are perhaps stimulated by the leucocytic invasion. Attacks of second and third desquamation may possibly be due to this cause.

The foregoing observations suggest the following inferences:

1. The color of the rash in scarlatina varies in different individuals, and at different times in the same. Accurately speaking, it is never scarlet and only occasionally bright red. More commonly it is a dull red with an appreciable element of brown.

2. There are other elements of the eruption of scarlet fever besides the erythema, namely, puncta, vesicles and goose-flesh papules, and these lesions occur with a considerable degree of constancy.

3. Vesicles are far more common in the rash of scarlet fever than is ordinarily believed. They are more profuse in intense eruptions, although they may be present in mild ones. The amount of desquamation is as a rule proportionate to the degree of vesiculation. Vesiculation may be so copious as to deceive the physician in his diagnosis.

4. Desquamation on the body begins as pin-point, powdery scales at the summits of the desiccated vesicles. Irregular or jagged rings of desquamation then form, which enlarge until the horny layer is completely shed.

5. Histologically, the rash of scarlet fever is a dermatitis exhibiting deep and extensive changes in the corium. The greatest degree of inflammation is exhibited about the hair-follicles, which are frequently disintegrated by a serous and cellular exudate. Vesicles have their seat either in the epidermis or in the walls of the hair-follicles. The persistence of desquamation and of the infectivity of the scales is to be accounted for by the depth of the pathological process in the skin.

I desire to express my most cordial thanks to my friend Dr. William M. Welch, Chief of the Municipal Hospital for Infectious Diseases, of Philadelphia, for the privilege of studying the valuable material which that institution affords.

DISCUSSION ON PAPERS OF DRs. DANIEL, SMALL, WAHRER, KOPLIK AND SCHAMBERG.*

DR. C. F. WAHRER, Fort Madison, Ia.—I have read descriptions in the various text-books of the exanthemata, and I think they vary almost as much as physicians do. Painters have used their art to paint sunsets, yet one sunset does not look like another. It is very difficult to teach a beginner in medicine, from description alone; it is really only by actual clinical observation that any one can learn. It is possible that with the aid of color photography we may be able to accomplish this, but I doubt it. It is difficult for most of us to recognize the fine distinctions made. If you will read in different text-books the description of the eruptions of scarlatina, measles and röheln, I think you will agree with me that it will take more than a Philadelphia doctor to distinguish between them. In many texts a description of one may easily suit the description of another by some other writer. Skin diseases can be learned only by accurate observation of patients having the diseases.

DR. J. P. C. GRIFFITH, Philadelphia—I think that the doctrine advanced by Dr. Wahrer will hardly meet with the approval of the Section. I doubt if very many of us would be willing to expose our children to the infection of measles. It looks to me very much like doing evil that good may come. I have been very much impressed with the fact that one of our large European cities has recently shown more deaths from measles than from scarlet fever or diphtheria. Such statistics, moreover, do not express, of course, the full number of deaths from measles, because pneumonia, bronchopneumonia and various other complications of measles cause death, which are assigned in the certificates to these causes and not to measles.

A good many years ago I became interested in röheln, or rubella as it is better named. I have repeatedly seen a desquamation in rubella, although it is oftener absent than present. This desquamation resembles closely that of measles, though it is not so marked. The rash in the mouth, described by Dr. Forchheimer, I have seen and described, but we can not say that rubella is absent because the rash is not present. The temperature curve has not seemed to me to be at all characteristic. It is true the temperature very frequently falls early, but not always. The rash often runs over the body like a "wave," as someone has described it, being gone from the face when it reaches the feet, and having disappeared from the body, with the exception of a yellowish stain, within twenty-four or forty-eight hours.

About ten years ago my attention was called to the enlargement of the superficial cervical glands in the cases of measles. I was soon struck with the fact that in the majority of cases of measles in which I looked for this enlargement I found it. A writer in Wood's "Reference Handbook" has called attention to the same fact. I admit that the enlargement is greater, more characteristic and more common in rubella, but it not sufficiently so to form a positive diagnostic feature.

The diagnosis of rubella is often extremely puzzling to all of us. In institution work I have had in one bed a child with a rash resembling measles so exactly that in private practice I would not have been able to differentiate it, and at the same

*The papers of Drs. Daniel and Small, discussed here, were printed in THE JOURNAL of Oct. 27.

time in another bed a child with a rash apparently perfectly typical of scarlet fever. This fact has also been noticed by other observers.

Dr. Schamberg's paper is one of the most valuable I have listened to for a long time, and I would feel a hesitancy about opposing it in any way were it not for his statement that widespread development of vesicles depends on the intensity of the rash. If this were not so, then every child having the deepest and most intense efflorescence should have the greatest development of vesicles, which, I think, you will all say is not so. The same thing is true of the desquamation. Some children will peel and peel, although they have not had an especially severe eruption. My own opinion is that of Thomas, who wrote the article on "Scarlatina" in Ziemssen's "Cyclopaedia," namely, that the degree of the development of vesicles depends on some peculiarity in the skin of the individual child.

DR. LOUIS FISCHER, New York—I have been extremely interested in the three foregoing papers. I would endorse what Dr. Griffith has said about Dr. Wabrer's paper. Those of us who have seen a great many cases of measles know what a dangerous disease it is at times. In the past winter I have seen more cases of otitis media and of empyema following measles than I have seen in the past five or six years. Many other pediatricians with whom I have spoken have noticed the same thing. Measles itself is not dangerous, but its complications are often beyond our control. With proper nursing, good sanitary surroundings and wise symptomatic treatment there should not be a fatal outcome, but we do know that apparently for no reason, in a carefully guarded case of measles, the chest may become filled with serum or pus several weeks after an apparently favorable termination. We all know that laryngeal stenosis occurring in measles is the most dangerous kind, and those who have had occasion to intubate, I think, will agree with me that we should look on such cases as almost always fatal. I have collected a series of 25 cases of children in whom I have performed intubation for laryngeal stenosis during an attack of measles, and out of this number there were 20 deaths. All of the fatal cases were as carefully treated as any of the successful ones.

The paper of Dr. Koplik is an exceedingly valuable contribution to the literature of the clinical manifestations of rubella. Last winter I was greatly puzzled to find a child with coryza, cough and fever, and an eruption, and in the same family, a few days later, a child without catarrhal symptoms and without these distinctive spots on the buccal mucous membrane, but with an eruption on the head, face and thorax and extremities, and a temperature of 102 F. There were lymphatic enlargements, and on examining the throat I found a slight tonsillitis, with some pharyngitis and uvulitis. The behavior of the second case was entirely different from that of the first one, and I made a diagnosis of rubella. We should note most carefully the distinctions drawn in Dr. Koplik's paper regarding the appearance of the spots found on the buccal mucous membrane in measles and in rubella. I should like to ask Dr. Koplik whether he has noticed as severe catarrhal symptoms, and also whether he has seen the usual complications of pneumonia—chiefly those of a streptococcal nature. In one case of rubella seen by me last winter, there was an exceedingly severe complicating vaginitis, which lasted for several months, and is, in fact, still under treatment. The complication came on very suddenly. I saw the case on the third day, when there was a rash and a temperature of 102 F. On the following day the temperature was normal. The enlargement of the superficial cervical glands, I have noticed in almost every case of rubella. In almost every case of measles associated with severe eruption I see some desquamation, but I have never seen desquamation in rubella. Professor Baginsky lays stress on the whitish coating surrounding the teeth and adjacent gums, and believes this to be almost characteristic as a diagnostic sign. There is a small white film, looking like a mass of epithelium situated at the junction of the teeth and the gum. I have seen that with him time and again, one or two days before the eruption, and have also seen the characteristic spots described by Dr. Koplik.

DR. KOPLIK—I never contended that in every case of röttheln one can make the diagnosis; my paper simply shows that röttheln to-day is a definite entity, and that there should be no question about its existence, though Jurgensen and Henoch still doubt it. Concerning Dr. Fischer's question, I would say that in my paper a case is quoted in which the vaginal orifice of a child of 6 years became inflamed. The child was well cared for and in a good family. She complained first of dysuria, but this passed off in twenty-four hours, leaving a vaginitis. My cases of röttheln have been practically free from complications. I isolate all cases, but allow the children to go on the street as soon as the eruption has disappeared; in winter I keep them indoors for about a week. I do not lay any stress on the enlargement of the post-cervical glands; I spoke more especially of the axillary and inguinal glands.

DR. SCHAMBERG—The mortality statistics of measles that have appeared during the past five years have been astounding to those who formerly looked on measles as a trivial affection. Dr. Griffith has erred somewhat in quoting the statistics of measles in Europe, but the error has been on the side of making the mortality less than it really was. In Paris the average mortality from measles during the past five years has been greater than from diphtheria and scarlet fever combined. In the city of Philadelphia in the past six months the mortality from measles has been larger than from diphtheria or scarlet fever.

I desire to endorse the statement made by Dr. Fischer concerning the malignity of laryngeal stenosis in measles. I have had, through the courtesy of Dr. W. M. Welch, the opportunity of observing the course of six or seven cases within the past few months, and one of them recovered. One still wears an intubation tube, and one, when last seen, was dying from a pneumonia complicating a tracheotomy.

Concerning the whitish film along the gum, referred to by Dr. Fischer, I wish to say that I have repeatedly seen it both in measles and in scarlet fever. It is nothing more than a mass of epithelium which becomes whitish through infiltration with moisture. It is really a desquamation of the epithelium of the gum, and, inasmuch as the rash in the mouth precedes the desquamation on the skin, so does the desquamation in the mouth precede the desquamation on the skin. It can not be considered diagnostic of measles, as it is frequently seen well marked in scarlet fever.

In regard to the various cutaneous lesions that I have referred to in my paper on scarlet fever, it may seem to some that their description is an unnecessary refinement. That may be so; nevertheless Dr. Griffith and others have seen cases of scarlet fever in which the vesicular element of the rash has been so striking as to cause the observer to think at first that the case was not one of scarlet fever. It may, therefore, be of some value to call attention to some of the less conspicuous features of the scarlatina eruption. Cases of scarlet fever frequently occur that are not diagnosed, and on the other hand the diagnosis of scarlatina is often made in the presence of some other toxic rash. I have examined the various superficial lymphatic glands of the body—the postcervical, axillary, maxillary, submental, epitrochlear and the inguinal glands—in 100 cases of scarlatina, and I have found the glandular enlargement constant. In scarlet fever there is a recent enlargement of the inguinal glands in 100 per cent.; of the axillary glands in about 96 per cent., and of the epitrochlear in about 25 per cent. of the cases.

Perineal Prostatectomy.—Rydgier advocates treatment of appropriate cases of hypertrophied prostate through a longitudinal perineal incision. He cited several cases successfully treated in this way in the course of his address at the recent Polish Medical Congress. J. Verhoogen has also recently published a case in which he excised 75 gm. of the hypertrophied gland through a right-angled incision in the perineum. A metal catheter has been inserted in the urethra and perforated the rear wall. Through this opening he pushed out more of the prostate tissue for resection. The elderly patient is completely relieved of all prostatic symptoms. Kuidinzel's experience with resection of the vasa deferentia has been that 9 have been cured, 8 much improved and 7 not benefited. Three of the latter were subsequently cured by epicycstotomy.

SOME EXPERIMENTS ON THE RELATION
BETWEEN AUDITION AND THE CIR-
CULATION OF THE BLOOD IN
THE HEAD.*

HAMILTON STILLSON, M.D.

SEATTLE, WASH.

A year ago the writer had a period of fortunate misfortune. His left ear had for a time a slight tinnitus with slight lowering of hearing acuity. It enabled him to institute a series of simultaneous experiments on a normal and on an abnormal ear. He thus has been enabled on his own person to confirm or refute statements made by others concerning tinnitus and its allied states and to institute comparison between effects of similar causes in healthy and in unhealthy ears.

This tinnitus, it should be stated, was caused by tubal edema. This is known not only by self-inspection of the pharyngeal orifice of the tubes, but by palpation, so to speak, of the tube by means of the tongue thrust into the post-nasal space. The writer is able to insert the tip of his tongue into the nasopharynx even to the vault of that cavity, and so far as he is aware, he was the first to teach patients to make use of the tongue in cleansing and medicating the mucous membrane of the nasal pharynx in the treatment of postnasal catarrh.

Now, with the tongue thus placed in the nasopharynx, the writer compared the right tube with the left, and found that the superior segment of the left tube was softer and more swollen than that of the right, and posteriorly, where the cartilaginous plate impinges against the salpingopharyngeal fascia, there was a groove, in the bottom of which were a few tender granulations. It was doubtless caused by tubal catarrh.

Poltizer states that often in a tinnitus caused by tubal catarrh, brushing the cuticle in the region supplied by the trigeminal will cause the tinnitus to disappear, but in the writer's experience such treatment caused the tinnitus to increase.

Merely fixing the attention on the tinnitus would increase its intensity, and brushing the hairs at the external orifice of the auditory meatus would cause a different tinnitus, which was found to be caused by the contraction of the muscles in that vicinity, especially by the contraction of the salpingopharyngeus of the side experimented on. This tinnitus occurred in the healthy ear in a like experiment.

All the authors call attention to the fact that firm pressure on the mastoid bone, or, indeed, on any of the neighboring bones, will increase the tinnitus, but in the writer's experience it not only increased the tinnitus but raised its pitch, and this increase of tinnitus was greatest when the pressure was exerted against the tip of the left mastoid. Pressure against the right mastoid caused no tinnitus at the time of pressure, but a temporary tinnitus with mental hebetude occurred several times after the pressure against the sound mastoid had been greatly prolonged.

One fact not mentioned by any of the authors with whom the writer is conversant is that pressing against the mastoid lessens the hearing acuity. This is particularly so with reference to high-pitched sounds. Seated before an open wood fire, for instance, where the range of sounds varies from that of the low-toned flap of the

flames to the high hiss of escaping vapors from the wood, one can easily repeat the experiment. Pressing firmly against the tip of the mastoid of the normal ear, shuts off the sound of the steam, only the lower-pitched tones being heard. This applies only to the normal ear. And after repeating the experiment a number of times the high-pitched sounds are no longer heard by it for a while and a heavy dulness preceded by subjective noises steals over the hearing. Not so, however, with the tinnitic ear. Pressing against its mastoid tip causes it to hear objective sounds louder and in a slightly higher pitch, and no fullness or dulness follows.

Another experiment easy to perform is testing the hearing while standing or lying down. Any constant sound, like that made by escaping steam, can be approached from a distance until it is first perceived. The distance is marked and the experimenter then recedes and lies down supinely; while in that position he approaches or is caused to approach the source of sound until he again perceives it, keeping the ear directed toward the source of the sound all the while. The hearing distance will be found to have increased. Regaining a standing posture at the distance at which he heard the sound while lying down he will discover that he no longer hears it at that distance. This experiment entirely agrees with Abercrombie's case, cited by Lucas and Politzer—p. 7011—of a man aged 30 years, debilitated by an affection of the stomach, who was deaf while sitting or standing, but who could hear quite well when he was in a horizontal position. Not having access to Abercrombie's original report, the writer is not informed whether Abercrombie's case suffered from tinnitus, but if the latter was the fact, that case does not agree with the writer's experiment on the tinnitic ear. On the contrary, lying down increased the tinnitus and lessened the hearing distance. It is possible, however, and altogether probable, that in cases of congestive tinnitus lying down would increase the hearing distance, especially if the objective noise was similar to the subjective noise. In a case occurring in my own practice recently the hearing distance was greatly increased by lying down. The patient was of robust health, with no disease of the stomach, liver or kidneys, no rheumatism, and no specific infection, and, of course, no anemia. He was a logger, aged 52 years, with otitis media and postnasal catarrh. Both tubes were moderately patent; there was some sclerosis and some atrophy of the membrana tympani, particularly the left one, there being a quadrant fold extending from the short process of the malleus horizontally backward. There was also a crescentic fold in the lower quadrant. Shrapnel's membrane was somewhat congested. The membrana tympani was movable with the otoscope, but the excursions of the malleus were not extensive. There was no tinnitus. There was no fluid observable in the middle ear. Three years previously the patient had had a severe attack of grip followed by a temporary deafness. One year ago he had another attack of grip, followed by what was presumably abscess of the frontal sinus, right and left. The deafness resulting from that attack of grip remained and steadily increased. Hearing distance was about doubled by politzeration. I judge the increase to be as much due to the increased tension placed on the membrana tympani as to the opening of the tubes. The range of hearing was, when sitting: right hears Galton whistle 1; when lying down, 2; left hears Galton whistle, sitting 9, lying down 17. The lowest fork he was tested with was a C fork, which he heard

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distinctly, and all tones were heard in pitch about a half-tone higher when sitting up than when lying down, although more feebly when sitting up than when lying down. The increase in hearing produced by reclining supinely was, with the acoumeter, for the right ear from 15 inches to 40 inches; in the left from 15 inches to 70 inches. The hearing was decreased in both ears by a prone position. Weber's test was negative. Rinne's test for C and C¹ negative, for C² positive. In the right and in the left the Schwabach test resulted somewhat peculiarly. For C, AC and BC both were 15; for C¹, both 22; for C², AC was 40, and BC 18, in the right ear; and in the left ear C was 21 for AC and BC, C¹ 18 for AC and BC, and C² was 25 for AC and 20 for BC. Tabulating, it was as follows:

Right.			Left.		
Rinne	—	+	Rinne	—	+
AC	15	22	AC	21	18
BC	15	22	BC	21	18
	C	C ¹		C	C ¹

After one week there was found the following condition: When patient is in prone position the right ear hears the acoumeter at 6 feet, when sitting, 7 feet, when supine, 7 feet. When patient is in prone position the left ear hears the acoumeter at 11 inches, when sitting, 26 inches, when supine, 80 inches.

Schwabach table is as follows:

Right.			Left.		
Rinne	—	+	Rinne	—	+
AC	28	15	AC	15	20
BC	26	20	BC	28	20
	C	C ¹		C	C ¹

Another experiment showing the relation between audition and the circulation of blood in the head, consists in testing the hearing while suspended head downward. The writer found it sufficient to hang head downward from a table, the thighs flexed on top of the table, the body depending without touching the head to the floor. To press the head against the floor causes confusing tinnitus in both ears. Now, while thus suspended, at first the power of audition in the healthy ear is increased. Presently a slight subjective noise is heard, after which a dulness of hearing follows, accompanied by a cessation of even the subjective noise. With a sufficient number of repetitions of this experiment the phenomena mentioned become less noticeable. One peculiarity needs to be mentioned in passing; just before the objective noise ceases to be heard a slight rhythm of sound is noticeable synchronous with the pulsations of the heart, and this rhythm is noticeable not only in the faint objective sound but also in the subjective sound produced by this passive congestion. The effects of this experiment on the tinnitic ear were somewhat different from those on the sound ear. In the tinnitic ear the hearing power seemed at first slightly diminished and then increased but no rhythm in the objective sound could be noticed.

One more easily performed experiment will complete our list. It consists in moving the head more or less rapidly to and fro, either on the vertical or on its horizontal axis. Oscillating it on its vertical axis for a minute or two causes dizziness, a nausea, a lowering of the hearing acuity, a peculiar bell-like tinnitus in both ears, more noticeable in the tinnitic one. This tinnitus is greatest at the end of the oscillation, and in the sound ear the tinnitus was greatest at the end of the oscillation that turned the right side backward. In the left ear it was greatest at the end of the oscillation that turned the left side forward. Nodding the

head violently up and down causes the same phenomena, but to a much less degree, and the tinnitus is not bell-like but rasping in character, as though caused by the rubbing of the bones of the neck and the muscles against their sheaths.

The writer will not attempt to draw any practical conclusion from these simple experiments, nor, indeed, even to explain the causes concerned in the phenomena. They will, however, he feels sure, suggest to aurists many things both of practical and theoretical interest.

DISCUSSION.

DR. JOSEPH H. HOFFMAN, Pittsburg.—As the writer has given us some personal experience I will relate a little of mine. I have not made any exact experiments, but I have observed some things rather constantly. I have suffered from tinnitus some fifteen years, and it is continuous. It is not very annoying, but it is always present. My hearing is considerably impaired. I have observed, however, that on lying down I can hear much better than when sitting erect. Some years ago I tried my hearing and I have observed generally that when I lie down I can hear things in the house and external to the house that I am entirely oblivious to when I am up, and this is just as true when everything is quiet, before I retire as afterward. I wish to say too that my capillary circulation is not very good.

DR. C. M. COBB, Lynn, Mass.—I think it very often occurs, if not always, that in the beginning of a one-sided tubal catarrh the tone flats for that ear. Men who are musicians will tell you that the tone is practically a half-tone lower on the affected side than on the other.

ETIOLOGY AND PROGNOSIS OF ADENOIDS.*

A. M. CORWIN, M. D.

CHICAGO.

To gather and set in orderly array the different states and conditions that have been observed and recorded as etiologic agents in the production of adenoid hypertrophy is not difficult, for the literature of the subject is extensive and at hand. Age, sex, heredity, scrofula, the lymphatic temperament, frequent colds, nasal deformities, acute infectious fevers, microbes, climate, and social condition are the chief factors that have been named. But after these have been elaborated and analyzed, we are still far from a satisfactory solution of the problem of ultimate causation in many cases. Why does it occur in one child and not in another under similar circumstances, perhaps in the same family. Why does it occur in several members of the same family, otherwise apparently healthy? What is the reason for its frequent congenital occurrence? These and other queries still clamor for solution. In the present instance we have but to read the classic thesis written in 1863 by Wm. Meyer, of Copenhagen, and the writings of Lowenberg, J. O. Roe, Bosworth, Fraenkel, Chatellier, Hooper and others. Numerous writers of the last decade have also enlarged the subject, chiefly from a statistical aspect and by the device of new instruments and special methods of operation. Enlargement of hypertrophy of the lymphoid structure situated in the pharynx as a part of the general lymphatic system is common in childhood. Of 1000 pupils in Copenhagen examined by Meyer, 1 per cent. were so affected. Chappell found adenoids present in 3 per cent. of 2000 New York school children, while Harrison Allen observed the affection in 33 per cent, of 21 apparently healthy Indian girls. The truth as to frequency the world over, probably lies far under the greater of these figures and far exceeds the

*Read in a Symposium on Hypertrophy of the Pharyngeal Tonsil, before the Chicago Otolaryngological and Laryngological Association, July 5, 1900.

lesser. Up to the age of puberty enlargement of the faucial tonsils is usually accompanied by more or less involvement of the pharyngeal.

It is pre-eminently observed in those between the ages of 3 and 15, and is not uncommon in persons from 15 to 20. It is occasionally seen at birth and often in infants, as exemplified in 6 cases under 6 months of age reported by Huber. Though unusual, it has been found in adults even as old as 65, as in a case reported by Coutoux, and in a woman 70 years old, referred to by J. Solis-Cohen. Roulin, of Marseilles, observed cases in persons 60 and 70 years of age. Lennox Browne removed adenoids from a person of 40 years of age. Bryson Delavan has cited instances in which enlargement of Luschka's tonsil persisted in middle life and others in which hypertrophy had seemingly begun after puberty. I remember in this connection a man of 55 who had had nasal polypi for many years and in whom I found the pharyngeal tonsil of very considerable size and the faucial tonsils but slightly enlarged. Sex seems to bear but little etiological relation to adenoids, though according to some authorities, the males affected seem to outnumber slightly the females under 15 years, after that age the latter appearing to predominate.

In childhood, lymphoid tissue is very abundant in the vault of the pharynx, and this kind of tissue is prone to active inflammation and hypertrophy, as shown by the occurrence at this age of cervical and faucial adenitis, seemingly from slight causes. And owing to the small caliber of the respiratory passages in children, functional interference occurs from glandular enlargements which would be scarcely noticeable in adults. The increase in the dimension of the postnasal and pharyngeal spaces, which takes place rapidly during adolescence, as pointed out by Bosworth, may overcome a marked obstruction produced in childhood by an adenoid mass, should this remain stationary or slightly increase in size. This in part may account for the prevalent opinion that adenoids invariably disappear or rapidly decrease in size at puberty. Up to the age of 20 and 25 these growths are occasionally observed of considerable size, and more frequently of relatively small size. The fact is, however, that in the majority of cases not only does the compensation in the increased size of the cavity take place at puberty but the lymphoid hypertrophy tends to undergo retrograde metamorphosis due to obliteration of blood and lymph channels, and pressure atrophy of the follicles, attending maturative shrinking of the connective tissue, and more or less actual increase of fibrous elements. Kyle speaks of a "natural increase of structure" or hyperplasia of the gland "due to increased blood-supply," and of hypertrophy resulting from inflammation. Increase or enlargement of this lymphatic tissue from one or many causes near or remote is always a morbid condition, the normal structure remaining practically invisible. It simply becomes then a matter of degree of abnormality: on the one hand being remarked clinically by reason of symptoms and requiring operative interference; on the other remaining unnoticed because of the relative smallness of the growth, which finally disappears altogether.

Conditions of general circulation favoring venous turgescence, such as intestinal torpor and other abdominal irregularities or thoracic diseases, are occasional factors in affecting adenoid hypertrophy, but as Kyle points out, occasional evanescent enlargement of these structures from passing congestion or watery infiltration, as a result of reflex or other causes acting transiently, should not be mistaken for true hypertrophy and needs

no surgical measures for its correction. Meyer's researches show that these vegetations are common in all climates and affect all peoples and classes, although the Jewish race has appeared to be especially susceptible. A changeable climate, however, exhibiting great humidity and sudden variation from heat or cold, certainly favors their development, no doubt owing to the greater liability to the occurrence of acute catarrhal affection of the upper air-passages. These sudden congestions in turn favor adenoid activity, for the circulation in these tissues is particularly rich in childhood. In warm, dry climates, on the other hand, the disease seems to be less common. Massi remarks that it is rare in Italy in any marked degree. Children in the cities are if anything more markedly affected than those born and reared in the country, very likely because of the dust, smoke and fume-laden atmosphere and bad hygienic conditions favoring lower body resistance and disease.

Several cases of adenoids are often seen in the same family with a history not infrequently of a like trouble in some of the forebears, so that heredity is considered as a prominent element in their causation. In truth there would seem to be back of all other factors some transmitted condition not necessarily the same in every case, and not well understood, as evidenced by such vaguely comprehensive terms in our vocabulary as scrofula, strumous, dyscrasia, lymphatic temperament, diathesis, cachexia and the like. The so-called lymphatic temperament, the diatheses of rheumatism and struma are, so far as the terms are significant, considered predisposing factors. Furthermore, the tubercular and syphilitic dyscrasias excite chronic lymphatic glandular enlargement. Harrison Allen calls attention to a group of cases which he calls adenoid disease and suggests that it does not excite to mischief by reason of its influence upon respiration or by the setting up of catarrhal trouble, but that its effects are noted in disturbed general nutrition, and would infer that it belongs to the same class of diseases as myxedema and acromegaly, and advises the study of the relation of the pineal gland and pituitary body to adenoids. Such suggestion might be fruitful of results. But the fact that removal of adenoids and re-establishment of perfect nasal respiration effects marked benefit in even the worst example of mal-development connected with adenoids, strongly suggests that their presence mechanically is the efficient cause. We mention in this connection a hypothesis somewhat ingenious, but lacking in the elements of proof, advanced by Hill, that the adenoid overgrowth is due to the prevention of the normal tonsillar function of leucocyte migration by diapidesis into the pharynx by reason of the thickening and impermeability of the mucous covering of the tonsil induced by contact of irritating contamination of the nasal secretions. Potain considers that the tendency to the involvement of lymphatics in morbid processes seen in childhood is but a normal condition which, carried one step further, gives the true pathologic condition of scrofula; but why this tendency, and what is this "one step further," and what is the reason for it? We are as much in the dark as ever, though furnished with another brilliant combination of words. At all events it is recognized that certain constitutional states carry with them greater liability to mucous-membrane inflammation—catching cold—whether depending on vasomotor disturbance from faulty excretion and autointoxication, or on direct specific action on the mucous membrane of some morbid element, chemic or microbic, reaching the part through circulation. Frequent acute

and prolonged subacute or chronic inflammations or colds are, it would seem, very important actors in this drama of adenoid growth, but they do not explain its presence in all cases, as, for example, its congenital and very early occurrence before the exhibition of inflammatory states. All the causes of so-called catching cold may then be considered active influences at times in the life history of this affection. The presence of nasal hypertrophy, septal spurs and deflections is commonly found in those with enlarged tonsils. They may be occasional causes, and are always aggravators of the trouble in so far as they excite postnasal catarrh, which gives rise to imperfect ventilation and faulty drainage with retention of irritating secretions. Possibly the growth of adenoids is also invited by the increase of congestion of the mucous membrane which may attend rarefaction of air in the postnasal space during deglutition and incident to a faulty method of breathing and the tendency to frequent hawking, when there is nasal stenosis. But these same nasal irregularities can not be considered as invariable causes, because they are also seen in other children without adenoids.

Bacterial agents unquestionably exert marked influence on lymphoid tissue; hence the frequency with which adenoids date from an attack of diphtheria, whooping-cough, measles, scarlet fever, and other exanthemata and from influenza. In these cases it would seem that the disorder is produced by the irritating effect of the specific germs or their toxins or both on the highly impressible lymphoid cells, readily exciting them to proliferation. Of specific germs many have been demonstrated on the surface and within the crypts of the tissues in question, although the results of various observers differ so widely that no definite conclusion can yet be drawn as to the frequency, the mode and the specificity of their operation. A few of these may suffice as examples. According to Lermoyez, 1 in every 17 cases of adenoids is tuberculous. P. McBride with A. Logan Turner found tubercle in 3 per cent. of 100 glands removed and carefully examined, and in the majority of cases numerous micrococci and other bacteria lying on the glands and within their crypts. Pleuder and Fischer, studying statistics of 161 cases in which adenoids were examined for tubercle, found 17 cases of its primary development. Pilliet found 7.5 per cent. of adenoids tuberculous; Dieulafoy by inoculation experiments 20 per cent., by histologic examination 5.7 per cent.; G. Gottstein, 12 per cent.; Breudel, 12.5 per cent. On the other hand, Goure found no tubercle bacilli in the tissues in the examination of 201 separate specimens of adenoid vegetation, but in many cases staphylococci, streptococci alone, or mixed and associated with other germs.

It is at present uncertain from a bacteriologic and histologic standpoint just what relation bacteria have to adenoid overgrowths, and our chief practical information may be said to have come from the clinical observation that symptomatic disturbances ascribed to adenoids frequently date from an attack of one of the infectious diseases, notably those, however, the bacterial causes of which have not yet been identified.

PROGNOSIS.

When adenoids are of sufficient size to produce distinct symptoms and when they are left unoperated on, more or less serious effects on general health are certain to follow. The stunting of growth with chest deformity, the dulling of intellect, the unfortunate facial aspect of the chronic mouth-breather and the production of various disturbing and dangerous reflex

phenomena may be confidently expected in greater or less degree and number, and the general practitioner has come in these latter days to recognize their importance as well as their origin. As to local disturbances, impairment of hearing is a result in a large proportion of cases, 74 per cent. as reported by Meyer. In some instances, the mental dulness referred to is apparent rather than real, owing to defective hearing. Without trespassing on the discussion of symptomatology and diagnosis it is proper to mention in this connection the great liability which exists to otitis media, the occurrence of laryngitis and croup through mouth-breathing, the establishment of nasal and postnasal purulent discharges with danger of involvement of accessory sinuses. It is to be remembered that luxuriant adenoids favor the localization and entrance of various infectious diseases, especially diphtheria. The prognosis, then, from the standpoint of non-interference, is unfavorable.

The question naturally arises, Do all adenoid hypertrophies require removal? Bosworth answers in the affirmative, owing to the liability to active inflammation, because they may be the source of chronic postnasal discharges and because there is no harm done by operation. Most observers, however, would seem to favor the negative. Where no symptoms or signs are apparent other than slight or moderate enlargement of the adenoid tissue and no history of past trouble of serious import, there is no more call for operative interference than in the case of faucial tonsils under like condition of enlargement without evidence of follicular or other diseases or record of former disturbance; or for the removal of the appendix vermiformis of every child. On the other hand, in a child nearing puberty with glands of considerable size, but showing slight or moderate functional disturbance, we should not wait for relief to accompany the probable spontaneous subsidence of the growth with advancing adolescence. Never in any case delay operating where there is the slightest interference with the hearing. Neither can we rely alone on the administration of internal remedies. Their action, to say, the least, is uncertain and slow. The promise of permanent relief through radical and thorough removal of adenoids is good. Recurrence practically never happens. In case of partial removal the inflammation may apparently set up rapid development of the portions of the growth remaining or slower development under the influence of the various subsequent exciting causes, so that in not a few instances there is return of more or less trouble. As a rule, however, there is a gradual atrophy and final disappearance of any remnants. That operation which compasses through removal would seem to commend itself as the better practice.

The possibility expressed by Délie of the transformation of the remnants of adenoids into sarcoma is too remote to admit of serious comment. Lermoyez, judging from two cases in which upon return of the growth it was found on bacteriologic and histologic examination to be undoubtedly tuberculous, would almost infer that in some cases adenoids are but the expression of local tuberculosis and that there is a modicum of danger that general dissemination might follow their removal. This conclusion based on very exceptional experience in the light of actual results of operation is likewise hardly worth a passing notice. Usually the chief local signs of post-operative interference subside within 48 to 72 hours, and in many cases within a few weeks or months the influence upon the general health, physical and mental, is so marked for the better as to seem little short

of a miracle. The relief of simple catarrhal symptoms, postnasal dropping, nasal obstruction from intumescence, which is common in these patients, is usually rapid. The cure, also, of more persistent catarrhal discharges from nose and naso-pharynx may be effected frequently without special measures of after-treatment directed to them, though these are always advisable.

The improvement to hearing when the disturbance has been of short duration, and therefore not incident to organic changes in the inner ear, is often striking and sometimes instantaneous. When there is present chronic purulent otitis, often the benefit alone from removal of adenoids is considerable and is an important measure in the treatment of this affection where so complicated. In many cases it is safer to postpone inflation of the Eustachian tubes until the subsidence of acute inflammation following operation. Prognosis should be guarded where deafness, tinnitus aurium, etc., are results of chronic postnasal obstruction.

Functional defects of articulation, month-breathing, snoring, etc., are also commonly corrected spontaneously; though the greater the age of the patient the more fixed the habit, the greater the liability that separate measures shall be demanded for their correction.

As to the dangers from surgical interference, immediate fatal hemorrhage or even serious bleeding is not of frequent occurrence in proportion to the large number of patients operated on, especially if the cases of hemophilia be excluded. In one of the latter reported by Hooper, fatal bleeding followed digital examination. However, in view of the considerable number of fatalities which have been recorded from this source by Knight, Delavan, Newcomb, Hooper and others, every operator must bear in mind this possibility. It has followed injury to the carotid arteries of abnormal course. It has usually been primary, but has also occurred as secondary hemorrhage as long as two days after operation. It seems to bear no special relation to manner of operating or use of anesthetics.

Death from the general anesthetic is among the immediate sources of anxiety, whether the agent be chloroform or bromid of ethyl, the two most recommended. These agents fairly represent the two schools of operators, the one advocating in every case profound narcosis to permit the most thorough removal of the growth, the other preferring the more rapid and perhaps less dangerous method of operating, relying on manual dexterity to remove the major portion of it. Among the other immediate dangers may be mentioned the occurrence of convulsions from shock or hemorrhage, and asphyxia from spasm excited by the passage of blood into the larynx, or occlusion of the glottis by a portion of the gland. Injury to the orifice of the Eustachian tube or extensive stripping off of mucous membrane is certainly to be feared from overzealous or bungling manipulation of instruments.

Secondary or remote unfavorable results of operative interference, in addition to hemorrhage, are bronchitis or pneumonia from aspiration of the blood, etc., into the bronchial tube; accidents which may be avoided by keeping the pharynx lower than the larynx while the patient is under the influence of a general anesthetic like chloroform or ether or by proper manipulation of the patient in case of laughing gas and other anesthetics of transient action. Finally there is some danger of the occurrence of otitis media, crsipelas and deep cellular inflammation followed or not by pyemia or meningitis. Without infringing upon the subject of treatment, it may be remarked from a prognostic point of view that

not only are the ordinary measures for surgical cleanliness to be employed against the infection of the wound at the time of operation, but to reduce to a minimum the danger of otitis the use of syringe and douche should be avoided, both in preparing the patient and in after-treatment. It is far wiser to rely on no application, or better to employ bland oleaginous preparations with perhaps the occasional use of a powder containing a small amount of cocain.

Even young children can be quickly taught to keep the nasopharynx relatively clear of secretions during repair by occasional voluntary forced inspirations through the nose with vibration of the soft palate as in snoring. This procedure is especially effective in dislodging secretions if one nostril at a time be closed, the draft of air being confined to the other.

TREATMENT OF LUPUS VULGARIS WITH X-RAYS.

REPORT OF A CASE, WITH CURE.

J. T. KNOX, M.D.

CINCINNATI, OHIO.

The case of lupus which I report as cured by the X-ray treatment first came under my care in May last, being referred to me by Dr. W. L. Taylor, this city, who



Fig. 1. Before treatment.

had it under treatment at that time. Recognizing his inability to cure the disease by any of the ordinary methods, the X-ray treatment suggested itself to him, but not being equipped with the necessary apparatus, he consulted me. I informed him that I had never treated a case of lupus by this method, and it was with some hesitancy that I assumed the charge of the case.

I was very conservative in the beginning of the treatment, but resolved to carefully observe the effect

of each sitting on the patient, until such time as I could decide as to the proper length of time of each exposure, the most desirable distance to place the patient from the tube—in fact to carefully note all phenomena arising during the treatment of the case.

Although effecting a cure in this case, I could not consistently formulate rules that would apply to the treatment of all cases of lupus, from the fact that the effects of the rays vary, according to the idiosyncrasies of different persons. This fact is an important factor in the application of the X-rays for any purpose, and can only be overcome by the most careful experiments on the part of the operator at the beginning of each case.

The subject, Miss C., of Cincinnati, aged 20 years, weighing 125 pounds, of decided phlegmatic temperament, had no tubercular or other transmissible history, as far as I have been able to trace. The family history was negative. The disease was first recognized as being lupus about two years prior to the time I assumed charge of the case. The patient had been treated for disease of the lid margins and occlusion of the tear-duct of the left eye, for some five years previous to that time, which may have been the primary lesion of the lupus, although I do not think it was. During the past two years she has been treated by some



Fig. 2.—After treatment.

of our most capable dermatologists, and was an inmate of St. Mary's Hospital for seven months of the time, under the care of the staff physicians. The disease steadily progressed, never at any time exhibiting symptoms of improvement.

The location of the disease, as will be observed by the accompanying photograph¹ (Fig. 1), involves the

¹ Taken two years ago by Dr. E. H. Shields, who kindly furnished the plate from which the picture is made. Her condition was much more aggravated when I began treatment.

nose and upper lip, and had so far progressed as to cause perforation of the nose septum. The photograph, Figure 2, taken since the X-ray treatment, shows almost entire absence of scars, or any condition of the tissues that would indicate that the disease had ever existed.

The treatment consisted of the application of the rays for from six to ten minutes each sitting, every other day, placing the affected parts from 4 to 8 inches from the tube, according to the density of the rays. The whole number of applications made during the treatment was seventy-four, and improvement was apparent very soon after beginning the treatment. The unaffected parts of the face and head were shielded by means of a mask, thus preventing the possibility of producing dermatitis and loss of hair, incident to the use of X-rays.

Although this is the first case of lupus I have treated by this method, I have no hesitancy in stating that I regard it as an infallible one, if properly applied and continued a sufficient length of time.

The only cases heretofore reported cured in the United States by the X-ray treatment, were those by Dr. Philip Mills Jones, of San Francisco, Cal., who reported two cases treated and cured by him during the early part of the year 1899, and which have shown no signs of recurrence.

In closing this paper I can not refrain from adding a word in favor of this wonderful and mysterious force in the light of a therapeutic agent, and it is my opinion that there are possibilities within its range that as yet have not been dreamed of. Its uses in surgery have been fully demonstrated; yet there seems to be an apathy on the part of many members of our profession regarding its use, which, as I can testify, is very discouraging to those of us who are devoting time and money to its development. We should at least expect the support to which we are entitled from the profession, especially in those branches of the work in which we have gained proficiency, which cover a wide field.

DISCUSSION.*

DR. W. H. BATES, New York City.—The title of the paper is "Secondary Operations on the Capsular Membrane," and I am going to say something that will probably provoke a great deal of criticism. In all the text-books I have examined, secondary cataract is described as being due to a thickening or wrinkling in the posterior capsule of the lens. I have not been able to find any one who has ever seen under the microscope a cataract caused by any thickening or any change in the posterior capsule of the lens alone. But we do find in every case of secondary cataract that I have been able to see in the human subject, a posterior capsule which may be thrown into folds or may be flat, with a layer of connective tissue on its anterior surface. I have specimens in which this layer of connective tissue is fifty times as thick as the posterior capsule itself. This tissue is a fibrous tissue and furthermore contains blood-vessels. Many of these membranes when cut or incised give you a certain amount of hemorrhage from those blood-vessels and in a few instances a clot. I have studied this matter of secondary cataract on animals, rabbits especially, and might talk to you for a long time concerning my investigations. In rabbits I have never seen a case of secondary cataract after removal of the lens caused by a thickening of the capsule itself. It is always due to connective tissue. In the limited number of human eyes I have been able to examine the secondary cataract is caused in the same way.

If you will give me just a moment I would like to give my theory on the formation of secondary cataract after extraction

* Dr. Callan's paper, together with Dr. Knapp's discussion thereof, appeared in the issue of October 13, p. 927.

of the lens, which suggests at the same time a method for its prevention. When the anterior chamber of a rabbit's eye is evacuated and a drop of the aqueous placed on a glass slide you will find at the end of fifteen or thirty minutes no change; after a lapse of five minutes the anterior chamber refills with a second fluid, and if a drop of that be placed on a slide it clots like blood, and if examined with the microscope the clot shows the well-known structure of fibrin. If the rabbit's lens is extracted, then the eye enucleated, at once one finds in the area of the pupil corresponding to the position of the secondary cataract and covering the posterior capsule a layer of fibrin. Two weeks after an extraction this layer of fibrin is partly replaced by new connective tissue. I am positive about this. I have been working over it for four years and have demonstrated it repeatedly to men better versed in pathology than I am.

I have been able to prevent the formation of a secondary cataract in the rabbit on this theory. Instead of allowing the anterior chamber to refill with a fibrin-forming fluid, I fill it with normal salt solution and secondary cataract does not follow. I have applied this principle to human eyes, refilling the anterior chamber with normal salt, or boracic acid solution, and I believe I succeeded when drainage was prevented. Three corneal sutures were necessary in rabbits.

DR. URIBE TRONCOSO, Mexico—The subject of secondary operations on capsular membranes is a very important one. My experience has been much similar to Dr. Callan's. I think for the membrane operation the DeWecker capsule scissors is the best instrument. I have met with some cases of secondary glaucoma after needle operations, and trying to explain to myself the pathology of this accident, I have reviewed the entire literature of this subject. The different opinions advanced are not satisfactory; the most general one is that the traction produced in the ciliary body by the knife leads to increased tension. I do not think this is the probable cause, but that it is due to a wounding of the vitreous body, which, filling the anterior chamber, changes the chemical composition of the aqueous and makes the exosmosis through the Schlemm channel very difficult. For that reason glaucoma is not so liable to occur when, instead of a simple puncture with the knife, which heals rapidly, an incision in the cornea is performed; for instance, when using De Wecker scissors.

This pathogenesis is also applicable to primary glaucoma, and I am now pursuing a series of experimental researches in this direction. My chemical analyses of the aqueous humor in several cases of primary glaucoma have always shown me that the quantity of albumin is considerably increased. This albumin comes probably from the diseased vessels of the ciliary body and retina and its presence in the aqueous, lessening the excretion, leads to hypertonia and its consequent effects.

When the capsule is thin I find that it is only necessary to make a little incision, whether with one or two needles, but when thick it requires the De Wecker scissors to cut the capsule, or the use of forceps for its removal.

DR. JOHN E. WEEKS, New York—I agree with the speakers that one method of operating is not applicable to all cases of secondary cataract. Where the membrane is thin and we have to deal with a wrinkling of the posterior capsule with perhaps some adventitious tissue, the Knapp needle is sufficient to make the necessary incision. As regards the percentage of cases in which it is necessary to operate, I myself operate in at least 90 per cent. of my private cases that are uncomplicated, and in the hospital it reaches about 70 per cent. As regards the time of operation, I have attempted it in one case within ten days after the extraction. I think, however, that from three to six weeks is the proper time to operate. If we operate after three weeks, the condition that Dr. Bates referred to is not present to any great extent, that is, the membranes are not toughened the connective tissue has not had time to become dense.

The operation that Dr. Callan has described, I use very much, but I use the angular broad needle, piercing the capsule at the opposite side to the entrance of the needle, then with the

De Wecker scissors I excise a triangular piece of the capsule, removing it with the forceps.

In regard to the formation of secondary cataract, it is true that there is a deposition of connective tissue and that the capsule itself is not much thickened. The capsule of the lens is an epithelial product. When we extract the cataract we have removed the bulk of the lens, but have left more or less cortex which is irritative. In the removal of the cataract we also wound the iris more or less and induce some exudation, if not a hemorrhage. It is well known that fibrous material coming into contact with the natural aqueous humor produces a coagulum—the phenomena that Dr. Bates has spoken of. The observation of this phenomena is not original with Dr. Bates, but has been known for many years and is familiar to all advanced students of ophthalmology. With the presence of fibrin on the posterior capsule, we have the same process that is found in retinitis proliferans, the presence of a clot that may or may not contain blood-corpuscles; this clot gradually becomes organized and forms a pseudo-membrane. The pseudo-membrane may be extremely thin or quite thick, the density depending largely on the amount of coagulum deposited.

In regard to the use of salt solution or boracic acid solution for preventing the formation of secondary cataract—if they prevent it at all, which I doubt very much—they do so only to a very small extent. I have used them both for a long time in washing out the debris of the lens after cataract extraction. The capsular cataracts are, I think, less dense, because I have removed more of the irritating material, but they still form.

DR. A. W. CALHOUN, Atlanta—Formerly I used to make a simple extraction, but I have gone back to the operation with iridectomy, largely because of the fact that I could not get my patients to come back to me, many of them living at great distances, to submit to the secondary operations. As a result of that operation I do not have so many of the capsular membranes remaining, and when I do have them, their removal is simple. I penetrate the lower portion of the cornea with a very small Graefe cataract knife, and passing it up into the pupil I cut the membrane, at the same time extending the incision down into the iris, making an iridotomy. The iris, of course, pulls apart and helps to keep the membrane apart. My experience with the needle is that when you begin to tear you do not know where you will end, and the pulling is apt to set up inflammation. Occasionally I pass my forceps through and take out a portion of the iris. I also at times use the De Wecker scissors, making the corneal incision with the knife and, passing the blades of the scissors through that opening, make the iridotomy. I should like to confine myself very largely to the simple extraction, because the pupil looks better, but I do not believe it makes any difference in the vision whether you have a round pupil or not.

DR. J. L. THOMPSON, Indianapolis—Do you not sometimes have subsequent hemorrhages after cutting the iris that way, which interferes with the wound?

DR. CALHOUN—I do have a little hemorrhage, but it disappears within twenty-four hours and leaves no bad effects.

DR. WILLIAM THOMPSON—Can you always make a sufficient iridotomy with the Graefe knife?

DR. CALHOUN—Yes, sir.

DR. C. F. CLARK, Columbus—There is one instrument that has proved, in my hands, of great value and I think it has some advantage over the De Wecker scissors; it was introduced some years ago by Dr. Noyes. I have had Tiemann make these scissors curved on the flat and they are more easily commanded than the De Wecker scissors. Since traumatism is the main cause of failure in these cases, it has been my aim to simply outline as far back from the edge of pupil as possible as large a space as I can in the capsule and then endeavor to remove the central portion. When the cortex is soft I practice curveting the soft substance of the anterior portion of the lens and removing it by irrigation before attempting the delivery of the nucleus. I think you will find this most valuable in a number of cases. I practice the simple

extraction by preference, as I consider it easier and safer in the majority of cases.

DR. MILES STANDISH, Boston—I simply want to add a word for the Noyes seissors. They are very easily used, give greater motility in the anterior chamber, and the handiness with which you can use your fingers is much greater than with the De Wecker seissors.

DR. FRANK ALLPORT, Chicago.—I would like to ask Dr. Knapp what he would do in a case as follows: Numerous attacks of iritis had produced complete occlusion of the pupils of both eyes. Practical blindness resulted. I made an upward iridectomy and found a cataract. In a few weeks, in spite of all efforts, the iritic wound drew together, and the pupil drew up and became obliterated. Later I made a downward iridectomy and extracted the lens. This wound also drew together, leaving a linear cicatricial healing from the upper to the lower portion of the cornea. What would Dr. Knapp advise as the next step?

DR. KNAPP—It is just those cases that I should like to speak of. Dr. Callan has seen me operate on one of this kind. I used the De Wecker seissors and made a triangular pupil. It gradually closed from an inherent tendency to cicatricial contraction. I do not know what to do with them and the only good thing about them is that they are rare.

DR. S. LEWIS ZIEGLER, Philadelphia—In the beginning of this century there seemed to be two schools, divided just as they are now, one in favor of the knife and the other preferring the seissors. The great fault of the latter is the necessity of opening the eye and the danger of losing fluid vitreous. The limited way in which we can use the seissors is also against them. About eleven years ago I devised an operation for use with the knife-needle. I made the incision in this way: Standing at the head of the patient puncture-incision was made in the periphery of the cornea and the needle passed across the anterior chamber to the left of the median line about 3 mm.; by a quick thrust the membrane was penetrated and by delicate manipulation, without any pressure, the incision was carried by a sawing motion until it came opposite the point of puncture. This made an opening which was oval, and the knife raised through this opening was swung across to a point 4 mm. on the right side of the median line, to allow for about 1 mm. sagging of the membrane. When this latter incision was completed you had a triangular flap. This flap withdrew at once and formed something approaching a triangular opening. Usually the membrane turns directly down behind. If, however, the membrane is very stiff, and it was in these cases, that I was first led to use this method, you can either with the point of the knife press it down and back, or make another puncture in the base of the flap and by a cross incision break it back, so that it will fall down.

DR. J. L. THOMPSON, Indianapolis—Are you able to make that sawing motion with a collapsed anterior chamber?

DR. ZIEGLER—Yes, but you should preserve the aqueous if possible. The secret lies in making no pressure at all. There is no traction on the ciliary body and therefore only little danger of subsequent glaucoma. I have always used by preference the Hays knife-needle, which is an heirloom from one of the early surgeons of the Wills Hospital. It has the general form and shape of Beer's knife, but on a very small scale. The knife-needle of Dr. Knapp is also quite efficient.

In regard to the opening of the capsule by the cystotome, prior to extracting the lens, I always make an incision resembling the Greek letter pi, the first incision from below upward on the right side, second the left side, and a third connecting these two at the top. This forms a capsular flap that rolls down behind the iris as the lens is extruded, avoiding the gluing together of the anterior and posterior layers of the capsule, and often preventing the formation of secondary capsular cataract.

DR. WALTER B. JOHNSON, Paterson—One operative procedure has not been mentioned and that is the operation suggested by Dr. Agnew, I think called the hook operation, in which the hook was passed in and turned so as to twist the membrane on the hook, which was then withdrawn with the

membrane. This operation has been satisfactory to me, as it was to Dr. Agnew.

DR. CALLAN, closing the discussion—There is no question whatever that we can tear an opening by some method, but the whole subject depends on the traumatism we make. My point is this, that in the simple thin membranes we are safe with the knife-needle, but in the thickened membranes no man can tell how much resistance he will meet with. If we could see what the membrane back of the pupil was we would know what to do with it, but we can not. Granted that we can make an opening, no matter by what means, the question of traumatism is the one to be guarded against, and if you have ever lost an eye after the simple operation for secondary cataract perhaps you would feel as strongly about it as I do.

In regard to Dr. Allport's case, I should say that I would have made a section like the ordinary extraction and gone in with seissors to loosen up the iris on each side. I would not attempt to make an extra traumatism by making an iridectomy the whole length of the mass.

BUBONIC PLAGUE IN SAN FRANCISCO.

The following three cases of bubonic plague have occurred in San Francisco since the last report on this subject by THE JOURNAL:

CASE 16.—Lea De Hen, aged 50, Mongolian, cigarmaker, had lived in California 28 years. His residence was 710½ Dupont street. Patient died Oct. 5, at 10 p. m.

Examination of the body revealed a large bubo in the right inguino-femoral region. Incision disclosed a lymph node about the size of an egg, surrounding which the tissues were filled with a chocolate-colored fluid. The cut surface of the gland was very dark, purple and mottled, but substance fairly firm. A microscopical examination showed numerous bipolar-staining bacilli, decolorizing by Gram's method. Two guinea-pigs were inoculated with a glandular emulsion on Oct. 7.

One of the pigs lived four and one-half days after inoculation. On examination there was found a large area of coagulation necrosis surrounding the point of inoculation on the anterior abdominal wall. There was widespread edema and hemorrhages into the subcutaneous. The lymph nodes were enormously enlarged in both groins, the mass on each side being about the size of a lima bean. Both lungs were studded with yellowish-white nodules. Each pleural cavity contained about 2 c.c. of pinkish mucilaginous fluid. The liver was greatly enlarged, congested and mottled. Spleen was about fifteen times its normal size, dark and friable, and covered with yellowish specks. The vessels of the mesentery were injected. There was a small amount of pinkish fluid in the peritoneum. The suprarenal capsules and pelvis of both kidneys were hemorrhagic. The organs of the animal contained the plague bacillus in great numbers, and it has been obtained in pure cultures from them.

CASE 17.—Chun Yen, male, aged 37, Mongolian laborer, had been in California 10 years. Residence was 767 Clay street. Patient died Oct. 10, at 2 a. m. According to the statement of a white physician who lives and practices among the Chinese, he was sick two weeks and died of typhoid pneumonia. The body was that of a very large, fat and well-nourished man, who would probably weigh 200 pounds. An enlargement of the glands of the left femoral region could be detected through the thick layer of fat. These were removed and found to be about the size of hazel-nuts, very dark and necrosed. Smears showed the typical bipolar bacilli in large numbers. Two guinea-pigs were inoculated on Oct. 11, with an emulsion of the glandular tissue, and both lived about three and one-half days.

Autopsy: Guinea-pig No. 1. Large areas of coagulation necrosis surrounding the point of inoculation; marked subcutaneous edema; enlargement of the lymph nodes and hemorrhages in the left groin and axilla; lungs normal; spleen about three times normal size; very dark and soft, but no yellow spots; punctiform hemorrhages in peritoneum covering small intestines.

Guinea-pig No. 2.—Large area of coagulation necrosis at

the point of inoculation, surrounded by a zone of edema and subcutaneous hemorrhage; a marked hemorrhage in the left groin, but no enlargement of the glands; lungs normal; spleen about three times normal size and shows a few yellow spots; same condition of peritoneum as in first pig.

The plague bacillus was recovered in pure culture from both pigs. It is worthy of note that Chun Yen contracted the disease in the same house as the thirteenth case, that of Lee Wing Tong. This house was quarantined and thoroughly fumigated in the interval between the two cases.

CASE 18.—Tai Dong Leong, male, aged 39 years, Mongolian, had lived 25 years in California. Residence was 905 Clay street. Patient died Oct. 14, at 11 p. m.

The diagnosis of this case was established by a clinical examination of the blood during the life of the patient, who was attended by a reputable white physician, who reported the case

to the health department as suspicious, as soon as he had seen it.

On Oct. 14, the patient was seen by a number of physicians, among them were Drs. Ryfkogel and Kinyoun, and blood, as well as some fluid from the bubo, were secured for examination. These samples both showed the specific bacillus in large numbers, and it was also secured in pure culture from both sources.

Two guinea-pigs were inoculated, one with the pure culture grown from the blood, and the other with spleen obtained at the autopsy.

The guinea pig inoculated with the pure culture died in four days of a typical plague infection, there being the usual coagulation necrosis at the site of inoculation; a moderate amount of subcutaneous edema; and an enlarged spleen; the latter however, in this instance, containing much larger numbers of the plague bacillus than usual.

TESTIMONIAL BANQUET TO DR. CHRISTIAN FENGER.

A testimonial banquet was tendered Dr. Christian Fenger, Nov. 3, his sixtieth birthday, at the Auditorium Hotel, Chicago. It was a representative gathering of over five hundred, characterized by good-fellowship and good feeling. The tables were tastefully arrayed with roses, chrysanthemums and other flowers.

After the banquet Dr. Murphy called the assembly to order and said he was proud of the opportunity to pay tribute to Dr. Fenger. As an executive officer, it was his pleasant privilege to tender the compliments of the assemblage. In honoring Dr. Fenger, they accentuated the ideal of the medical profession, for he had been emblematic of all that was pure, noble and truly scientific in medicine in this section for the last quarter of a century. He thanked the honored guests from abroad for being present. He was not unmindful of the many personal sacrifices they had made in leaving their homes and labor to assist in making this testimonial a fitting tribute to this master mind. He then presented Dr. Charles A. L. Reed, of Cincinnati, Ohio, president of THE AMERICAN MEDICAL ASSOCIATION, as the toastmaster of the evening.

Dr. Reed expressed his cordial appreciation of the compliment of being called on to preside over such a large and brilliant gathering. He said they had met not merely for personal gratification, but for the splendid purpose of paying tribute to a man who had won a race by vigor, and not by vaunt. They had assembled to pay respect to a man who by stately stride had ascended a lofty hill, one who by the spirit of truth was made free—Christian Fenger.

Letters and messages of regret were read from the officers of various state, county and local medical societies in the east, west, north and south, the contents of some of them revealing great admiration for Dr. Fenger, others breathing such expressions of gratitude as are rarely written of living men.

Dr. W. W. Keen, of Philadelphia, presented the loving-cup. He said that friendship was one of the things that adorned and sweetened human life the most. Its delights had been pictured by the Roman orator in an immortal essay. It lived in the heathen legend of Damon and Pythias; it reappeared in the Holy Writ, where David and Jonathan were knit as one soul together. It began with youth; it heartened and cheered our manhood, and even in our declining years it illumined the last days with the glories of a setting sun, and after we were gone the memory of our friendships was as the afterglow which perpetuated the glory of a departed friend. He said they had met to bear witness to the value of this friendship and to pay honor to one who was among our foremost fellow citizens, our best-known and our best-loved colleague. He congratulated Dr. Fenger on the wonderful success that he had achieved. He had founded surgery on its true scientific basis, namely, on surgical pathology. Posthumous honors were very good in their way, but there were occasions on which it was proper, while the subject of them lived, that honor should be done to one who had won a conspicuous place in the medical profession not only

by his attainments, but by his modesty and his uprightness of character, and that we should in our friendship greet him during his lifetime and shower the honors of the profession on him.

On one side of the cup is inscribed:

"This great, good man for noblest cause displays,
What many labors taught and many days."

On the other side:

"To Dr. Christian Fenger, on the sixtieth anniversary of his birth, from those who know and love him best—THE MEDICAL PROFESSION."

Dr. Fenger, in accepting the loving-cup, said: "What you, dear friends, here present have done for me to-night surpasses anything that I at any time in my life ever dreamed of. It is the milestone in my life, compared to which all other events sink into insignificance. You have certainly passed far beyond any ambition that I ever had, and as to the effect on the remainder of my life, it will of course be that it will make what work yet remains to me pleasant, and when this work is finished, I shall be contented in looking back to your kindness to-night, and shall feel that I, perhaps, have not lived in vain. The chief value of this honor to me is the kindness of heart which inspired the gift. For this token of friendly love I wish to express my heartfelt thanks, not alone to those in whose kind hearts this thought originated, but to those who carried it out, and to all present who joined them and have left their homes, both far and near, to be present here to-night."

Dr. Edwin Ricketts, of Cincinnati, Ohio, responded to the toast, "Physicians as Leaders of Men." He said that the Trojan war could never have been so successfully fought had it not been for the valuable counsel and medical advice of trusted physicians. In the history of the world there were a few men who stood as great landmarks that distinguished the time in which they lived and gave prominence to the age. Some led in conquest; others in the arts of peace. New York has had her Sayre; Kentucky her McDowell; Louisiana her Stone; Ohio her Blackman; Missouri her Hodgen; Pittsburg her Murdoch, Virginia her McGuire; Illinois her Parkes; Philadelphia her Agnew; Georgia her Westmoreland; Nashville her Eve, along with thousands of glorious American immortals in our profession, who were leaders of men, and who, "like pillars of fire in a sea of darkness," were the light, the signal, the guide for all time. Fenger is a leader of men; a diligent worker, and a charming companion. For this charitable man, he closed with the following expression: "May life's evening shadows be gentle and restful; may they silently give place to the golden ray of sunshine that shall welcome his glorious morning."

Dr. W. H. Earles, of Milwaukee, Wis., in responding to the toast, "The Physician in Times of Plenty," said the physician of to-day, whether in plenty or in want, was one of the greatest products of modern evolution, and at the same time he was sorry to say too often one of its greatest failures. He was great as a product because of the favorable conditions under

which he had been evolved, and he was great as a failure because in recognizing he ignored the necessities of the time in which he lived. The physician should learn early in life that he had to assume the double responsibilities of citizen and doctor, and his duties to the state were of no less value than his duties as a physician in the community in which he lived. The physician should learn early in life that his reputation to be lasting must not rest on the shifting sands of fleeting popularity, but on the solid rock of integrity, industry, practicability, and worth.

Dr. Joseph M. Matthews, of Louisville, Ky., spoke of "The Physician in Times of Adversity." He said that compared with the great men of the past, with those of the present, or

those that are to come, he was willing to express the sentiment that Christian Fenger was as great as any of them. When a young man began to practice medicine he imagined that there were three main objects in view. One was to make money that he might support his family; second, to be a public benefactor, namely, to cure all those who were sick and sought his services; third, to make a reputation. These objects were discussed at length by the speaker. He would that every young man in the profession in America could be present to-night and see in what honest work, honest endeavor could culminate. Fenger did not belong to Chicago or Illinois; he was favorably known for his surgical work in the East, West, North and South. He was a shining example of what could be accomplished by honest, modest, tireless work. He would rather have given to him the tribute that had been paid to Christian Fenger than to wear the crown of a king or scepter of an emperor.

Dr. Nicholas Senn, of Chicago, followed Dr. Matthews, responding to the toast, "The Physician as a Scientist." This will be published in a future issue of THE JOURNAL.

At the close of Dr. Senn's remarks he presented Dr. Fenger with an album, beautifully illustrated and engrossed, which contained the autographs of all present.

Dr. Charles A. Wheaton, of St. Paul, Minn., responded to the toast, "The Physician as a Good Fellow." The speaker had known Fenger for twenty years, and it was he—Fenger—who had taught him most of his surgical pathology. Fenger had made himself peculiarly closely related to the younger members of the profession. He was a charming companion, and a conspicuous example of a great surgeon.

Dr. C. B. Nancrede, of Ann Arbor, Mich., discussed "The Physician in Times of War"; while Dr. William E. Quine, of Chicago, spoke of "The Physician in Times of Peace."

Dr. Fenger spoke of "The Period of Awakening and the

Period of Progress." He divided the time since 1877, when he came to Chicago, into two distinct epochs: the first prior to 1880, of which he saw only a few years, and which he called the period of awakening; and, second, the period from 1880 till 1900, which he called the period of uninterrupted progress. During the first period so little interest was manifested by many men in scientific medicine that it was difficult at society meetings to obtain a fair hearing or any discussion when any other than strictly medical matters were brought up. In 1880 there were about 18 medical journals in the middle West; to-day there are 81. In 1880 there were less than 20 medical societies; at present there are nearly 400. The speaker then spoke of the increased number of professors, demonstrators and lecturers in

the medical colleges of Chicago. In 1880 there were not more than 25 hospitals in the middle West; the largest of these was the Cook County Hospital, at which time it had a capacity of 250 beds; to-day there are about 150 hospitals, aside from private institutions, with a capacity amounting to more than 14,000. The difficulties physicians had to contend with in America in years gone by were: 1, the little help from the public funds; 2, the low standard of preliminary education, the betterment of which was first urged by Dr. N. S. Davis; 3, the prejudice in the public mind against autopsies, even of paupers, and against the use of patients for teaching purposes.

The advantages were the personal energy and willingness to learn—to be thorough, which was the dominant characteristic of the best medical students, whose terms of preliminary study terminated in internships in hospitals.

It is a satisfaction to the speaker to have done his life work in Chicago, witnessing and taking as best he could a small part in the growth of the West.

Stories were told by Drs. Frank Billings, Archibald Church, S. C.

Plummer, Fenton B. Turck, and Harold N. Moyer, which brought out the many good and variable traits of Dr. Fenger.

Dr. G. Frank Lydston, of Chicago, recited in an admirable manner a humorous, but eulogistic, poem, written in Hoosier dialect, on Dr. Fenger. Dr. L. H. Watson, of Chicago, likewise paid a tribute to the distinguished guest by reciting a poem.

Dr. F. E. Lange, of New York City, and Dr. Victor C. Vaughan, of Ann Arbor, Michigan, made brief speeches in which they paid homage to the illustrious guest.



Christian Fenger

Denmark. Following in the footsteps of his uncle, Professor Emil Fenger, he decided to study medicine. While still a student, war broke out between Denmark and Germany, and he served as surgeon throughout that campaign. In 1867 he received his diploma. For two years he was assistant to Wilhelm Mayer, in his ear clinic, and during 1868 and 1869, an interne in the Friedrich's Hospital, Copenhagen. When war was declared between France and Germany, Dr. Fenger became surgeon in the Red Cross ambulance corps and served in that capacity during the war. He then studied in Vienna under Professor Billroth, and returned, in the winter of 1871, to Denmark, and was prosecutor at the Copenhagen City Hospital from 1871 till 1874. In 1874 he presented and defended a monograph on "Carcinoma of the Stomach, Its Anatomy, Development and Extension," which gained for him the position of lecturer at the University. At the end of 1874, he was made extraordinary professor of pathological anatomy. In 1875 he went to Egypt, was made a member of the Conseil Militaire and surgeon in charge of the Khalifa quarter of Cairo. Two years later he came to America and settled in Chicago. In 1878 he was appointed to the attending staff of Cook County Hospital, and in 1880 was made curator of the Rush Medical College Museum. In 1884 he was elected professor of clinical surgery at the College of Physicians and Surgeons; nine years later he was made professor of clinical surgery at the Chicago Medical College, and in 1899 he was appointed to the same chair in Rush Medical College. During the last twenty-three years he has been or is now surgeon to Cook County, Presbyterian, Mercy, Tabitha Norwegian, Passavant Memorial, Lutheran, German, and German-American Hospitals.

Dr. Fenger has contributed extensively to the literature. Since 1870, more than eighty articles testify to his persistent and careful work. Its scope has been broad. His researches on tuberculosis of bones and joints, abscess and gangrene of the lungs, abscess of the brain, and his more recent work in surgery of the kidneys, bile-ducts and ureters are among his most important additions to medical literature.

The following were among those present from places outside of Chicago:

ILLINOIS.

Chas. C. Carter, Carl Bernhardt, Geo. L. Eyster and J. R. Hollowbush, Rock Island; Benjamin F. Uran, Charles True, Emmet F. Enoa and C. F. Shrouts, Kankakee; J. A. Egan, Walter Ryan and G. N. Kreider, Springfield; C. A. Palmer and J. A. Vixtrum, Princeton; C. E. Starrett, J. Forrest Bell and William S. Brown, Elgin; R. L. James, Blue Island; J. F. Barton, Shawneetown; E. F. Burton and Arthur Loewy, Oak Park; F. W. Werner, Joliet; E. R. Miller, Sullivan; W. R. Livingston, Maywood; Carl E. Black, Jacksonville; B. L. Evans and G. R. Browne, Waukega; H. C. Fairbrother, East St. Louis; Frank G. Norbury, Jacksonville; Frank Anthony, Sterling; Clarence A. Earle, Des Plaines; W. S. Pickard, Maywood; W. F. Grinstead, Cairo; W. L. Smith, Streator; C. C. Hunt, Dixon; Edmund W. Weis, Ottawa; J. F. Percy, Galesburg; H. C. Howard, Champaign; W. H. German, Morgan Park; W. A. Brennecke, Aurora; E. B. Montgomery, Quincy; William M. Richards, Joliet; E. J. Brown, Decatur.

WISCONSIN.

O. Thlenhaus, Lewis G. Nolte, D. J. Hayes, William E. Durr, L. Boorse, G. D. Ladd, R. G. Sayle, H. H. Hagerman, H. A. Sifton, W. F. Malone, Thos. Fitzgibbon, Jas. A. Bach, G. J. Kaunheimer, Thos. C. Phillips, D. Baldwin Wylie, Chas. H. Lemon, A. J. Burgess, Joseph H. Wallis, S. B. Sperry, Lawrence Hopkinson, F. C. Moeck, Byron O. Nobles, Chas. J. Coffey, W. H. Earles, Norman Hoffman, Otho Schorsch, Waverly B. Hill, W. C. F. Wild, Ralph Chandler, H. F. Kortbein, E. Wells Kellogg, Aug. Doerr, Geo. V. I. Brown, Geo. L. Alexander, John M. Beffel, Louis F. Jermain, H. M. Brown, D. Merenasa, A. H. Levings, G. J. Hirth and W. H. Washburn, of Milwaukee, Edward S. Hayes and J. V. R. Lyman, of Eau Claire; W. F. McCabe and F. T. Nye, of Beloit; W. B. Lyman, Mendota; Wm. H. Palmer, Janesville; L. N. Hicks, Burlington; P. S. Wiley, Fond du Lac; D. A. Myers, Trenton; L. H. Trince, Palmyra; Wm. E. Doid, Lake Geneva; Chas. W. Oviatt, Oshkosh; Charles S. Sheldon, Madison.

IOWA.

D. W. Crouse, Waterloo; D. M. Wick, Cedar Falls; D. S. Fairchild, Clinton; C. W. McGavren, Missouri Valley; A. L. Wright, Carroll; Frank T. Breene, Iowa City.

MINNESOTA.

J. B. McGaughey and E. D. Keyes, Wlnoona; C. H. Mayo, Rochester; James H. Dunn, Minneapolis; R. S. Dugan, Eyota; Charles A. Wheaton, St. Paul.

INDIANA.

A. W. Brayton, Joseph Eastman and Guido Bell, Indianapolis; H. C. Sharp, Jeffersonville; I. B. Washburn, Benssalaer; Aldine J. Dooley, Marion; Jaa. M. Dinneen, Fort Wayne.

MISSOURI.

Chas. Wood Fassett, O. Beverly Campbell and Jacob Geiger, St. Joseph; Charles G. Chaddock, H. W. Loeb and H. L. Nietert, St. Louis; L. W. Luscher, Kansas City.

NEBRASKA.

Jno. E. Summers, Jr., W. O. Henry, J. P. Lord, A. F. Jonas, Charles C. Allison, Omaha.

NEW YORK.

F. E. Lange, New York.

MARYLAND.

Guy L. Hunner, Baltimore.

MICHIGAN.

Charles B. Nancrede and Victor C. Vaughan, Ann Arbor; Angus McLean, Detroit; Eugene Boise, Grand Rapids.

KENTUCKY.

Dudler S. Reynolds and Joseph M. Mathews, Louisville; J. M. McCormack, Bowling Green.

KANSAS.

J. P. Kaster, Topeka.

OHIO.

Charles A. L. Reed, Edwin Ricketts and B. Merrill Ricketts, Cincinnati.

PENNSYLVANIA.

W. W. Keen, Philadelphia.

MISSISSIPPI.

R. E. Howard, Durant.

Disinfection by Sulphur Dioxide.—In Bulletin No. 3 of the Hygienic Laboratory of the U. S. Marine-Hospital Service, P. A. Surgeon H. D. Geddings makes the following statements and draws the following conclusions as to the efficiency of sulphur dioxide as a germicidal agent, and its employment for disinfecting purposes. After a brief résumé of the chemical and physical properties of the gas, and the various methods of production, he discusses the limitations of the agent, and arrives at the conclusion that it is open to the serious objections of slight penetrating power, and destructive action on textiles and fabrics. He shows however that the infection of the communicable diseases is seldom deep seated, and comes to the conclusion that the destructive effects of the gas are the strongest arguments against its employment. He distinctly recommends therefore that sulphur dioxide should not be employed for the disinfection of textiles and fabrics when it is possible to employ other agents of known efficiency. He shows however that the gas is cheaply and easily produced; that the materials for its production can be procured almost everywhere, and recommends it for the disinfection of ships' holds, freight cars, etc. He lays stress on the importance of accomplishing a hydration of the gas when employed as a disinfecting agent, detailing an experiment in which it is shown that a 10 per cent. volume of the gas failed to exert a germicidal influence not only on a spore-bearing germ, as anthrax, but also on the bacteria of cholera, yellow fever, typhoid fever, diphtheria and bubonic plague, when exposed for forty-eight hours. He then goes on to show that these same organisms, with the exception of anthrax, were killed by an exposure of twenty-four hours to a 0.6 per cent. atmosphere of the gas in the presence of moisture, in other words demonstrates the high germicidal value of hydrated sulphur dioxide or sulphurous acid. Several experiments are then detailed showing the germicidal effect of the gas in various percentages for varying lengths of time, always in the presence of moisture. He arrives at the conclusion that a 5 per cent. atmosphere of sulphurous acid for sixteen hours would be a perfectly efficient germicidal measure as applied to quarantine practice. He further details the amount of sulphur necessary to produce a given percentage of gas in each 1000 cubic feet of space, and a consideration of the quantity of water which must be volatilized during the process of the combustion of the sulphur to effect a hydration of the product. He then closes the article by two practical suggestions as to the position of the sulphur-containers in the holds of ships, and lays stress on the desirability of effecting the combustion of the necessary quantity of sulphur in a number of small containers, rather than in one of large size.

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SATURDAY, NOVEMBER 10, 1900.

DR. SENN'S GIFT TO RUSH MEDICAL COLLEGE AND
HIGH STANDARDS OF MEDICAL EDUCATION.

Friends of high standards in medicine will rejoice to learn that Dr. N. Senn has given \$50,000 to Rush Medical College for building purposes. This is not his first gift to medicine. A few years ago he gave to the Newberry Library, of Chicago, a unique and remarkable collection of medical books—that of Baum and du Bois Reymond. When Rush College became affiliated with the University of Chicago he contributed \$25,000 toward wiping out the debt of the college. And only the other day, a gift of \$10,000 was announced to St. Joseph's Hospital, in which Dr. Senn for years has done a large share of his private work. This makes a substantial return to the profession in which but few acquire abundance of worldly estate. It is given only to few to further the medical weal as Dr. Senn is doing. The example is one that others will do well to follow, and it is to be hoped that this gift of \$50,000 may mark the beginning of a series of endowments in the interests of higher education in medicine.

The foremost medical colleges in Chicago have received, up to this time, far less endowment than similar institutions of relatively the same standing in some other large cities. And large sums of money are necessary in order to build up these schools according to the high standards they have set for their work. Since its affiliation with the University of Chicago, the career of Rush Medical College has been followed with great interest. By the introduction of the quarterly system and of elective methods of study it became a pioneer in revolution of the medical curriculum. An increasing application for admission in view of the increase in requirements on the student both before and after admission would seem to show that the methods are popular and successful. Dr. Senn's gift will enable the college to meet one of the most crying needs at the present time, namely, more room and better facilities for clinical instruction.

The gradual development in various parts of the United States of medical schools with high scientific standards, adequate equipment, and proper methods is a better foretoken than anything else of a great future for medicine in this country. The history of the Johns Hopkins Medical School, of which every American may be proud, demonstrates that American soil is favorable for the growth of scientific medicine and not merely

a hotbed for medical commercialism. The influences constantly going out from the medical schools of the large universities in New York, Boston, Philadelphia, Chicago, Ann Arbor, San Francisco, and elsewhere, are powerful factors in the interests of higher medical standards. And there are other well-established institutions with their own hospitals—as in Philadelphia—working toward the same end. But the fact remains, that the present number of medical schools in this country—156 or thereabouts—is excessive and abnormal. And what is abnormal must be subjected to active remedial measures and not, as suggested in a recent presidential address, allowed to drag along until eventually eliminated by a kind of natural selection. One reason for the existence of poor schools is that their graduates as yet have comparatively little difficulty in obtaining the right to practice. The state examinations must be made more searching than now. And the character of the work of schools, graduation from which entitles to come up for state examination, must be accurately controlled. Heretofore such matters have been dealt with in only the most general terms.

The facilities for practical clinical instruction demand careful investigation and specification. Too few medical schools have their own hospitals. This is true of some of our most progressive institutions. A most essential part of the work of the medical school is practical instruction and training in medicine and surgery, and how can this be accomplished properly and in accord with modern pedagogic methods unless the schools have the necessary laboratory and other equipments and also have full and absolute control of adequate hospital facilities? Large endowments are necessary for the establishment of well-equipped institutions and hospitals in which to teach and to study medicine. May not such endowments be expected when it begins to be understood what the good medical school is trying to do? Gifts like Dr. Senn's, therefore, will do much to interest the public in these matters and to open its eyes to the magnitude of the work in hand.

CHRISTIAN FENGER.

The memorable dinner on November 3, at which a loving-cup was presented to Dr. Christian Fenger, was a remarkable and highly interesting event, on a par with the recent ceremonies attending the presentation of testimonial volumes to Dr. A. Jacobi, of New York, and Dr. William H. Welch, of Baltimore. Christian Fenger occupies that same exalted position as these men in the hearts and in the opinion of students, colleagues and the medical profession at large. Former assistants, hospital internes and students of Dr. Fenger for some time felt a desire to bring him some definite token of the high appreciation in which they hold him and his work as a surgeon and a teacher; the idea was taken up officially by the Chicago Medical Society and successfully carried out on a much larger scale than originally contemplated by his most intimate associates.

It speaks volumes for the solidarity of our profession that prominent men in all its branches, from far and near, more or less spontaneously join hands in doing honor in appropriate and dignified manner to acknowledged leaders when suitable occasion presents itself. Dr. Fenger's sixtieth birthday was made the immediate occasion for the jubilant and enthusiastic outpouring last Saturday evening.

Dr. Fenger came to the United States and Chicago nearly twenty-five years ago. Already a trained investigator and pathologist, he brought with him a scientific spirit, which was destined to play an essential part in the development of medical science in the great Northwest. Twenty years ago the conditions for scientific work in Chicago were not so favorable as at the present time. But Fenger set to work bravely, doing the best he could in the circumstances then existing, and in but a short time he had gathered about him a circle of pupils, representing the flower of the student-body of those days. Many of those men are now among our foremost physicians and surgeons, and they date the birth of the inspiration, which has carried them to higher levels, to the day they came under Fenger's influence.

It was by his remarkably thorough and matchless pathologic demonstrations, so full of, at that time, new revelations, that Fenger made his earliest impress on students and physicians. The exhaustive character of his investigations and the acumen and clearness of his analysis are referred to with singular emphasis and delight by those who were fortunate enough to follow his work in the dingy post-mortem room of the Cook County Hospital. In the application of post-mortem observations to practical medicine and surgery he showed the value of pathological anatomy as no one before him had succeeded in doing. New fields for diagnosis and treatment, hitherto unexplored in this part of the country, were made accessible for the practitioner; before long the work of ransacking and revelation was carried into practical diagnosis and surgical treatment, the sphere of his influence rapidly widened, and for years he has been the recognized type of the scientific surgeon and teacher. Modest and simple, free from all trace of mercenary motive, all his work blessed with an altruistic grace, the public honor, shown him in a manner that "passed far beyond any ambition" he ever had, is but well-earned reward.

THE ACTION OF DISEASE TOXINS ON THE LOWER FORMS OF LIFE.

One of the indices of a toxemic condition, or of auto-intoxication, is the toxicity of the blood, and this has been tested hitherto by its action on the lower animals when injected into their tissues. Klingman¹ points out that a common fresh-water alga, *spirogyra*, can also be utilized for this purpose, and forms, in fact, a very delicate test for pathologic variations of blood toxicity.

Naegeli had shown some years ago that this organism reacted pathologically to the toxic action of infinitesimal amounts of certain substances, such as copper, silver, lead, zinc, and mercury. Klingman and Israel² repeated some of his experiments, using mere copper foil immersed in water, and produced cessation of protoplasmic streaming, granulation of the protoplasm, followed by division of the cylinder with nuclear changes, and finally retraction of the outer portion of the tube and destruction of the chlorophyll bands. In a more recent investigation Klingman has found that identical pathologic reactions can be produced by various bacterial toxins and toxic blood-serum. Of one hundred and fifty persons whose blood was subjected to the test, about one-third were in perfect health; the others were suffering from various disorders: epilepsy, neurasthenia, hysteria, insanity, syphilis, tuberculosis, alcoholism, etc. In a number of cases, the toxicity of the blood was first tested on animals, the tests with the *spirogyra* following. These were made with all precautions against any toxic contaminations, chemical as well as bacterial. About 1 c.c. of blood was obtained and thoroughly mixed with water previously tested and found uncontaminated. A few drops of this mixture were placed on a clean glass slide and examined under a No. 3 Leitz objective. With the blood of fifty healthy persons no reaction was observed, and the inoculation of guinea-pigs also gave negative results. In all the diseased conditions, except those of alcoholism, gout and rheumatism, a division of the protoplasm of the *spirogyra* occurred. But in the above-named disorders the reaction was somewhat different; the chlorophyll bands were retracted from the protoplasmic cylinder and changed their general arrangement, and the nucleus changed its position and form. In these peculiarities the reaction somewhat resembled that described by Naegeli as caused by chemical action of a very dilute nitrate of silver solution.

The time in which the change will occur varies directly with the amount of toxin present and the species of *spirogyra* used. In one case it occurred when the blood had been diluted with five liters of water, and in this way it can be determined whether or not the toxicity is increasing or otherwise. Klingman also observed that the time of reaction was greatly prolonged during convalescence, and in one case of diphtheria this was observed after two injections of antitoxin. Another interesting observation was that the blood of patients suffering from functional nervous disorders was quite as effective in producing the reaction as that from those with specific infectious diseases. This indicates an auto-intoxication in these also and, as he says, is suggestive as regards the treatment of these affections. Experiments were also made on the protozoa to determine the effect of toxic blood on animal tissue, certain forms of the rhizopoda being selected on account of the nudity of the protoplasm; the treatment with toxic blood, in the same manner as with the *spirogyra*, had the invari-

¹ Amer. Jour. Med. Sci., November, 1900.

² Virchow's Archiv, 1897, cxlvii.

able result of causing their death. With normal blood the effects were negative; there was no change in structure or activity. Control experiments were made by keeping the organisms in the water used, where they flourished without change, while the addition of the toxic blood caused the reaction in from one to twenty minutes, according to the strength of the toxin used.

In concluding his article, Klingman says: "Considering the uniformity with which the reactions in the above experiment occurred, the small amount of toxin required to cause the change, and the easy application of the method, this may be regarded as a delicate, reliable and practical test for toxic states of the blood." What the poisons are that have the effect is not hinted, but the research, aside from its practical applications and importance already mentioned, is very suggestive of future lines of work. The different behavior of blood in rheumatism, gout and alcoholism from that in other disorders suggests that further researches in the different diseases and on the other bodily fluids and secretions, as regards their action on these lower forms of animal and vegetable life, may possibly be fruitful of some results. Other organisms may also be found to throw special light on certain questions; in any case the subject is well worth being followed up in all its aspects bearing on vital reactions, toxins and disease.

PROLIFERATION AND PHAGOCYTOSIS.

Mallory¹ divides the injurious actions of bacterial toxins into cell necrosis, or degeneration, exudation from the blood, cell proliferation, and phagocytosis, this term being used to mean the inclusion and destruction of certain cells by other cells. The last two effects—proliferation and phagocytosis—have come into prominence more recently. As shown by Mallory, the phenomena of proliferation and cellular phagocytes are especially well marked in the lesions of typhoid fever. Similar changes occur, however, in a number of other infections: in the lymph-nodes in diphtheria; in the lungs in acute lobar pneumonia; in the kidney in scarlet fever, diphtheria, pneumococcus, staphylococcus and streptococcus infections; in the meninges and lymph-nodes in some forms of tuberculosis; and Mallory describes a peculiar, nodular cystitis dependent on the accumulation of phagocytic cells in the submucosa in response to the presence of bacilli, morphologically and functionally, of the colon-typhoid group. It is especially endothelial cells that proliferate and acquire phagocytic powers under these circumstances. The cells included are polymorphonuclear leucocytes, lymphoid and plasma cells, and red blood-corpuscles. The epithelial cells of the lungs also respond to the action of toxins in a similar manner, and the epithelium of the glomeruli in the kidney may proliferate freely, but it does not become phagocytic. Whether ordinary connective-tissue cells undergo similar changes is somewhat doubtful, but certain observations of Mallory point in the direc-

tion that they may. It is especially dilute and weak toxins that have this power. Strong, concentrated toxins cause degeneration and necrosis of cells, and vascular exudation. But the exact mechanisms whereby toxins of certain kinds incite proliferation of cells with phagocytic properties, are as yet wholly unknown.

There are other examples of increased cell-proliferation under the influence of toxic substances in which the new cells are devoid, however, of phagocytic activities with respect to other cells: the polynuclear leucocytosis of some infections, especially the pyogenic, may be mentioned; furthermore, eosinophilia in trichinosis; and the increase of lymphoid and plasma cells in scarlet fever and other diseases is another instance of this sort.

The general tendency of the cells that multiply under these circumstances is to disappear with the disappearance of the agents that called them into existence. This is shown well in the entire resolution of the widely-spread lesions of typhoid fever. At other times the new cells occasion more permanent damage, as in the kidney in the acute interstitial nephritis of Councilman, in which lymphoid and plasma cells migrate from the vessels and accumulate between the tubules, compressing the latter and causing their complete destruction. Proliferation of the glomerular epithelium may also be fraught with serious damage to these important structures.

But phagocytic cells are also capable of doing harm: they may occlude lymphatics; block up capillaries and other vessels, thus causing foci of necrosis in the spleen and liver; by virtue of their phagocytic properties they may destroy useful cells, although the inference is near at hand that the included cells suffer damage before their inclusion, but of this we have no direct evidence. Accustomed as we are to look on phagocytosis as a useful process, the abnormal phagocytosis evidenced by the proliferating cells may seem hard to understand from the teleologic viewpoint, but there are many other ways in which the cell-proliferation here discussed works harm, and there is no essential reason for regarding their phagocytic activity as useful.

THE TREATMENT OF THE COMMONER NEUROSES OF CHILDHOOD.

Kauffmann¹ points out that inasmuch as disorders of digestion and faulty diet are often causative factors in the development during childhood of chorea, enuresis, migraine, tetany, bad dreams, nightmare and epilepsy, correction of dietetic errors is one of the main points of treatment. In the majority of cases in which the feeding is at fault it is advisable to cut down the amount of meat. Meat once a day will nearly always be sufficient, and that should be at dinner in the middle of the day while there are still some hours of muscular activity before the child. It is seldom necessary or advisable to remove meat altogether from the dietary. So long as the meat is good, there is not much difference between beef, mutton, rabbit, fowl, game, etc., but fish may with

¹ Journal of Experimental Medicine, 1900, iv, 1.

¹ Lancet, July 14, 1900, p. 75.

advantage be substituted for meat. Light puddings and green vegetables may be given, and potatoes in moderation. In severe cases of enuresis it is sometimes advisable to stop meat altogether for a period, and then to allow it again in small quantities. Sufficient mastication and moderate rest after meals should be insisted on, and the child should not leave the house after breakfast until the bowels have been opened. If cathartics are required the saline purgatives are invaluable, at all events to begin the treatment with, and they are best administered as a single dose of sodium sulphate and magnesium sulphate an hour before breakfast, or in smaller dose the last thing at night. Calomel, alone or combined with a small quantity of colocyth and rhubarb, is also extremely valuable. Should an excess of indican in the urine continue, in spite of the treatment outlined, intestinal antiseptics, such as sodium sulphocarbolate, salol, phenol, mercurial salts, charcoal, and possibly arsenic, may be employed. Tonics may be of use when the general health is enfeebled from previous disease. In conjunction with these measures, besides seclusion, darkness and quiet, the most effective treatment of chorea consists in the administration of 15 minims of Fowler's solution twice or three times daily. When the symptoms of poisoning arise, especially nausea and vomiting, the dose should be diminished. Nocturnal enuresis may be successfully treated, as a rule, by the administration of potassium bromid, together with either tincture of belladonna or of hyoscyamus, as a nightly dose. It is, moreover, well to administer some alkali, such as potassium citrate, to diminish the acidity of the urine and its irritating effects. Should bacteriuria be present, its cause should be located and be dealt with. Attacks of migraine dependent on autointoxication may be successfully cut short by the administration of a smart emetic. Antipyrin sometimes succeeds, but by no means always. For the spasm of tetany the bromids are the most efficient remedies when employed together with the proper treatment for the catarrh of the respiratory or intestinal tract. Quiet and darkness are strong aids in the successful treatment of this affection. The bromids are also the best drugs to be employed in the treatment of epilepsy. Equal amounts of the salts of potassium and of ammonium may be given, the total dose to be determined by the result on the seizures. Should intestinal worms appear to be the cause of the disorder, the proper anthelmintic remedies should be administered. For oxyuris vermicularis, infusion of quassia should be prescribed internally, together with mild purgatives. For tapeworm, male fern is the most successful drug if given when the intestines are empty through fasting, and if helped by cathartic remedy. In any case, however, the altered condition of the intestinal mucous membrane will require consideration, and this condition will demand careful dieting and possibly saline purgatives to be continued over a considerable period of time.

ABOLITION OF THE USELESS CORONER'S OFFICE.

The recent carelessness of coroner's officials in Chicago in a widely exploited case of fraud against insurance companies has directed attention again to this "relic of barbarism," the coroner's office. It is being urged strongly that the office be abolished and the work the

coroner now pretends to do turned over to the police and the health department. There is no question as to the antiquated and unsatisfactory nature of the inquiries carried on by the coroner's office. The jury system is abused and prostituted, and the entire affairs of the office, both medical and administrative, are handed over completely into the hands of politicians without a trace of training or expertness in medicolegal matters. It is no wonder that justice miscarries under these circumstances; that people have no confidence in the coroner's verdicts, and that stories are afloat of extortion carried on across the bodies of the dead. But the coroner is an elective officer, whose election and whose duties in general are prescribed by state law. On paper his powers are as autocratic as can be conceived. The words of the statute give him power to step in wherever he has reason to believe or suspect that a body lies dead from unnatural or unknown causes. To change the present law so as to provide for a more modern, a more intelligent and a more economic method of inquiry into the nature of the causes of death under these circumstances, would require legislative action and submittal of the proposed change to the people at large—a cumbersome and difficult procedure sure to be met by obstacles of diverse nature. The abuses and shortcomings of the present system are especially felt in the large cities. In the country, where most individuals die peacefully and naturally, the people are not discontented with the coroner and they have no occasion to make close acquaintance with the workings of his office. In a large city like Chicago, however, the present coroner's system has outlived its usefulness long ago. Inasmuch as the essential part of the coroner's work is of a medical nature, namely, the determination of the cause of death in a variety of cases, it follows that physicians are interested, especially in the proper administration of this duty. The medical profession must take an active and leading part in the attempt at securing improvement in the present methods, which are inadequate. Local and state societies should bring up matters of this sort for study and discussion in order that the most serviceable plan may be evolved. This phase of medicolegal affairs certainly merits careful investigation.

THE PERMEABILITY OF THE INTESTINAL WALL TO BACTERIA.

It would be expected a priori that both the cutaneous integument and its visceral analogue, the mucous membrane, are under conditions of health impassable by micro-organisms, and that they thus act as protective coverings against infection. This assumption does not, of course, preclude the possibility of invasion of the ducts of glandular structures opening on the surface, as the sweat-glands, the sebaceous glands, the hair-follicles, etc. It seems probable, however, that a portal for the entrance of bacteria may be afforded by lesions so insignificant as readily to escape detection, and from which the tissues under consideration are scarcely ever wholly free. This would perhaps explain the frequency with which the bacterium coli commune, the most constant parasite of the bowel, is found in the lesions of many abdominal morbid processes. Some experimental observations have been made which go to show that

mechanical obstruction of the bowel will be followed by invasion of the blood and the adjacent viscera, under ordinary conditions principally by the bacterium coli commune, but also by other bacteria that may previously have been injected into the bowel. These results have been confirmed by a number of observers, although their validity has not escaped attack at the hands of others, who attribute the permeability of the intestinal wall to bacteria under the conditions of the experiment to the traumatism inflicted. With the object of controlling his earlier observations in this connection, made in conjunction with Lewin, Posner, in association with Cohn,¹ repeated his experiments, observing special precautions to prevent injury of the bowel, and obtained the same positive results as before, artificial occlusion of the anus being followed in from eighteen to twenty-four hours by infection of the peritoneum, the bladder, the blood, the spleen, the liver, the kidneys, and death sometimes ensuing. Dissemination of the bacteria is believed to take place through the bloodstream. It is not denied that the condition is the result of some change in the mucous membrane, which may, however, not be discoverable even on close scrutiny, and it is thought that in this way infection may arise for which other explanation is wanting.

INTEMPERANCE AMONG WOMEN.

A London gynecologist of reputation, Dr. Heywood Smith, has recently indulged in some public utterances that indicate an unfortunate state of affairs in English society. There is, he says, an epidemic of female drunkenness in the upper classes in England, perhaps we should say the upper middle classes, for he says the evil has not yet reached the aristocracy. Another speaker, apparently a clerical one, claimed that more homes were wrecked in London through drunkenness of wives and mothers than through the excesses of intemperate men. If drunken habits are the fashion abroad there is always a danger that they will be imitated here, at least by a certain limited class, and according to the opinion of some American physicians who have allowed themselves to be interviewed, this danger has to some extent been realized. Among the "smart set," it is said, there is much more drinking than is at all desirable, and the habit seems to be growing. Still, no one claims that the condition is as bad as it is represented to be in England, and the social conditions are such as we hope will prevent it even reaching that point, at least in the same class of society. There always has been a certain amount of private drinking among women, but it may be doubted whether it is much worse now than it has been in the past. The special fraction of society that is likely to indulge in excesses of the kind in this country is probably not a very large one, and there has long been a more pronounced sentiment against female drinking-habits here than seems to exist in Great Britain, if one can judge by the more evident signs. Still, it is well to be forewarned and forearmed against any evil possibilities of the future, as well as prepared to combat any actually existing evil conditions. The ancient Romans in their best estate recognized this fact when they made it

punishable with death for women to drink wine. The least, as well as the most, we can do in our days is to make generally known the social, physical and moral penalties that female drunkenness itself will bring, and arouse a public sentiment against it. The more effectively this can be done the better. Intemperance is one of the most serious evils in the male sex; in women it would be even more disastrous.

WOODEN PHELGMONS.

Reclus and others have described a peculiar form of chronic inflammation of the skin and subcutaneous tissue characterized by a slow clinical course and by a wooden consistency, *phlegmon ligneux*, *Holzphlegmon*. Most frequently involving the neck and developing even for months without fever or pain, they so simulate malignant neoplasm that the termination in recovery may be the first means of reaching a correct diagnosis. In one case described by Reclus death resulted from a suddenly developing edema of the glottis. Various organisms, but especially streptococci and staphylococci, have been found in the exudate. Krause has described an instance involving the hypogastrium. Quite recently Chiari,¹ of Prague, has added still another instance, which is quite remarkable because of the extent of the disease, the long duration, the absence of suppuration, and the final general infection with streptococci. The patient was a woman of 50 years. The inflammation probably originated in a dental periostitis, caused by carious teeth. From this point there gradually developed a chronic, painless, afebrile process marked by much production of new connective tissue. In the course of some five or six months the hard, dense swelling had extended to the neck, the tissues of the chest wall, including the mammæ, and of the mediastinum; the cervical and axillary lymph-glands were also swollen, and the left upper extremity showed some involvement. Death resulted from a bilateral acute pleuritis, caused by streptococci, which were found in various parts of the subcutaneous and mediastinal fibrous tissue, whence the pleuræ probably became infected by way of the lymphatics. Streptococci were also present in the blood. During life two attempts at culture experiments proved negative, indicating, it is thought, a change in the biologic characteristics of the coccus. No cultures were made at the autopsy. The disease is an interesting one, which merits further study before the etiologic relations can be fully understood.

TUBERCULOSIS AND MILK.

That tubercle bacilli may be conveyed by milk is generally conceded. Even in the beginning of bovine tuberculosis the milk may be infectious. Bacilli have been demonstrated by animal inoculations in milk of cows giving the tuberculin reaction, but without local lesions. Milk as such is not the only carrier of tubercle bacilli. They are being demonstrated in the various products of milk, such as butter and cheese. Recently Rabinovitch discovered tubercle bacilli in a German patented preparation, made from beef fat and other ingredients, and placed on the market as an artificial butter. They have been found by Morgenroth in margarin. It is suggested by both these investigators that the beef fat used in these

¹ Berlin Klin. Woch., 1900, No. 36, p. 798.

¹ Beitr. z. Dermat. u. Syph., Festschrift f. I. Neumann, 1900, 64, 76.

preparations may have contained minute tuberculous lymph-glands. Certainly bovine tuberculosis seems to constitute one of the important problems in the present struggle against human tuberculosis. Bovine tuberculosis, in all its ramifications, should be subjected to the fullest study, regardless of the immediate economic interests that may be compromised by the results, which are sure to be startling wherever such study is pursued. Anything short of extermination of infected cattle and absolute control of the sources of public milk-supply will probably not suffice in the end.

TAXING PHYSICIANS IN VIRGINIA.

As noted elsewhere in THE JOURNAL, the medical profession in Virginia is up in arms against the unrighteous license law of that state. Why physicians should have to submit to such a tax is incomprehensible, according to any rules of justice and decency. The state might as well specially tax clergymen—we are not sure that it does not, for a legislature that would do one thing would not be above doing the other. Any intelligent individual can see that the utility of the average practitioner of medicine to the state is enough to warrant giving him special consideration instead of adding to his burdens, but the Virginia legislators seem to have been too obtuse even for this. If the medical men of the state use the influence they possess, it would seem that the repeal of the law would be a certainty, and if there is the least difficulty it will have to be credited to that invincible quality against which even the gods strive in vain.

• Medical News.

CALIFORNIA.

THE PRESIDIO HOSPITAL will soon be full to overflowing. It has a capacity of 880 beds, has now nearly 600 patients and the transport *Medeo* is bringing about 275 sick and wounded soldiers.

DR. R. BEVERLY COLE, ex-president of the American Medical Association, San Francisco, was tendered a banquet, October 26, to celebrate the semi-centenary of his entry into the practice of medicine. He was presented with a silver plate suitably engraved with a preamble and resolutions signed by the president and faculty of the University of California.

A SANATORIUM is projected which will utilize the Hotel Mentone property. The Los Angeles physicians interested in the enterprise are William Brill, Charles W. Bryson, Barton Dozier, Paul Broese, William H. Dukeman, David W. Edelman, Joseph A. LeDoux, H. B. Bascom Montgomery, Claire W. Murphy, Francis A. Seymour, James H. Seymour and Charles F. Taggart.

CONNECTICUT.

NEW APPOINTEES to the staff of the New Britain Hospital are Drs. Joseph B. Brocksieper and Charles A. Gillen.

THE NEW HAVEN MEDICAL SOCIETY has petitioned the New Haven Hospital to rescind the rule which prohibits any physician not a member of the staff from attending a patient in the hospital, even if sent there by him.

YALE MEDICAL SCHOOL, New Haven, began its eighty-eighth year, October 4. Prof. Russell H. Chittenden will be head of the department of physiology in place of Prof. Benjamin Moore, resigned, and Dr. Yandell Henderson will be assistant in the same department.

THE LITCHFIELD COUNTY HOSPITAL at Winsted, which is now almost completed, will have conveyed to it \$40,000 by one of the families interested in it. During the life of the donors they will receive a portion of the interest of the fund, but on the death of the devisors, all will go to the hospital.

GEORGIA.

DR. HAROLD L. WARWICK, formerly of Lamar Hospital, Augusta, has located in Savannah.

DR. E. L. OSBORNE has been appointed city physician of Savannah, to fill the place made vacant by the resignation of Dr. M. H. Levi.

THE MEDICAL DEPARTMENT of the University of Georgia, at Augusta, began its 1900-1901 session October 2. Dr. Eugene Foster delivered the opening address.

DR. THOMAS D. LONGINO, councilman of Atlanta, has formulated a plan for organization of the city ward physicians, which necessitates a complete change in the present plans of the health department. Under this plan a health officer will be appointed, to whom the city ward physicians will be subordinate. His duties will not in any way conflict with those of the chief sanitary inspector.

ILLINOIS.

THE CORNER STONE of the new Deaconess' Home and Hospital, Lincoln, was laid, November 4. The building is to cost \$25,000.

THE SOUTH CHICAGO HOSPITAL was opened to the public October 26. It has male and female wards, six private rooms, and an operating room, all properly furnished and equipped.

THE BOARD OF HEALTH of Morris has declined to accept the resignation of City Physician H. Milton Ferguson, has promised to support him in his views in future, has eulogized his service during the recent epidemic and has finally succeeded in inducing him to continue in office.

AN INJUNCTION against the new Deaconess' hospital at Peoria has been applied for by a neighbor, on the ground that her "residence is but thirty-five feet from the hospital, and the groans, shrieks and yells of the suffering patients, coupled with the frequent visits of the ambulances and hearse make the hospital an unbearable nuisance."

STATE ORGANIZATION.

THE COMMITTEE of the Illinois State Medical Society, appointed for such purpose, is proposing to present and recommend to the society at its annual meeting next May a plan by which it is hoped a complete organization of the profession may result. While this committee is at work some of the local societies are also active. The District Medical Association of Central Illinois, the Morgan County Medical Society, the Brainard District Medical Society, the Pike County Medical Society, and the Medical Club of Jacksonville, have adopted the following resolutions: Resolved, That it is the opinion of the members of the _____ that the medical societies of the State of Illinois should be reorganized on some comprehensive plan which would constitute the profession a complete and harmonious organization that would include each county, district and state society. That we believe the success which has attended fraternal organizations is, in part at least, due to their plan of organization; and, further, that the time has come when medical societies besides being bodies for the presentation of scientific topics must take a more active and practical interest in the material welfare of the profession as well as an active participation in all measures which are calculated to preserve the good health of the various communities in the state. Therefore, we would respectfully ask our neighboring county and district societies, as well as the state society, to consider some practical plan of reorganization and take steps to carry it into effect.

Chicago.

DR. FRANK T. ANDREWS has filed suit against the Great Northern Theater and Hotel Company for injuries sustained in an elevator accident two years ago. He claims \$10,000 damages.

A POLISH HOSPITAL, to cost \$250,000, is to be erected by the Sisters of the Holy Family of Nazareth, at the corner of Leavitt and Thomas streets. It will occupy an entire block, will be constructed of cut stone and pressed brick, will be equipped with all modern appliances and will be ready for occupancy in October next.

DR. NICHOLAS SENN'S gift of \$50,000 to Rush Medical College, together with \$30,000 now in hand, will suffice for the total cost of a clinical building for the college. It will be known as "Nicholas Senn Hall," and will be six stories in height, 40 by 90 feet. It will contain numerous small clinic rooms, a dispensary, laboratory and two amphitheatres.

THE PHYSICIANS' CLUB officially approved of medical inspection in the public schools, at its October 29 meeting, when the following resolution was adopted: Resolved, That it is the judgment of the Physicians' Club of Chicago that the result obtained by the medical inspection of the schools of Chicago demonstrates the high sanitary value of the system. As a life-saving measure it is of the greatest importance to the City of Chicago.

KENTUCKY.

DR. JOHN MASON WILLIAMS, formerly of Louisville, and late of the volunteer service in Cuba and the Philippines, was

Republican candidate for congress at his home, Mount Vernon.

DR. JOSEPH B. MARVIN, professor of medicine in the medical department of Kentucky University, is temporarily filling the chair of practice in the Louisville Medical College, made vacant by the resignation of Dr. John G. Cecil.

THE ANNUAL MEETING of the medical staff of the Masonic Widows' and Orphans' Home was held October 31, for the purpose of reorganization made necessary by the death of Dr. Preston B. Scott, formerly physician-in-chief. Dr. Ap Morgan Vance was elected president of the staff and Dr. I. N. Bloom, secretary. The following physicians compose the staff: Dr. Ap Morgan Vance, visiting surgeon; Dr. Henry E. Tuley, visiting physician; Drs. John G. Cecil and Frank C. Simpson, consulting physicians; Dr. I. N. Bloom, dermatologist; Dr. William Cheatham, ophthalmologist; Dr. C. Moir, assistant surgeon; Dr. L. Baltzer, assistant ophthalmologist; Dr. Vernon Robins, assistant dermatologist.

LOUISIANA.

NEW HEALTH BOARDS to the number of 25, have been established since the passage of the bill providing for the establishment of parish boards of health.

THE SCHOOL DIRECTORS of New Orleans have rejected the proposition of the city board of health to inaugurate a system of inspection of school-children for the purpose of detecting communicable diseases.

THE STATE BOARD OF HEALTH adopted resolutions at its recent meeting in New Orleans, providing that fruit vessels with passengers from non-infected ports be detained only long enough to disinfect baggage of passengers, and that vessels, other than fruiters, be required to deliver to the president of the board lists of their passengers with destinations.

MARYLAND.

THE PENINSULA GENERAL HOSPITAL at Salisbury, which will be erected within the next year, will be of brick, well equipped with all modern improvements and will have a capacity of 80 patients.

TYPHOID FEVER prevails to an alarming extent in Elktion, Cecil County. More than 26 cases have been reported to the health department there, and new cases are reported continually. Samples of milk and water have been forwarded to the state authorities for examination.

Baltimore.

DR. WILLIAM B. PERRY, while riding in Druid Hill Park, October 29, fell from his horse and had his left arm broken and his left shoulder dislocated.

DR. FLORA A. BREWSTER, charged with violating the state lunacy law by treating an insane patient at her private sanitarium, was acquitted in the criminal court, October 30.

THE ROHÉ MEMORIAL COMMITTEE, of which Dr. Louise Erich is chairman, appointed over a year ago to collect funds for a memorial tablet in the hall of the Medical and Chirurgical faculty, has engaged Sculptor Ephraim Keyser, recently returned from Europe, to make a bronze portrait tablet of Dr. Rohé. The funds are now in hand. The committee proposes also to establish in the library a Rohé alcove, consisting mainly of works on hygiene.

MASSACHUSETTS.

A CHAIR OF HYGIENE is to be established at Harvard, \$156,000 having been donated for this purpose.

DR. ELIZABETH A. RILEY, Boston, has the distinction of being the first woman lecturer in Tufts Medical School.

PRACTICE without registration has caused the arrest of three doctors in Massachusetts, two of whom found bail, but the third was fined \$100.

HARVARD UNIVERSITY has adopted a system of medical inspection which is eminently satisfactory. Dr. Marshall H. Bailey, the medical inspector, sends to each student at the beginning of term a card with the notification that every case of illness must be reported; all janitors are similarly instructed. As a result, Dr. Bailey has a double check on the health of the University.

MISSOURI.

A TESTIMONIAL TO DR. I. N. LOVE.

At the banquet tendered Dr. Love, at St. Louis, on his leaving for New York, referred to in our columns Oct. 27, Dr. Louis E. Newman, chairman of the executive committee of the St. Louis Medical Society, made the following response to the toast, "Our Guest": "We are here to-night to say au revoir to one who has been a wheel horse in the medical ranks for a quarter of a century; one, who, though still in life's meridian, has made for himself an honorable and enviable reputation not only in the community in which he has lived since boyhood and

which he now leaves for a wider field of labor, but throughout this broad land. At the century's close he goes to another city, the metropolis of the Western Continent, to follow his professional labors, which I am sure will be crowned with greater success even than in the past. I am sure that you are all with me in wishing him all that he deserves and that from the beginning of his new career until the time comes when his work shall have been done, success will crown his labors. It has been my pleasure and good fortune to know Dr. Love since I began the practice of medicine. My office adjoined his, and he was one of the first to bid me welcome, to extend the hand of fellowship to me. Beginning as his neighbor I frequently met him and loved and honored him for his straightforward honorable bearing, as a gentleman and a physician. Later I became associated with him in committee work of the St. Louis Medical Society, and now when I look back on the pleasant and profitable evenings when with good old, true Gulman, we met and discussed matters social, political and medical, I can not but feel how much I shall miss the genial, entertaining Love. Our loss is New York's gain, and yet let us hope that our friend will always consider St. Louis his home, where we shall always be ready to welcome him, not as the returning prodigal, although we shall always be glad to kill the fatted calf for him, but as a visiting brother who must needs from time to time make a visit to his family."

MONTANA.

AS A RESULT of the recent examinations held by the State Board of Medical Examiners, sixteen physicians have been granted certificates to practice.

FREE VACCINATION is announced at Butte and a physician has been employed at a salary of \$150 per month to vaccinate all who apply to him. On the first day 47 appeared. The compulsory vaccination ordinance is in force and those who fail to comply with it will be liable to a fine of \$5.

AN EFFORT is being made to induce Governor Smith to appoint an ad interim or emergency state board of health to act until the legislature can enact the necessary laws. The prevalence and increase of smallpox has rendered the necessity of a central authority and a general plan of campaign for suppressing the disease imperative.

NEBRASKA.

DR. LUTHER M. BOWMAN will open his new hospital in Alliance in a short time. Dr. Vaughan will be associated with him in its management.

DR. H. WINNETT ORR, Lincoln, one of the editors of the *Western Medical Review*, was recently operated on for appendicitis. He was in a serious condition for a time, but is now rapidly recovering.

THE HOSPITAL at South Omaha is in a fair way to be erected. Various money-making schemes are on foot, one being the sale of lapel-buttons. The promoters expect liberal subscriptions from the corporations and the railroads from whom employees the majority of the patients will come.

NEW YORK.

DR. JOHN F. MYERS, Sodus, has opened his new hospital at that village, with a capacity of 40 beds.

WE HAVE RECEIVED from Dr. Louis F. Bishop, secretary of the New York Academy of Medicine, the following minute: The President and Fellows of the New York Academy of Medicine hereby express their high estimate of the character of the late Dr. Samuel S. Purple, as a citizen and a physician; their earnest appreciation of his valuable services as a Fellow and an officer of the Academy, and their grateful acknowledgement for rare books and pamphlets presented by him in large numbers to the library of which he was the founder. They earnestly desire to extend to the members of his bereaved family their profoundest sympathy in this, the hour of their sad affliction.

OHIO.

DR. S. A. HUTT, Waverly, suffered a cerebral hemorrhage. October 25.

A MEMORIAL LABORATORY is to be built and endowed by the friends of the late Dr. W. J. Scott, of Cleveland, in his memory.

DR. ROBERT H. TIMPANY, Toledo, has been lying seriously ill with nervous prostration at St. Vincent's Hospital for the past two weeks.

DR. CHAUNCEY D. PALMER, Cineinnati, has resigned from his position as gynecologist and obstetrician to the city hospital. He will be succeeded by Dr. John M. Withrow.

PENNSYLVANIA.

FRANCIS SCHLATTER, the "divine healer," while on a recent visit to McKeesport, asked permission of the mayor to permit

him to hold outdoor meetings in the public square to preach divine emre, but was refused.

DR. JOHN ELLER, Lancaster, on October 30, celebrated his eightieth birthday. He has been practicing medicine for fifty-seven years, and recently attended a meeting of the State Medical Association of Pennsylvania, which he aided in organizing in 1848.

Philadelphia.

THE BOARD OF MANAGERS of the Pennsylvania Hospital have elected Dr. Alfred Stengel visiting surgeon to the hospital, to succeed Dr. Jacob C. DaCosta, deceased.

STATISTICS compiled in the medical department of the University of Pennsylvania show that 71 per cent. of the students have attended a college or university.

PLANS are being perfected for the erection of a new insane asylum. The name of the new institution will be "The Ogontz Hospital for the Insane." Work on the new building will commence early next year. It will cost about \$50,000.

A COMMUNICATION from the Women's Sanitary League has been forwarded to the board of health, asking for a further appropriation of \$5000 to the Municipal Hospital to build private rooms in the diphtheria pavilion and not less than \$10,000 for the construction of a scarlet-fever ward.

AS A RESULT of an inquiry made among the leading druggists, it has been ascertained that quantities of potassium chlorate are stored in many of these houses, some of which have as many as 25 to 100 kegs. A lesson has been learned in the case of the disaster in New York by which many were killed by an explosion probably of this substance. In the latter instance only 30 kegs of potassium chlorate are said to have been carried in stock.

GENERAL.

A WARNING.—A smooth, well-dressed individual has been collecting money and in other ways defrauding the physicians of Detroit and elsewhere, claiming to represent THE JOURNAL and another periodical. His name is B. F. Kenneth. If any of our readers know the whereabouts of this individual they will confer a favor by telegraphing this office. None of our agents are authorized to collect money, and this is specified on all order blanks carried by them.

A FATAL malady said to resemble typhoid fever complicated by pneumonia now prevails over the valley of the Yukon region; 150 Indians have already died.

THE LADIES of Sitka, Alaska, and others interested in the maternity hospital in the native village, met on October 1 to devise means for the supervision and maintenance of the charity.

COMMANDER SEATON SCHROEDER, GOVERNOR of the Island of Guam, has issued an order opening all hospitals in the island to the civilian patients free. The health of the island is fairly good. There are no typhoid cases and only a few of intestinal troubles.

MRS. LELAND STANFORD, of California, is said to be negotiating for the purchase of certain buildings now used at the Paris Exposition. These are to be taken down and the material used for the erection of an American hospital in the suburbs of Paris.

EDMUND DANTEs, while at work in a drug store in Paterson, N. J., stole the diploma of his employer, John Hall, and sub-stituted his own name. He then went to New York City and obtained a position in a drug store on Second Avenue. He was arrested, and October 31 was sentenced to one year's imprisonment in Sing Sing.

SPIRITUAL MEDICINE.—The "spiritualists" held an annual convention in Cleveland, October 16 to 20. They adopted numberless resolutions, two of which are of some little interest to our profession. They are as follows: "Resolved, That while we are opposed to the existing medical laws, and to all efforts being made to enact so-called medical laws, we would advise all who attempt to treat the sick to become thoroughly acquainted with anatomy, physiology, hygiene, and the general laws of health. Resolved, That compulsory vaccination is not only unwise, unconstitutional, and un-American, but dangerous to health, causing eczema, erysipelas, cancer, tumors, syphilis and often death." It is certainly very kind of them, while declaring their opposition to all medical laws, to advise all those who attempt to heal the sick to become thoroughly acquainted "with anatomy, physiology, hygiene, and the general laws of health." A spiritualist then, not having studied surgery, would probably treat a broken leg by means of "the general laws of health." The second resolution that is quoted above is most startling, or as the newspapers say, it is "important if true." The ills, which we are there told follow in the wake of vaccination, are quite calculated to sear away

"spirits" of ordinary caliber, but as all persons whose mental processes are governed by common sense know the statement to be plainly untrue it is not likely that this resolution will cause much of a stir in this world of hard facts.

CANADA.

OUR LEADING medical societies are now contemplating the publication of their annual transactions in full for the first time, thus giving the members thereof something more tangible than a mere annual membership certificate. It is likewise thought that those members will contribute more cheerfully to a medical defense fund.

AT THE PRESENT time there is more diphtheria in the city of Toronto than in other cities and towns in the province of Ontario; in fact, in some of the northern districts of the city it has almost approached to the status of an epidemic. The records for the present year so far indicate that the number of cases will be more than the average.

ADVERTISING NOXIOUS DRUGS IN THE LAY PRESS.

The death in Toronto this past week of a married woman, in convulsions, brought about through having taken an advertised drug to procure miscarriage; and the recommendation of a coroner's jury that the advertisements of these self-same drugs be listed as an offense against the criminal code, has been the text of a seathing article appearing in a society paper, against the leading daily and weekly papers of the country who profit by the insertion of these obnoxious and dangerous advertisements in their columns. That the lay press are great sinners in this respect has been before pointed out in these columns. It may prove an enlightenment to the public that newspapers are doing nothing more than lending themselves and their columns to criminals first and their victims last. The daily press is reeking with these filthy advertisements, and that of Toronto is indeed a sinner in a great degree.

NOVA SCOTIA BRANCH BRITISH MEDICAL ASSOCIATION.

The annual meeting of this branch of the British Medical Association was held at Halifax October 17. President Dr. E. A. Kirkpatrick, in the chair. The efforts of the association in the direction of securing legislation re tuberculosis have proved successful, as the government of Nova Scotia has provided through special legislation, for the construction and maintenance of a sanatorium. Five new members were elected to the branch during the past year. The election of officers resulted as follows: President, Dr. G. C. Jones; vice-president, Dr. Thomas Walsh; treasurer, Dr. M. A. B. Smith; secretary, Dr. C. D. Murray; counsellor, Drs. Ross, Kirkpatrick, Murphy, Walsh, Trenaman, Major Peeke and Dr. G. M. Campbell. Representatives on General Council, Surgeon-General O'Dwyer.

TORONTO UNIVERSITY FORGING AHEAD.

For many years it has been thought that McGill was supreme as regards educational matters in Canada; but for the past few years there have not been lacking signs that her rival in the West is now outstripping her in the race. As has been pointed out in these columns, the number of students enrolled in the department of medicine has been gradually increasing year by year until this year Toronto has enrolled no less than 110 freshmen. In the department of applied science, where McGill used to be ranked as the first, Toronto is making marked strides as evidenced by the large increase in the past few years in the numbers of her students. In the arts course, Toronto has always been supreme; and evidently in the departments of medicine and applied science McGill must look to her laurels or Toronto if it has not already done so, will snatch them from her brow. When Trinity and Toronto become consolidated into one institution, with their seven hundred students in medicine, Toronto will be the great university of Canada.

FOREIGN.

THE authorities at Paris have confiscated the issue for August 26 of the *Journal de Médecine de Paris* and certain back numbers during the year, on account of articles "outraging morality."

IN SWITZERLAND the new regulations make medical examinations much stricter than heretofore, and the minimum period of study is prolonged to five years.

THE DEATH of Dr. L. Villar is reported from Lima, Peru, professor of anatomy and legal medicine, president of the Academia de Medicina, editor of the *Gaceta Médica*, and senator.

THE MEDICO-SURGICAL SOCIETY of Sao Paulo, Brazil, is organizing a medical college at that place on a large scale, planning for eighteen chairs and fourteen clinical professorships.

THE NEW hospital for the Vienna Allgemeine Poliklinik has been completed. It has rooms for isolation and living apartments for a physician on each floor.

DR. ROBERT TIGERSTEDT, of Stockholm, has returned to his native land, in response to a call to the chair of physiology at Helsingfors.

DR. JAVAL, the eminent director of the Sorbonne Ophthalmological Laboratory, Paris, has been made officer of the French Legion of Honor. He has become completely blind, although only 60 years old.

OCTOBER 13 was observed in London as Hospital Saturday, for the twenty-seventh successive year, and special collections were made in many thousands of business houses and workshops on behalf of the hospitals and dispensaries.

A SCHEDULE of precautionary measures against the spread of plague, with special reference to railways and travelers, has been drawn up by the German Imperial Board of Health.

It is announced that the Copenhagen Academy of Medicine has proposed Professor Finsen as a competitor for the Nobel prize in medicine. Our exchanges state that this prize of 200,000 marks, or about \$48,000, is to be an annual institution.

THE *Scmana Medica*, of Buenos Ayres, has inaugurated the protest against lodge practice in the Argentine Republic, which it seems is assuming large proportions.

A TAPE-WORM charlatana has been imprisoned at Munich, owing to the death of a five-months infant to whom he administered a large dose of extract of male fern. The child died in less than an hour.

PROF. SIEGENBEEK VAN HEUKELOM and his pupils recently published a large work, the "Reconeil de Travaux Anatomopathologiques du Laboratoire de Boerhaave," which has attracted much attention. The death of the promising scientist in his fiftieth year is now announced from Leyden. Dr. H. Abegg, one of the leaders of the profession in Danzig, died recently at Wiesbaden.

BELGIUM has lost in Dr. E. Janssens one of the pioneers in hygiene and public health statistics. It is chiefly by his efforts that Brussels has taken such a high stand in hygiene and sanitation. Every physician in Belgium received from him a weekly bulletin containing the vital statistics of all the principal cities in the world. The death of Dr. A. P. Ferrari is also reported from Buenos Ayres, and of Dr. R. Hirsch from Hanover.

NOR one of the 104 persons connected with the Italian railroads who have submitted to prophylactic measures against mosquito infection of malaria, has contracted the disease during the entire season. On the other hand only 7 or 8 out of 359 persons in similar conditions, whose houses were not screened, have escaped malarial infection. The screens allowed the passage of the culex pipiens and kept out merely the anopheles.

THE BERLIN UNIVERSITY has opened two official courses not before included in the curriculum. One is for "Heilgymnastik," in charge of Dr. G. Schuetz, and the other is for massage, to be given by Prof. J. Zabudowsky at the new university institute—six months for students, and a one-month's post-graduate course.

PROPHYLAXIS AGAINST THE PLAGUE.

Yersin has been interviewed by the correspondent of the *British Medical Journal* in regard to the prophylaxis of the plague. He states that the only effective measure to stamp out the plague is to evacuate the houses and not return to them for six months. Disinfection and even burning down the buildings are ineffectual. By evacuating a village or small community the disease will die out in a week, and by this means he has succeeded in breaking up many epidemics. The ideal plan would be to have two villages, one for the cold weather and one for the summer. In Europe where such measures are impracticable, the chief reliance must be antiplague serum and inoculations, with as thorough disinfection as possible.

THE ORGANIZED EFFORT IN GERMANY.

Krecke endorses the new German society to protect the material interests of members of the profession in their struggle with the *Krankenkassen* or sick-benefit associations. He urges the necessity of an immediate fund for a "defense fund," and suggests that those physicians able to do so will buy a life membership in the society, paying 500 marks at once and for all, instead of the proposed mark a week. He will head the list. He also urges the appointment of reliable officers for the society, who will be able to devote their whole time to it if necessary, and plan to influence the lay press in favor of the medical corps. He concludes his communication in the *Muench. Med. Woch.* of October 16, with the plea that the social interests of physicians should have some attention paid to them in the medical curriculum. Students should be trained to take an interest in general matters affecting the

profession as a whole, and no one should be qualified to lecture until he has spent at least a year in active practice.

PROPHYLAXIS AGAINST TUBERCULOSIS IN NORWAY.

Claus Hansen and Holmboe have drawn up a bill for the state prophylaxis of tuberculosis, which has been adopted by the legislature of Norway and will become a law January 1, 1901. It requires the physician to report all cases of affections of a tuberculous character whenever accompanied by secretions liable to propagate the disease. The attending physician is held responsible for the supervision of the execution of thorough prophylactic measures. If necessary he can call on the local board of health for aid. This board is empowered to send the patient to a hospital or sanatorium if it deems that appropriate hygienic measures are not being enforced. It can also exclude persons known to be affected with tuberculosis from having anything to do with the preparation of food for sale, also with the sale of articles for food, or employment in the dairy business, or as children's nurses. The government is authorized to take the measures considered necessary to prevent the spread of the disease in much-frequented places, hotels, theaters, etc. The traveling expenses necessitated by the application of the law will be borne by the state, but the hospitalization of the poor and disinfection of their dwellings must be paid for by the community. The *Progress Medical* of October 20 agrees with Vallin that the notification of tuberculosis should not be compulsory, but left to the discretion of the attending physician until the day when the public is trained from childhood to sound and judicious conceptions of contagious diseases and their prophylaxis.

CO-EDUCATION IN AUSTRIA.

The new regulations whereby women are admitted as ordinary students to the universities and colleges in Austria, according to the *British Medical Journal*, have already been the cause of some disturbance of academic calm. Prof. Hermann Nothnagel, who holds the chair of special pathology, therapeutics and clinical medicine, in the University of Vienna, when he found a row of young ladies on the front bench of his class-room, refused to proceed with his lecture on the ground that it had not been prepared for students of the feminine persuasion. The girl undergraduates were then requested to depart, which they declined to do, and as the chronicle relates, they had to be led out of the University, but whether from its rooms merely or from its precincts he does not state. At Graz, too, the lady medical students were ungallantly received by their fraternal colleagues on making their first appearance in the medical class-room. On this occasion the girl undergraduates took up a less firm attitude than their Vienna sisters, and left the room with sobers.

LONDON LETTER.

THE PLAGUE IN GLASGOW.

Thanks to the energetic precautions of the authorities, the outbreak of plague in Glasgow has been completely arrested. There are now only 14 cases in hospital and 6 patients have been dismissed cured. Prof. Zabolotny, of the Imperial Institute of Experimental Medicine, St. Petersburg, who has spent several weeks in Glasgow on behalf of his government, has made an important report on the outbreak. His conclusions are as follows: 1. The outbreak, when compared with that of India, China and Africa, with those of Europe of recent years, is of the mildest description. 2. The extension of the epidemic is not great and the mortality insignificant, which may be attributed to the energetic sanitary measures. 3. For the most part the cases are bubonic, which are less dangerous than the pneumonic. The latter are excessively contagious because the sputum teems with plague bacilli. 4. As in the bubonic form the disease spreads only by contact with the skin, isolation and cleansing of linen and clothing are most important. 5. For persons in contact with the sick the best protection is an injection of the serum, 10 to 20 c.c., as here practised. 6. The treatment of patients is most effective when the serum is injected intravenously in large doses, 60 to 120 c.c.

THE FATAL CASE OF PLAGUE AT CARDIFF.

It is now beyond doubt that a fatal case of plague has occurred at Cardiff. The subject was a sailor on board a steamer, which came from Rosario in the River Platte to South Shields on the Tyne. When he landed he felt unwell and proceeded by train to Newcastle and thence to his home in Cardiff, which he reached on September 27. The physician who first saw him diagnosed typhoid fever. But he became suspicious and communicated with the medical officer of health. Plague was feared, and samples of the blood and the serum from an inguinal bubo were sent to the bacteriological laboratory. The bacteriological examination showed that the patient was suffer-

ing from plague. He died on October 4. Most elaborate precautions were taken against the spread of the disease. The patient's clothes and the bedding at his house were burned. His body was cremated. Over 700 rats were destroyed at Cardiff, of which 134 were caught on one ship. All danger of an outbreak of plague seems to be now passed.

FRACTURED SKULL MISTAKEN FOR DRUNKENNESS.

Another of those unfortunate cases in which a fatal head injury is regarded by the police as a case of drunkenness, has just occurred. A Londoner, aged 34, was traveling on business at some neighboring seaside resort. He did not return home until later than when he was expected. On his arrival he complained of his head and seemed in a dazed condition. He said that he had been locked up, charged with drunkenness and fined. He was a man of sober habits, and really had been taken ill and fallen while running to catch a train. Three days later he died. At the inquest it was proved that on the day of his arrest he was sober at 1:45 p. m. A policeman said that about 2 p. m. he saw the deceased staggering toward the railway station. He fell three times. A physician was called, who expressed the opinion that he was drunk, and he was taken to the police station. The police inspector insisted that he must have been drunk, as he could not stand. He admitted that blood was oozing from one ear. Death was found to be due to fracture of the skull, and it was thought that the deceased had an apoplectic seizure before he fell.

THE HOSPITALS COMMISSION.

At Cape Town the commission received evidence of the good management of the Rondebosch Hospital at Sterkstrom, but at the Matland Hospital the patients suffered considerable neglect and three were said to have died in consequence. One of the hospital ships was described as filthy, and the milk and food supply as bad. The civil surgeon at the Tuli Hospital complained that the authorities would do nothing. Horses were allowed to die and rot near the tents, and it was impossible to procure the necessary medicine. Three patients, including one Boer prisoner, died in consequence. The food supplied was unsuitable. At Simons Town the commission concluded taking evidence. The treatment of the Boer sick was found to be most satisfactory. The commission left for England on October 10, where further evidence will be taken.

Correspondence.

Druggists and Prescriptions.

October 31, 1900.

To the Editor:—A patient applied to me recently with gonorrhoea, for whom I prescribed methylene blue in a formula taken from THE JOURNAL of June 2, 1900. Of late years it has been my custom to supply these cases with medicine, otherwise I see them no more. Having seen an advertisement of a Philadelphia pharmaceutical house, offering capsules to the profession, made up, practically of the same formula which appeared in THE JOURNAL, but with a less amount of ol. santal and oil of cinnamon instead of oil of nutmeg, with the addition of one drop of copaiba in each capsule, I wrote to the firm explaining how I prescribed for above patient and I probably would not see him again, as he would most likely have the prescription refilled and supply himself and friends, which conjecture I found correct. I asked the firm whether they could supply me with capsules containing the ingredients in any proportion desired—I have no faith in the minute doses of ol. santal and ol. copaiba, and ascribe the whole benefit to the methylene blue. The firm referred to sent me a sample of the capsule, and their price list and in a letter received subsequently they evaded my latter request and instead suggested that I should have my druggist keep a small stock on hand to meet my prescription demand. This very thing I especially told them I wished to avoid. The fact is that I have been almost driven out of practice by the refilling of prescriptions. The practice of physicians in this section has almost been destroyed. My wife overheard one woman telling another in the street that there could be no better doctor than I, but that I always gave prescriptions and that their druggist bills amounted to more than the doctor's; she did not grudge the latter his fee but was robbed by the druggist. A physician who had been trained in a "surgery" in England, in which they

dispensed their own medicines, as an unqualified assistant I presume, settled here a few years ago, and by supplying his medicine drew patients from the other physicians. I feel that I can employ my time more usefully than in the mechanical occupation of putting up drugs and have consequently gone to the wall.

The manufacturing pharmacists to whom I wrote graciously condescended to inform me of the modus operandi of some of the ingredients of their capsules. Is it come to this that a trading firm dares presume to instruct us in therapeutics. No wonder they grow fat while we starve. It has been my practice to write prescriptions. The druggists we had here formerly, when asked to prescribe, referred the person to a physician. Those we have now charge exorbitant prices for prescriptions and tell them they have something better, and even dress wounds. One druggist, I am told, goes from house to house recommending Bland's pills at so much a dozen. Another put up one of my prescriptions in fancy bottles, tagged on his own name and peddled it around the country in a gorgeous wagon. A druggist in a neighboring town got one of my prescriptions which my druggist put up in powders as prescribed at 75 cents, made them up in quantity and sold them to all comers at 25 cents a dozen. From the operation of which causes I subscribe myself,

SLAIN VICTIM.

The Hall of Fame and the Discoverer of Modern Anesthesia.

HARTFORD, CONN., Oct. 30, 1900.

To the Editor:—In your brief editorial in the issue of October 27, on "Physicians and the Hall of Fame," you say it has been suggested that an expression of opinion through THE AMERICAN MEDICAL ASSOCIATION might have some influence and weight even with the laymen of the jury of award.

You say the suggestion is practical and worthy of consideration. With an ordinary jury this is probably true, but the present jury ranks as an extraordinary one, and the outlook for recognition by them of a physician or surgeon seems almost hopeless. Chancellor MacCracken, of the New York University, who appears to have had something to do with the selection of the judges, is reported in the New York *Sunday Herald* of October 14, under the heading "Prejudice of Class and Pride of Locality Influenced the Votes of the Judges," as follows: "The failure of any physician or surgeon to qualify is to me far more interesting, and again it is the chief justices' light vote that caused it. They must all be in pretty good health. I think, and remember the dentist only when their teeth ache. It is extraordinary though that a large class of men regard physicians merely as a necessity."

There are few probably that will care to disagree with the Chancellor in his estimate of the judges, for he says: "The whole matter has been absorbingly interesting and I am finding new things in it all the time." Chicago's distinguished and well-known physician, Dr. N. S. Davis, will remember the action taken by THE AMERICAN MEDICAL ASSOCIATION at its regular session in Washington, D. C., in May, 1870, the New York Medical Society in 1860, the American Dental Association in 1864, the Connecticut Medical and State Dental Association, the Gynecological Society of Boston, Oct. 20, 1870, and other societies of the country in giving expression of their belief from accurate knowledge of facts regarding the discovery of anesthesia, Dec. 11, 1814, by Dr. Horace Wells, of Hartford, Conn.

Dr. Henry P. Stearns, for the Connecticut State and Hartford County Medical Societies, and Dr. James McManus, for the Connecticut State and Hartford City Dental Societies, had circulars printed giving evidence which was sent to the judiciously enough for them to give to the subject careful, judicial consideration. It has been given out that only twelve of the judges voted for Dr. Wells. It would look as though the others either "willfully or even ignorantly" failed to recognize or appreciate the one great event of the century, when they spurned the name of the American who, as Lecky in his "History of European Morals," said, "has done more for the real happiness of mankind than all the philosophers from Socrates to Mill."

JAMES McMANUS, D.D.S.

American Diplomas in Australia.

SYDNEY, AUSTRALIA, Oct. 4, 1900.

To the Editor:—I enclose a clipping from one of our daily papers; such clippings and those who come out with diplomas from such schools (?) give our country rather a poor name here. The Medical Board of Queensland declines to register American diplomas unless certified to by an examination in Sydney or Melbourne University, and gives as reason of such requirements, that there is great uncertainty as to the value of an American diploma and great difficulty in obtaining reliable information from the United States.

Again I would wish that THE JOURNAL was in exchange with the *Australasian Medical Gazette*, the journal of the Colonial Branch of the British Medical Association.

Yours truly, P. M. K., Jefferson Med. College.

The following clipping accompanied the above, and is taken from the Sidney (Australia) *Telegraph* of October 3:

VALUE OF AN AMERICAN DEGREE.—The University of Delaware, which has recently been offering the degree of doctor of philosophy to all and sundry in Europe and the United States, would seem to be a decidedly curious institution, judging by its incorporators. They are a dentist, a saloon keeper or publican, and the wife of a carpenter. It is said that the University has no office or recognized home, but under its charter, which is perpetual and enables it to operate in any part of the world, the so-called University can teach dentistry, surgery and the science of philosophy, and can confer degrees of these as well as honorary degrees. What the worth of the degree is can not be stated, except in dollars.

Adirondack Cottage Sanitarium.

SARANAC LAKE, N. Y., Oct. 25, 1900.

To the Editor:—I notice an article in your issue of Oct. 20, 1900, by Dr. E. S. Oliver, which for three months connected with the Adirondack Cottage Sanitarium, but who has no connection whatever with the institution at present. I would like to state that the article in question was written entirely without my knowledge, and I hope it is unnecessary to say that many features of it have not my approval. Yours truly,

E. L. TRUDEAU, M.D.

Physicians and the Hall of Fame.

CHARLESTON, S. C., Oct. 29, 1900.

To the Editor:—Your editorial in issue of October 27, "Physicians and the Hall of Fame," should meet the hearty endorsement of the entire profession, and I trust you will push the matter further. The name of Dr. Marion Sims should in my opinion be foremost in the minds of all. Yours truly,

EDWARD F. PARKER, M.D.

Association News.

The following names were omitted from the complete list of members as published in THE JOURNAL, September 29:

- Pratt, E. L., Winsted, Conn.
- Guthrie, H. R., Sparta, Ill.
- Salmon, W. T., Oklahoma City, O. T.
- Williamson, N., New Brunswick, N. J.
- Rarbour, Philip F., Loutaville, Ky.
- Kesalnger, E. M., Sandborn, Ind.
- Watson, G. H., Bridgewater, Mass.
- Schwab, Leslie W., Chicago, Ill.
- Langdon, F. W., Cincinnati, Ohio.
- Reilly, Thomas F., New York City.
- Carr, A. P., St. Clair, Pa.
- Watson, G. H., Bridgewater, Mass.

The following corrections should also be noted:

- L. D. Mason, Greenwich, Conn., should be Brooklyn, N. Y.
- G. W. Piske, Carlisle, Ind., should be G. W. Pirle.
- R. H. Burkel, Manistique, Mich., should be Omaha, Neb.
- J. M. Jackson, Kansas City, Mo., should be Jabez N. Jackson.
- H. E. Pearce, Kansas City, Mo., should be H. E. Pearce.
- W. P. Sexton, Kansas City, Mo., should be M. P. Sexton.
- Wm. E. Guthrie, Sparta, Ill., should be Bloomington, Ill.
- M. A. Rogie, St. Louis, Mo., should be Kansas City, Mo.

New Members for October.*

- ALABAMA.**
Perry, Henry G., Greensboro.
- ARKANSAS.**
Bernart, Wm. F., Hot Springs.
Clyne, Adolphus G., Bethel.
Newton, I. J., Little Rock.
Norwood, M. L., Locksburg.
Simpson, John W., Hamburg.
- CALIFORNIA.**
Davison, Wm. A., Bridgeport.
Shannon, James M., Oakland.
Stallard, A. A., Alameda.
Sullivan, Wm. N., San Francisco.
Thorpe, A. C., Los Angeles.
- COLORADO.**
Thompson, David, Denver.
- CONNECTICUT.**
Coopa, Frank H., Danielson.
Gilbert, Sam'l D., New Haven.
Hallock, Frank K., Cromwell.
Hard, Alonzo T., Somers.
Smith, Edw. W., Meriden.
- WASHINGTON, D. C.**
Clark, Geo. C., Washington.
- GEORGIA.**
Nolan, Chas. T., Marietta.
Robinson, Walter C., Atlanta.
- ILLINOIS.**
Andrews, A. H., Chicago.
Carpenter, Edwin A., Balleysville.
Glidden, Stephen C., Danzville.
Kuh, Edwin J., Chicago.
Spaulding, Heman, Chicago.
Trigg, Joo. M., Farmersville.
Walt, Wm. S., East St. Louis.
Weber, Geo. T., Olney.
- INDIANA.**
Dugdale, Richard B., South Bend.
Green, W. F., Shelbyville.
Keim, Peter S., Mexico.
Kelly, J. C., Mexico.
Little, C. S., Evansville.
Lougfellow, F. W., Windfall.
McFarlin, John T., Williams.
McKee, H. N., Woodburn.
Moffet, Wm. E., Fayette.
Molz, Chas. O., Bedford.
Morgan, R. R., McCordsville.
Schuman, Oliver V., Columbia City.
Spinning, A. L., Michigan City.
Walker, Wm. S., Lafayette.
Wiley, Harriet, Portland.
- IOWA.**
Rower, E. L., Guthrie Center.
Green, Mary, Le Mars.
Jakes, John A., Sioux City.
Evens, Leo E. O., Osage.
Finlayson, J. A., Armstrong.
Rich, R. Gilbert, Hampton.
Kelley, D. C., Carroll.
Lender, Wm., Ledyard.
Sargent, Frank L., Marion.
Seymour, Wm. H., Plainfield.
Skinner, Geo., Waverlet.
Wheelwright, D. W., Wall Lake.
- KANSAS.**
Howard, Wm. F., Cuba.
- KENTUCKY.**
Hindewald, W. A., Louisville.
Carlton, R. E., Bethany.
Curlin, C. W., Hickman.
Glass, A. M., Booneville.
Lapsley, Frank, Paris.
Simmons, Henry, Jr., Corinth.
Strickler, F. P., Elizabethtown.
- LOUISIANA.**
Furman, Francis S., Shreveport.
Sexton, L., New Orleans.
- MARYLAND.**
Kahn, Samuel, Baltimore.
- MASSACHUSETTS.**
Johnston, Wm. L., Uxbridge.
Otis, E. O., Boston.
- MICHIGAN.**
Carson, Chas. J., Marshall.
Georg, Conrad, Jr., Ann Arbor.
Holmes, A. D., Detroit.
Hooker, Chas. E., Grand Rapids.
Irwin, T. C., Grand Rapids.
- MINNESOTA.**
Cummings, D. S., Waseca.
Ferguson, James R., Olivia.
Hammes, E. W., Hampton.
Holday, Wm. A., Marshall.
- MISSOURI.**
Forster, Jefferson D., Wellsville.
Young, Oscar O., Greenwood.
- NEBRASKA.**
Anderson, August, Norfolk.
Roberts, Jay G., Hastings.
- NEW HAMPSHIRE.**
Stokes, Dudley L., Rochester.
Lavallee, Arthur M., Suncook.
- NEW JERSEY.**
Beekman, John B., Pluckemin.
Buerman, Wm., Newark.
Eising, Henry C., Ridgefield Park.
Hoffmann, Peter, Jersey City.
Watson, Wm. P., Jersey City.
- NEW YORK.**
Allen, H. J., Corinth.
Atwood, John W., Fishkill-on-Hudson.
Bell, Chas. T., New York City.
Boyd, August S., New York City.
Brownell, F. V., Canajoharie.
Brown, Samuel A., New York City.
Cohen, Bernard, Buffalo.
Divine, Alice, Ellensville.
Halley, Samuel H., New York City.
Hartwig, Marcel, New York City.
Hayunga, Geo. A., New York City.
Hewitt, Adelbert, Saratoga Springs.
Frank, Isalah, New York City.
Lewengood, Samuel, New York City.
Lodrigue, Wm. E., Verdoy.
Munson, Alban E., New York City.
Nutt, John J., New York City.
Palmer, Elbert A., Saratoga Springs.
Palmer, Walter W., New York City.
Rosenberg, Leo, New York City.
Sanford, Waldo H., Saratoga Springs.
Scratchley, Francis A., New York City.
Shrady, Arthur M., New York City.
Seahook, H. H., New York City.
Smith Cassar, Olean.
Smith, Julian C., Genesota.
Somberger, S. L., Cortland.
Toma, Samuel W. S., Nyack.
Torrey, Edward, Allegheny.
Vincent, W. H., Hunsdale.
- NORTH CAROLINA.**
Brownson, Wm. C., Asheville.
Knox, A. W., Raleigh.
McBrayer, J. R., Asheville.
Whitehead, Richard H., Chapel Hill.
- OHIO.**
Howard, Wm. T., Jr., Cleveland.
Kline, P. J., Portsmouth.
Maynard, O. T., Elyria.
North, John, Toledo.
Peterson, H. J., Kelley's Island.
Teachnor, Wells, Columbus.
- OREGON.**
Coffey, R. C., Portland.
- PENNSYLVANIA.**
Ralley, Milton R., Philadelphia.
Marke, C. F., Columbia.
Richards, Daniel W., Easton.
Rohrer, Geo. R., Lancaster.
Wagner, E. C., Wilkesbarre.
Ferguson, Richard, Columbia.
- SOUTH CAROLINA.**
Almar, C. P., Jr., Charleston.
Booser, A. E., Columbia.
Faison, Julius A., Bennettsville.
Forrest, John, Charleston.
- TENNESSEE.**
Costan, Hamilton E., Fayetteville.
Gardner, Ralph L., Wales.
Hutchison, John L., Tiptonville.
Nunn, W. T., Chestnut Bluff.
Tatum, Robert H., Chattanooga.
- TEXAS.**
Palmer, Luther B., Perty.
- UTAH.**
Jones, Everett O., Murray.

* The complete list of members of THE AMERICAN MEDICAL ASSOCIATION was published in THE JOURNAL September 29. The list here printed contains the names of all who have joined since the complete list was published. Hereafter the names of new members will appear each month.

VERMONT.

Baker, O. C., Braundon.
Bartlett, C. W., East Dorset.
Baylies, Frederick W., Burlington.
Chisholm, A. S. M., Bennington.
Hemimway, Lewis H., Manchester.
Newton, Luther B., North Bennington.
Newell, Robert L., Rutland.
Watkins, H. R., Burlington.
Barringer, Paul B., Charlottes-ville.
Hains, Franklin W., Petersburg.

WASHINGTON.

Hoffman, Carl, Seattle.
WILCONSIN.
Bellack, Bernhard P., Columbus.
Chapman, Francis M., Sussex.
Doeg, Karl, Marshfield.
Fuchs, Albert F., Loyol.
Harris, Ben F., Lac du Flambeau.
Lercher, Wilhelm, Soldiers Grove.
O'Connor, W. P., Tony.
Oettiker, James, Platteville.
Williamson, Geo. H., Mattoon.

Book Notices.

A TREATISE ON MENTAL DISEASES. Based upon the Lecture course at the Johns Hopkins University, 1899, and Designed for the Use of Practitioners and Students of Medicine. By Henry J. Berkley, M.D., Clinical Professor of Psychiatry, Johns Hopkins University. With Frontispiece, Lithographic Plates and Illustrations in the Text. Cloth. Pp. 601. Price, \$5.00. New York: D. Appleton & Co. 1900.

The production of a work on mental diseases, especially a comprehensive and elaborate one, is one of the most difficult tasks that any author can take upon himself, and yet there are quite a number who are ready to attempt it. The present volume is the latest addition to the literature in this country on this subject, and is a very worthy one. Dr. Berkley has attempted to give an account of insanity in its various phases, largely in the light of modern neuro-psychology. He, therefore, commences with a rather elaborate, though not too extended, account of the cortical histology and modern views in regard to its mechanism. The special pathology of the nerve elements and other cerebral organs are also duly considered. The clinical section of the work, however, is more developed than is sometimes the case with those who have attempted to discuss the subject of insanity in this way, and, in the main, the author's method is a useful and satisfactory one. His classification of mental diseases, a matter which he does not altogether slight, is a very simple one, including only four general groups: 1. Mental diseases without appreciable pathologic alteration of the brain substance, or psychoneuroses. 2. Mental diseases sequential to ascertainable alterations, comprising particularly the intoxications, including antioxiations. 3. Those due to inherited or acquired mental instability, or the degenerative insanities. 4. States of complete or incomplete retardation of psychic and physical development. This classification has the advantage of simplicity and in many respects meets the demands. The specific forms are those generally recognized and enumerated in textbooks. The author's idea of neurasthenic insanities is a comprehensive one, as he includes nearly the whole condition in his treatment of the subject, but this is the principal criticism, if it is really a valid one, that we should offer. Each subject is followed by a more or less complete bibliography of literature, while foot notes are generally omitted. The book is a valuable addition to the literature of insanity, and should be in every alienist's hands. It is very handsomely printed and illustrated, and will undoubtedly meet with favor.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In Twenty Volumes. Volume XX. Tuberculosis, Yellow Fever, and Miscellaneous, General Index. Cloth, Pp. 906. Price, \$5.00. New York: William Wood & Co. 1900.

About half of this volume is taken up with a discussion of tuberculosis in its various aspects, the principal contributors being D. Lartigau, who discusses its bacteriology, pathology and etiology, and Dr. Knopf, who treats of its diagnosis, prognosis, prophylaxis, and treatment. The symptomatology is handled by Dr. H. W. Berg, of New York, and tuberculosis of the skin forms the subject of a chapter by John T. Bowen, of Boston. All of these articles are, as might be expected, up to date, and convey the current, accepted views of the disease. The subject of yellow fever occupies over 100 pages, considerable attention being given to the geographic distribution and

the origin of the disorder, prophylactic measures, quarantine, disinfection, etc., as well as to the pathology, symptomatology and treatment of the disease itself. Other subjects in the volume are snake-bites and mushroom poisoning, diseases of the uvula and soft palate, and the neural and mental defects in children, the latter by Francis Warner, of London, the only non-American contributor. The general index for the whole series takes up about one-third of the book—a total of a little over 300 pages. The series thus completed forms a very valuable manual of general medicine which will probably hold its own for some time to come, and as a monographic work, or rather a series of monographs, will be a work of reference for all times.

THE CARE OF THE CHILD IN HEALTH. By Nathan Oppenheim, A.B. (Harv.), M.D. (Col. of P. & S., N.Y.). Attending Physician to the Children's Department of Mt. Sinai Hospital Dispensary. Cloth. Pp. 300. Price, \$1.25. New York: The MacMillan Co. 1900.

This little volume, from such examination as we have been able to give it, appears to be in every way an excellent manual on its subject. The author's views are clearly expressed, and are in accord with the best thought on the subjects of training and care of children, their education, disorders and defects. For its compass too, it is very full and complete, and we notice little that could be made much fuller without unduly enlarging the book. The book should be in the hands of not only physicians, but of educators and parents as well, and we bespeak it a wide circulation among all these classes.

THE MENTAL AFFECTIONS OF CHILDREN; IDIOCY, IMBECILITY AND INSANITY. By William W. Ireland, M.D., Corresponding Member of the Psychiatric Society, of St. Petersburg. Second Edition. Cloth. Pp. 450. Price, \$5.00. Philadelphia: P. Blakiston's Son & Co. 1900.

This is a recent edition of the work published by Dr. Ireland two years ago, which has already found its place in medical literature, and which was itself really a second edition of an earlier, though smaller volume. No very extensive addition has been made to the present work, though it has been revised and brought up to date. Dr. Ireland is thoroughly acquainted with American work in this line, as indeed every one should be, and his references to American authors are numerous and appreciative. The work will maintain its well-earned place as a standard on the subjects of defective and idiotic conditions in children.

STUDIES IN THE PSYCHOLOGY OF SEX. The Evolution of Modesty, the Phenomena of Sexual Periodicity, Auto-Erotism. By Havelock Ellis. Cloth. Pp. 275. Price, \$2.00. Philadelphia, New York and Chicago: F. A. Davis Co. 1900.

This volume has the distinction of not being permitted to be published in the English language in Great Britain, hence it appears in the German, and its first English edition comes to light in this country. It is a scientific treatise, and as such we do not see exactly how it could be ruled out, though undoubtedly the English authorities recognized the fact that it would be sought for by those who were not scientifically minded, and thus come under the condemnation which we recently gave Kraft-Ebing's work on a somewhat allied subject. The present volume seems much less objectionable in its management of its theme than does that of Kraft-Ebing.

ATLAS AND EPILOGUE OF DISEASES CAUSED BY ACCIDENTS. By Dr. Ed. Golebiewski, of Berlin. Authorized Translation from the German. With Editorial Notes and Additions by Pearce Bailey, M.D. Pages, 549; 40 Colored Plates; 143 Illustrations in black. Price, \$4.00 net. Philadelphia: W. B. Saunders & Co. 1900.

The intention in publishing this book is, as stated in the preface, "to present a systematic description of the sequelae of injuries caused by accidents." "The book is expected to be of interest not only to medical practitioners, but also to students" and "to laymen whose interests are connected with accident-insurance."

According to the German law, all workmen, with few exceptions, are insured against accidents received while at their work. This has been the means of stimulating greatly the study of such accidents and their sequelae, and the author's

experience in this line has been particularly large. There is shown a tendency, at times, to extend the effects of injuries beyond what can legitimately be proved. As, for instance, to associate a carcinoma of the kidney with an accident that occurred seventeen years before; to ascribe arteriosclerosis, dementia paralytica and pulmonary emphysema to accidents.

The previous condition of the patient is sometimes not sufficiently considered, as in the case in which locomotor ataxia is said to have resulted from a simple sprained ankle. The patient was a syphilitic, the sprain due to a mis-step and the ataxia was well marked when he got up four weeks after the injury. It is more than probable that the tabs long antedated the sprained ankle.

The indemnity, or "rente" as it is called, is estimated in percentage of earning power during the time of disablement, and little is said of the time necessary to recover. It would have added to the value of the work to American readers had the time element been more fully discussed. These few points, however, are more than counterbalanced by the general excellence of the work. It is quite unique in its kind, and contains much valuable information. The colored plates are all works of art and the skiagraphs illustrate many obscure points in injuries of the bones, and particularly in injuries of the foot.

The work can be recommended to all who have to deal with accidents and accident insurance.

DISEASES OF THE TONGUE. By Henry T. Butlin, F.R.S., D.C.L., Surgeon to St. Bartholomew's Hospital; formerly Erasmus Wilson Professor of Pathology and Hunterian Professor of Surgery at the Royal College of Surgeons; and Walter G. Spencer, M.S., M.B. (Lond.), F. R. C. S., Surgeon to the Westminster Hospital, and in charge of Department for Diseases of Nose and Throat; formerly Erasmus Wilson, Professor of Pathology at the Royal College of Surgeons. Illustrated with 8 chromolithographs and 36 engravings. Cloth, pp. 475. Price \$3.25. London, Paris, New York, Melbourne: Cassell & Company (Limited), 1900.

The first few chapters on the minor diseases of the tongue and semeiology are poorly written. The English is so badly distorted that it is necessary to re-read many sentences in order to grasp their meaning. We find such expressions as "the cutis vera of the mucous membrane," "either of the three," and such sentences as: "The patient finally died exhausted." "A Prussian soldier had his teeth driven into his mouth by a bullet." "In Green's case the cyst was the size of a small bird's egg at ten years of age." (Just think of an egg ten years old!) "The patient swallowed the next day." "The treatment is such treatment as is good for the cure of the eruption on the skin." These are but a few of the many. Such loose expressions as "the size of an ordinary nut" (peanut or cocoa-nut?), should not be used in a scientific work, nor should a thing be measured in inches and weighed in grams. Some uniformity should exist. However, when we reach the chapters on malignant diseases it seems as if another mind was guiding the pen. The sentences are clear and the words well chosen. A complete mastery of the subject is shown. The author's views on early diagnosis and early treatment of malignant growths are so sound and so forcibly expressed that they should be read by all who are likely to come in contact with these cases. The excellence of the part of the work more than counterbalances the defects of the other chapters, and makes the work a valuable one. A number of good colored plates illustrate well the various conditions described.

A TREATISE ON APPENDICITIS. By John B. Deaver, M. D., Surgeon-in-Chief to the German Hospital, Philadelphia. Second Edition, Thoroughly Revised and Considerably Enlarged. Illustrated with Twenty-two Full Plates. Cloth. Pp. 300. Price, \$3.50. Philadelphia: P. Blakiston's Son & Co. 1900.

The first edition of this book was so well received and is so well known that it is necessary to mention only such changes and additions as appear in this, the second edition. The most noteworthy addition is the chapter on the pathology of appendicitis, written by Dr. A. O. J. Kelly. This covers 120 pages, and is based on a careful and systematic study of the large amount of material placed at his disposal by the author.

The various pathologico-histologic changes are well described and excellently illustrated by numerous plates in color, and black and white, and the work of others in the same line receives due consideration.

The author's views on treatment are forcibly and positively expressed, in a manner born of honest convictions based on a very large experience. His advice to operate immediately in all cases in which an early diagnosis has been made—within the first forty-eight hours—and in which no contraindication exists to operation, will, perhaps, when carried out by the experienced surgeon and with ideal surroundings offer the greatest chance of recovery to the greatest number and is the position toward which most surgeons of large experience lean today. In case operation for any reason is not undertaken, the use of cathartics as a routine treatment is strongly recommended. While it is certainly advisable to have the stomach and intestines thoroughly emptied in acute appendicitis, the indiscriminate and persistent use of cathartics may as unquestionably do harm by keeping up a disturbance of these organs at a time when rest is most desirable. Discrimination and judgment should certainly be exercised.

It would have added much value and interest to the work had the unusually large material been worked up statistically, particularly as regards results and sequelae, such as ventral hernie, post-operative adhesions, etc. The difficulties associated with the task, however, are recognized. The work as it stands is an excellent one and should be read as well by physicians and surgeons. The author's style is clear and forcible, and can not fail to carry conviction.

A TREATISE ON NASAL SUPPURATION; or Suppurative Diseases of the Nose and Its Accessory Sinuses. By Dr. Ludwig Grünwald, of Munich. Translated from the Second German Edition by William Lamb, M.D., M.C. Edin., M.R.C.P. Lond., of Birmingham. With Eight Illustrations in the Text, Two Plates, and One Table. Cloth. Pp. 335. Price, \$3.00. New York: William Wood & Co. 1900.

As the translator says in his preface, this is the only book in our language which deals with its subject in any detail, hence the reason for its translation and its introduction to English-speaking readers. Dr. Lamb has attempted to convey the author's meaning as concisely and clearly as possible and the work will be appreciated by the general practitioner as well as the specialist, for nasal disorders do not always occur within the immediate reach of practitioners devoted to this particular class of disease. The book should, therefore, have rather a wide circulation.

ATLAS AND EPITOME OF SPECIAL PATHOLOGIC HISTOLOGY. By Docent Dr. Hermann Duerek, Assistant in the Pathologic Institute; Prosecutor to the Municipal Hospital, L.J., in Munich. Authorized Translation from the German. Edited by Ludwig Hektoen, M.D., Professor of Pathology in Rush Medical College, Chicago. Circulatory Organs; Respiratory Organs; Gastrointestinal Tract. With 62 Colored Plates. Cloth. Pp. 158. Price, \$3.00. Philadelphia: W. B. Saunders, 1900.

In the present volume, which is one of a series, the circulatory organs, respiratory organs and gastrointestinal tract are considered.

The pathologico-histologic changes which take place in the typical diseases of the various organs mentioned are briefly but clearly described, and most excellently illustrated by the numerous colored plates.

The work will find a valuable place, not only with the student in the laboratory, but with the physician who desires to keep himself informed of the progress made in pathology.

THE MEDICAL DISEASES OF CHILDHOOD. By Nathan Oppenheim, A.B., M.D., Attending Physician to the Children's Department of Mt. Sinai Hospital Dispensary, with 101 Original Illustrations in Half-tone and 19 Charts. Price \$5. New York: The MacMillan Company, 1900.

Dr. Oppenheim's former work, "Development of the Child," is an extraordinary book. No one interested in children can afford to overlook it. That work created somewhat of a furor among educators, and it is but natural that physicians who were acquainted with it should be eager to examine his new work on pediatrics. While this one is not so remarkable from

the medical standpoint as the other was from an educational point of view, still it is a valuable work. It is up to date in every respect, except in treatment, which does not receive sufficient attention. The descriptions of lesions and symptoms are strong. The book is a good one and deserves a wide popularity. We can cordially recommend it to the profession.

Marriages.

HENRY HALPERT, M.D., to Miss Evelyn Morris, both of Scranton, Pa., October 25.

THOMAS W. COOPER, M.D., Brownsville, Tenn., to Mrs. Sarah Dinsdale, De Vall's Bluff, Ark., October 25.

JOSEPH A. HALLANAN, M.D., Logansport, Ind., to Miss Nora Mowers, Fayetteville, Pa., October 21.

ARCHIBALD M. WILKINS, M.D., Delta, Ohio, to Miss Bertha E. Morris, of Hillsdale, Mich., October 23.

H. SOMERVILLE, M.D., Chest Springs, Pa., to Miss Catherine Burgoon, of Ashville, Pa., October 25.

ALAN W. SMITH, M.D., Baltimore, Md., to Miss Alvira Adele Bennett, of Portland, Ore., October 31.

CHARLES S. MANGUM, M.D., Chapel Hill, N.C., to Miss Laura Rollins Payne, of Washington, D.C., October 25.

Deaths and Obituaries.

LOUIS W. READ, M.D., University of Pennsylvania, 1859, a surgeon in the Crimean and Civil Wars, and for 25 years surgeon-general of the National Guard of Pennsylvania, from heart failure, at Norristown, November 1, aged 72.

JOHN G. DAVIS, M.D., major and surgeon, U. S. V., formerly of Chicago, at Manila, Philippine Islands, from Bright's disease, superinduced by exposure in line of duty, November 1, aged 52.

JOHN WINSLOW, M.D., Bellevue Hospital Medical College, 1866, the oldest physician of Ithaca, N. Y., suddenly from heart disease, October 28, aged 65.

WILLIAM T. JONES, M.D., Bellevue Hospital Medical College, 1866, of Pine Bush, N. Y., from neuralgia of the heart, at San Antonio, Texas, September 26.

WILLIAM H. TURNER, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1856, at his home near Keokuk, October 29, aged 66.

DAVID NEWCOMER, M.D., Jefferson Medical College, 1859, at Mount Morris, Ill., after an illness of several months, October 19, aged 70.

AUGUSTUS MUMFORD, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1882, at Kimball, Minn., from typhoid fever, October 27.

WALLACE A. SIBLEY, M.D., University of Buffalo, 1875, at Rochester, N. Y., from organic heart disease, October 28, aged 54.

NATHAN A. DALRYMPLE, M.D., University of Wooster, O., 1877, from angina pectoris, at Pasadena, Cal., October 26, aged 45.

MICHAEL W. KELLHER, M.D., New York University, 1886, suddenly, from poison, at Pawtucket, R. I., November 1.

SAMUEL L. MONTGOMERY, M.D., New York University, 1880, of Concord, N. C., at Apex, N. C., October 26, aged 45.

MATTHEW J. GRIER, M.D., University of Pennsylvania, 1863, at his office in Philadelphia, October 28, aged 63.

JAMES MCNUTT, M.D., University of Iowa, 1874, of Columbia, Mo., at Bowling Green, Mo., aged 71.

JOHN C. MORGAN, M.D., Rush Medical College, 1869, recently at Sioux Falls, S.D.

Light from Bacteria.—The *Lancet* states that pure cultures of the photo-bacterium—which is the cause of the phosphorescence of the sea—can be obtained by placing a fresh haddock or herring in a 2 per cent. salt solution and keeping it at about 7 degrees above freezing. In a few days the fish and all the fluid give off a pale greenish light, made more brilliant by adding a little sugar. The cultures can even be photographed by their own light.

Societies.

Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13-15.

The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, Nov. 13-15.

Oklahoma Territory Medical Society, Oklahoma City, Nov. 15.

Indian Territory Medical Association, Muskogee, Dec. 4-5.

Pan-American Medical Congress, Havana, Cuba, Dec. 26-28.

Western Surgical and Gynecological Association, Minneapolis, Minn., Dec. 27-28.

THE CEDAR VALLEY (IOWA) MEDICAL SOCIETY, at its annual meeting at Waterloo, October 4, elected Dr. Frank H. Cutler, Cedar Falls, president.

THE DALLAS-GUTHRIE (IOWA) MEDICAL ASSOCIATION held its annual meeting at Panora, October 25, and elected Dr. Calvin O. Sones, Panora, president; Dr. Samuel J. Brown, Panora, corresponding secretary, and Dr. William J. Williams, Adel, treasurer.

THE BROOKFIELD (Mass.) MEDICAL CLUB held its annual meeting October 24, at Ware, and was entertained by Dr. Maurice W. Pearson. The following officers were elected: Dr. Charles A. Blake, West Brookfield, president; Dr. Albert H. Prouty, North Brookfield, vice-president; and Dr. James C. Austin, Spencer, secretary and treasurer.

THE MEDICAL SOCIETY OF THE WOMAN'S MEDICAL COLLEGE (Baltimore) held its first meeting of the season on October 23. Officers for the year were elected as follows: Dr. E. F. Cordell, president; Dr. W. Milton, Lewis, vice-president; Dr. Mary N. Browne, recording secretary; Dr. Annie C. Shipley, corresponding secretary; Dr. Jennie N. Browne, treasurer. The President's Address was on "The Lameness of Sir Walter Scott."

THE CORSICANA DISTRICT (TEXAS) MEDICAL ASSOCIATION met at Corsicana, October 23, for its annual meeting. Dr. Benjamin F. Houston, Corsicana, was elected president; Drs. J. W. Price, King Willow and John A. McGee, Rice, vice-presidents; Dr. John B. Clark, Corsicana, secretary, and Dr. William T. Shell, Corsicana, treasurer.

THE MASON COUNTY (KY.) MEDICAL SOCIETY met at Maysville, October 31. Papers were read by Drs. Amos G. Browning, on "Certain Forms of Heart Disease as Conducive to Fatal Toxicemia," and by Dr. A. N. Ellis on "Color Blindness." The society appointed a committee to draft resolutions of respect to the memory of the late Dr. Samuel Pangburn.

THE HARTFORD COUNTY (Conn.) MEDICAL SOCIETY held its semi-annual meeting October 17, at which papers were presented by Dr. Fredrick T. Simpson on "Mental and Physical Culture in High Schools"; Dr. Hermann Strosser, New Britain, on "Anesthesia and Anesthetics"; Dr. Oliver C. Smith, on "Pneumonia"; Dr. George R. Shepherd, on "Intra-Spinal Injections of Cocain"; and Dr. William T. Bacon, on "Ophthalmia Neonatorum."

THE CUYAHOGA COUNTY (Ohio) MEDICAL SOCIETY held an "Appendicitis Symposium" at Cleveland, October 7, at which papers bearing on various phases of the subject were presented by Drs. Guy H. Fitzgerald, Charles B. Parker, Charles G. Foote, Louis B. Tuckerman, and Joseph V. Kofron. The usual contest between the medical and surgical treatment of the disease was waged, and with the usual negative result.

THE PHYSICIANS' CLUB (Chicago) devoted its session of October 29 to matters educational. Superintendent of Schools Cooley spoke on "Manual Training"; Miss Laura W. Sanborn, director of physical training in the Chicago Normal School, read a paper on "Physical Training"; Dr. H. B. Favill, one on "Stages of Development in Relation to School Work"; Dr. Arthur R. Reynolds, one on "Medical Inspection of Schools," and Col. Francis W. Parker, of the Chicago Institute, closed with an address on "Education as a Factor in Pathogenesis." A resolution was passed commending the work of the department of medical inspection of schools.

THE UNION DISTRICT MEDICAL SOCIETY met at Hamilton, Ohio, October 25. Dr. Mark Milliken, Hamilton, was elected president, and Dr. Everett R. Brad, Liberty, Ind., secretary. Papers were read by Dr. John C. Sexton, Rushville, Ind., on "Lumbar Cocainization"; Dr. Harry W. Hawley, College Corner, Ohio, on "Gall-Stones"; Dr. James G. Graff, Trenton, Ohio, on "Amputations in Children"; and Dr. David W. Stevenson, Richmond, Ind., on "The Physician's Success from a Business and Intellectual Standpoint." The address of the president, Dr. Garrett Pigman, Liberty, Ind., embodied a brief history of the Society.

THE VIRGINIA MEDICAL SOCIETY held its thirty-first annual session at Charlottesville, October 23, 24 and 25. After the addresses of welcome, Dr. John N. Upshur, Richmond, delivered an address on "The Mutual Relations of the Public and Profession." The address of the president, Dr. Hugh T. Nelson, Charlottesville, was on "The Functions of Medical Societies in General and the Medical Society of Virginia in Particular." In closing he paid an eloquent tribute to the memory of "Virginia's great surgeon, Hunter McGuire." A portion of the session was devoted to clinical reports, after which the general subject of "Malaria," was opened for discussion by Dr. H. Stuart MacLean, Richmond. Dr. Joseph H. White, Richmond, presented a letter from Dr. William H. Taylor, Richmond, protesting vigorously against the present treatment and payment of medical experts in Virginia, and asking the society to take steps for their relief. He cited several cases in which he had been compelled to go great distances as an expert, and when he had rendered the service required and presented his bill, he was confronted with the statement that "there is no law authorizing the payment of medical experts." The court before which he had testified, the state auditor, and the attorney-general of the state had all assured him of this painful and serious fact. After a protracted discussion, the matter was finally referred to the legislative committee, with instructions to place it before the next legislature and endeavor to secure fairer laws on the subject. The subject of the special-license tax excited considerable debate, but all one side—that it be removed. Dr. J. Beverley De Shazo, Ridgeway, introduced the following preamble and resolution: "Whereas, the physicians of Virginia look after the public sanitation, make self-supporting citizens of diseased paupers, fight down deadly epidemics and do more charity work than all other professions combined; and, Whereas nearly every other state in the United States has repealed special-license tax laws on physicians; be it Resolved, That the medical profession of the state, through its State Medical Society, declares this an unjust law and begs the legislature of Virginia for a repeal of this measure at its next session." The matter was referred to a special committee. Dr. R. Sumter Griffith, Basic City, offered a resolution "that the judge of each county be requested by the secretary of the State Board of Health to appoint as members of the county board, physicians who are members of the county medical society. If no such society exists, then to appoint from members of the State Medical Society," which was adopted. Many papers were read and discussed, after which the following officers were elected: Dr. J. R. Gilder-loeve, Tazewell, president; Dr. John H. Neff, Harrisonburg, first vice-president; Dr. James E. Copeland, Round Hill, second vice-president; Dr. Charles W. Pritchett, Danville, third vice-president; Dr. Landon B. Edwards, Richmond, recording secretary for the thirty-sixth time; Dr. John F. Winn, Richmond, corresponding secretary, and Dr. Richard T. Styll, Newport News, treasurer. The next meeting will be held in Lynchburg, Va., during the fall of 1901, the exact date being determined by the local committee of arrangements.

Vermont State Medical Society.

Annual Meeting, Rutland, Oct. 11 and 12, 1900.

President Dr. M. R. Crain, Rutland, in the chair.

REPORT OF COMMITTEE ON REORGANIZATION.

The special committee appointed last year to report a plan for the reorganization of the society, on a basis of representation from county or district medical societies, presented their report. The plan proposed is essentially that of the Connecticut Medical Society, with modifications similar to those recently embodied in the plan of reorganization of the New York Medical Association.

The committee recommends: the establishment in each county of a county medical society, which shall be a branch of the State Society; membership in the State Society—excepting the present members—to be obtained only through the county societies; the county societies to be composed primarily of the members of this Society resident in the county; in case there is at present a county society in any county, the same may become a branch of this Society; the formation of a county society to be obligatory in all cases where there are ten or more physicians who are members of the State Society; the officers of the State Society and the chairman of the regular committees—and if deemed advisable, the presidents of the county societies—to be designated "The Council": The Council to

manage the affairs of the Society when not in session; each county society to elect annually one "Fellow" for every ten members, and for every additional fraction of more than half that number to represent it in the parent society; "The Council" and the "Fellows" to constitute "The Governing Board," which shall conduct the business of the annual meeting; the officers to be elected annually by the Governing Board, or by the Society, as deemed best; the "Fellows" elected each year, to be the delegates to THE AMERICAN MEDICAL ASSOCIATION; each county society to elect its own officers and enact its own laws, provided the latter are not at variance with the laws of the parent society; one fee—payable to the county society—to cover membership in both the county and the State Society and entitle the member to the "Transactions of the State Society"; the State Society to take on itself the duty of defending all suits for malpractice and all suits in any way affecting the professional status of any of its members, when unjustly brought, and to take cognizance of and prosecute violations of the Medical Practice Act, or of the laws of public health. The report further suggested the advisability of the society creating a fund for the care of the aged among its members, when necessary.

The report was discussed by a large number and much enthusiasm was manifested in the remarks of many of the members. The Society as a whole seemed awakened to the necessity of a better and more thorough organization of the medical profession in the state. The report was accepted, and a special committee, consisting of Drs. D. C. Hawley, of Burlington, George H. Gorham, of Bellows Falls, J. N. Jeune, of St. Albans, W. H. Vincent, of Orwell, and H. D. Holton, of Brattleboro was appointed to perfect the plan, frame new by-laws, etc., and report at a special meeting or at the next annual meeting.

LOCALIZATION OF THE LESION IN PARALYSIS.

DR. M. R. CRAIN, of Rutland, delivered the president's annual address on the above topic, in which he said there are two general divisions of paralysis: atrophic and non-atrophic. In the former there is rapid wasting of the muscles, for the reason that the lesion is situated at the atrophic center, or at some part of the tract between the trophic center and the paralyzed muscles, which being cut off from the center that controls nutrition, waste rapidly. The lesion may be in the brain, the spinal cord, the peripheral nerves, or their nerve roots. The non-atrophic form is caused by a lesion of the primitive motor centers or some part of the tract between the motor and the trophic center, causing paralysis without wasting of the muscles, except from disuse. In all cases of paralysis there occurs secondary degeneration of the nervous tract affected, and the degeneration occurs in the direction that the impulses travel. The diagnosis between the two general forms of paralysis is in most cases easy, unless the lesion is so recent that there has not been time for wasting of the muscles to occur. In most cases of atrophic paralysis, the muscular wasting is so great that a diagnosis can be made by inspection. Where this is not possible on account of the recent date of lesion, or on account of the muscles being small, or deeply covered with fat we can bring to our aid electro-diagnosis. All cases of atrophic paralysis, excepting muscles supplied by the cranial nerves, are caused by lesion of the peripheral nerves, their nerve roots, or the anterior horns of gray matter of the spinal cord. If the lesion is in the peripheral nerves there is sensory as well as motor paralysis, but if the paralysis is not complete, sensation is less impaired than motion. If the lesion is confined to the anterior horns, there is motor paralysis without impairment of sensation.

Atrophic paralysis of muscles supplied by the cranial nerves may be produced by lesion of the trophic centers at the base of the brain, the medulla, and the upper part of the cord, also by lesion of the cranial nerves themselves, or by pressure, from swelling of their sheaths as they pass through their bony foramina. As some of these nerves are nerves of motion only, we may have motor paralysis without impairment of sensation. The non-atrophic paralyzes are always central, and are caused by lesion of the primitive centers of motion in the cerebrum or in the path between them and the traffic centers situated at the base of the brain, the medulla oblongata, or the spinal cord,

Impairment of sensation may or may not be present, according to the location and extent of the lesion.

TREATMENT OF THE EYE BY THE GENERAL PRACTITIONER.

DR. GEORGE H. GORMAN, Bellows Falls, presented the vice-president's address with the above title. The general practitioner should be able to diagnose and correctly treat the common diseases of the eye. There are in the United States, according to the census of 1890, over 50,000 persons who are totally blind, and Vermont has the largest relative number of any state in the Union. Great responsibility rests on the general practitioner to properly care for patients with diseases of the eye, as they are in the majority of cases the first to see them. At the time Credé originated his method of treating ophthalmia neonatorum with strong solutions of nitrate of silver, 10 per cent. of all cases in his lying-in-hospital were afflicted with the disease. At present only .02 per cent. are so afflicted. It is not necessary in general practice to follow this method in all cases, but the silver solution should be used in all suspicious cases. A 1 per cent. solution is generally strong enough. The use of a 1 to 5000 bichlorid solution is also good treatment. One-fourth of all the cases of blindness in the civilized world are due to this disease. All children whose distant vision does not reach a certain standard, or whose near point is abnormal, and all with inflamed eyes or lids should receive attention. Asthenopia or eye-strain is exceedingly common in school children, and its treatment is almost imperative. Hygienic surroundings should receive attention, and all errors of refraction should be corrected. Many functional disturbances of the nervous system are due to strain on the ciliary muscle of the eye, or to an unbalanced condition of the extrinsic muscles of the eyeball, and the correction of these conditions will go far in relieving many cases of neurasthenia, epilepsy or hysteria. Chronic or subacute inflammations of the conjunctiva are too often mistaken for trachoma, which is comparatively rare, here in this part of the country. For these cases strong tannic-acid solution, nitrate of silver solution, and subconjunctival injections of bichlorid of mercury 1 to 1000 are proper. Never use pontics. Hot boracic-acid solutions are nearly always permissible, except in cases of injury and acute purulent ophthalmia, when ice-bags or other cold applications are better.

HEMANIOPIA.

DR. A. S. M. CHISHOLM, Bennington, read a paper with the above title. Nettleship wrongly regards every case of hemianopia as symptomatic of cerebral disease, and does not recognize the functional form. The condition is by no means rare, but its onset is so unexpected, its continuance so brief and its most interesting symptoms so fugacious, that the patient fails to note and the physician to discover one of the most suggestive of morbid phenomena, while brief allusions in the text-books, and scanty notices in the medical journals are all that the most painstaking industry can unearth from the written record. REPORT OF THE RECENT EPIDEMIC OF SMALLPOX IN HARDWICK, VT.

DR. S. E. DARLING, Hardwick, said the recent epidemic was started in the person of a lawyer just returned from Arizona, where the disease was prevailing. He arrived May 25, and went about through the streets and places of business until the evening of May 27. A diagnosis of smallpox was made. He was quarantined until May 30, when a consultation resulted in a diagnosis of varicella by a majority present, and the quarantine was raised. June 8, two cases broke out, and between June 26 and July 1, eight cases more. A modified quarantine was instituted, and on July 31 the State Board of Health officially pronounced the disease smallpox. Much difference of opinion prevailing among physicians and others, Dr. George Henry Fox, of New York City, was sent for. He came, saw all the cases, and pronounced the disease smallpox. A detention hospital was established one mile from the village, and all cases able to be moved were taken there. From July 25 till 31 no new cases appeared. From July 31 till August 16 there were twelve new cases, making thirty four in all, thirty-three of the discrete and one of the confluent form. All cases recovered.

(To be continued.)

New York Academy of Medicine.

Stated Meeting, Oct. 25, 1900.

Dr. J. Riddle Goffe in the chair.

ANALGESIA PRODUCED BY MEDULLARY INJECTIONS OF COCAIN IN OBSTETRICS.

DR. S. MARX read this paper. He said that, in obstetrics, he had yet to record a failure with this method of inducing anesthesia. The only two dangers are sepsis and cocain poisoning. None of his cases had shown any true evidence of cocain poisoning. They had, it is true, exhibited certain symptoms which might have been taken as an indication of its toxic action, but that they were not been proved by the fact that the same symptoms had been noted in control tests in which no cocain had been used; hence, they were due to spinal shock. As the symptoms of cocain poisoning are those of cerebral anemia, and as there is likely to be cerebral congestion during parturition, it is not reasonable to suppose that parturient women would prove specially susceptible to the toxic action of cocain. Many patients suffer from intense headache after medullary analgesia. This can be avoided in many instances by giving the patient 30 or 40 grains of bromid about two hours before the operation. When the parturient woman has become completely anesthetized there is no longer any spontaneous bearing down, but if she is instructed to bring her abdominal muscles into play in order to assist the expulsion of the child, she does so as vigorously as when not anesthetized. He has done versions and forceps extractions in women so anesthetized. The method is effective and safe for both mother and child, though failures will sometimes occur most unexpectedly.

SOME OBSERVATIONS ON MEDULLARY ANALGESIA.

DR. S. ORMOND GOLDAN presented in this paper a report of his observations in 20 cases of general surgery. He recommends the use of an attenuated needle of 14-karat gold. It should have a short bevel. The puncture should be made between the fourth and fifth lumbar vertebrae, and not more than one centimeter to the outside. Vomiting had occurred in about half of the cases, and usually more or less profuse perspiration. About half of the patients had suffered from headache, and two had exhibited more or less persistent rigidity of the muscles of the back and head. In one obstetrical case there had been toxic symptoms. The individual susceptibility of the patient to cocain must be determined just as with morphia. He believes intraspinal cocainization will take its place in surgery, but will be restricted to those cases in which general anesthetics can not, or should not, be administered.

MEDULLARY INJECTION IN GYNECOLOGY.

DR. J. RIDDLE GOFFE read a paper on this subject which will be published later.

DR. A. PALMER DUDLEY said that from an experience with this form of anesthesia in six cases he is far from enthusiastic about it. Two very disagreeable features in his cases had been the involuntary evacuations of the bowels and retching and vomiting. The headache which most of these patients experience seems to be worse than the distress after ether or chloroform. Moreover, the period of anesthesia had been of very variable duration, ranging all the way from 32 minutes to 2 hours and 39 minutes. There was almost always a rise of temperature within an hour. The method seemed to him better adapted to obstetrics than to general surgery.

DR. HENRY C. COE described a typically successful case. The woman, a hospital patient "without nerves," had been subjected to an abdominal section, and had chatted glibly during the whole time. Her condition had been so bad that he felt etherization would have been very dangerous.

DR. EGBERT H. GRANDIN described his unfortunate experience with the method in two cases. They were both absolute failures, though the injections had been given by Dr. Marx. He thought the less we exploited this method the better. The danger of sepsis was an ever-present one. It was well to bear in mind that there was reason to believe that the method was not only uncertain, but that it had already claimed some victims. Two gentlemen who had been at the International Medical Con-

gress had separately and independently assured him of the correctness of the following remarkable statistics, namely: One hundred cases of lumbar puncture with 5 deaths, and anesthesia secured in only 17 per cent.

DR. J. BLOX BOGART described his experience with this new form of anesthesia in 25 cases, covering fairly well the field of general surgery. Since he had made it a rule always to get a fluid tap, and to make the puncture between the third and fourth lumbar vertebrae, and had boiled the cocaine for only two minutes, he had had no failures.

DR. MARX expressed regret that Dr. Grandin should have placed on record those remarkable figures, vouched for only by two unknown persons. What was wanted now was information concerning failures and complications. He thought Dr. Goldman used too large doses of cocaine.

DR. GOLDAN said that he had tried to make his observations uniform by using always 20 minims of a 2 per cent. solution of cocaine. In one case he had made the puncture between the fourth and fifth, and again between the third and fourth lumbar vertebrae, but had failed to induce anesthesia. A few days later, a secondary operation being required, he had had no difficulty in securing complete anesthesia. He had tried to report his cases just as they had occurred, giving failures as well as successes.

Chicago Pathological Society.

Regular Meeting, Oct. 8, 1900.

President Ludvig Hektoen in the chair.

MILK-SUPPLY.

DR. S. E. MUNSON, Springfield, Ill., read this paper, discussing in particular the relation between milk-supply and tuberculosis. The recent literature bearing on the subject was discussed, and the use of tuberculin and the slaughter of cows giving a reaction were advocated.

DR. EVANS spoke of the various measures advocated for the elimination of tuberculosis from herds of cows, and concluded by advising the killing of all tuberculous cows, as has been urged by Virchow.

DR. GEHRMANN referred to the measures taken by the Chicago Health Department relative to the detection of tubercle bacilli in milk. The examination of a general milk-supply for the bacilli has been discontinued, and only the milk from individual cows is tested. The use of tuberculin is always recommended in any case where suspicion is aroused, in preference to the examination of the milk. The detection of pns in milk is considered sufficient evidence on which to condemn it, even in the absence of tubercle bacilli.

GLIOMA OF RETINA.

DR. BROWN PUSEY demonstrated specimens of a glioma retinae. The present agitation of the subject of glioma of the retina undoubtedly is due to the article of Flexner, published in August, 1891, and to the book of Wintersteiner, *Das Neuro-epithelioma der Netzhaut*, published in 1897. In these publications particular attention is paid to the "rosettes" found in such tumors. Wintersteiner described the rosette as composed of cells derived from the neuro-epithelial layer of the retina; the wall of the central cavity of the rosette, he considered corresponded to the external limiting membrane of the retina, with rudimentary rods and cones projecting into the central cavity. Flexner and Wintersteiner, working independently came to similar conclusions, and from these studies suggested the name neuro-epithelioma retinae to replace the term glioma retinae. These conclusions have been accepted by many authorities; others have opposed them.

DR. M. HEIZOG agreed that the tumor consisted of glia cells, and that if blood could be demonstrated in some of the spaces, the picture would correspond to a glioma of the central nervous system.

CASTRATION TUMORS IN SWINE.

DR. H. DUNCAN stated that there is a disease of swine characterized by a tumor or growth, which as a rule appears after castration, occupying the position of the testicle. Similar growths occur, however, in other situations and in the female,

usually on the breast. A trauma of some kind invariably occurs previous to the appearance of the growth. The clinical history of the disease is briefly as follows: About two weeks after castration, at the seat of the castration wound, a swelling appears. The tumor as a rule grows rapidly and in from three to five weeks one or more ulcers appear in the cicatrix. Close inspection shows the ulcers to be the external openings of fistulous tracts from which there is a constant discharge of purulent material; the discharge may be intermittent. Not infrequently the growth acquires enormous proportions as compared with the weight of the animal, and in such cases may drag upon the ground. During the early stages the animal thrives, later it becomes cachectic, loses flesh and dies about twelve months after the inception of the growth.

The histology of the growth is uniform and corresponds to the macroscopic appearance, namely a structureless, necrotic center with an enclosing zone of scar tissue. In sections stained for bacteria the necrotic border is seen to contain numerous organisms, sometimes in enormous numbers. There may be bacilli of varying lengths, threads and cocci. The threads stain uniformly or appear as strings of deeply staining spores or cocci. Some of the threads branch. The disease is not infrequent among the swine herds of Iowa, Kansas and Missouri.

Cleveland Medical Society.

Regular Meeting, September, 28, 1900.

President Dr. Henry S. Upson in the chair.

SMALLPOX OF THE PRESENT EPIDEMIC.

DR. MARTIN FRIEDRICHIS noted that while many cases are very mild, and some of them difficult to recognize, yet that others occur which answer perfectly to the old classic description of the disease. A century of vaccination has established a partial immunity by inheritance, even in those who have not themselves been vaccinated. Another potent cause for the mildness of the disease is the use of the antiseptic method, whereby secondary infection of the skin lesions is usually avoided. While the disease is contagious, he did not think that it was highly so, as he had never seen it spread from house to house unless the people visited back and forth. In one apartment house with four families on one floor, three who had visited each other frequently contracted the disease from one case, while the fourth, which did not associate with the other three, entirely escaped. He had noticed that children who play about the floor seem to contract the disease more readily than adults, and the same is true of the women who scrub the floors in infected rooms. The sudden rise of temperature with headache and backache, followed by the eruption, along with which the temperature falls, make the diagnosis clear. He had seen a number of cases that began with severe initial symptoms in which the disease was afterward very mild, only four or five poeks appearing. In the time of an epidemic every pimple should be looked on as suspicious, if its appearance has been heralded by fever. He gave clear directions for differentiating smallpox from measles, chicken-pox and other eruptive diseases.

DR. O. T. MAYNARD, Elyria, reported a case of long duration, with moderate fever, some disturbance of the general health and successive crops of vesicular eruptions, which had been very difficult to diagnose.

DR. G. SEELEY SMITH asked what the essayist thought of red light in the treatment of smallpox. He had seen a report of 17 cases treated with marked success in Stockholm by this method.

DR. H. W. ROGERS said that the point he relied on chiefly in diagnosing smallpox from chicken-pox was that, in the former, eruption appeared at once all over the body, while in the latter it appears in groups. Speaking of the case reported by Dr. Maynard, he said that the pulse was not characteristic of typhoid, being too rapid, and also that the eruption was too late. He thought the case was one of auto-infection from the intestines.

DR. JOHN L. HESS said that during two years, while serving

as health officer, he had seen some 275 cases of smallpox, and that in a very large proportion of them it was impossible to make a diagnosis in the early stages. Many cases at the onset resemble la grippe. He thought that mistakes were almost certain to arise.

DR. C. L. WEBSTER said that, particularly in children, he had noticed early in cases of smallpox a bright-scarlet rash over the lower abdomen and inside of the thigh.

DR. J. T. SMITH said that the smallpox of to-day must be very different from that of forty years ago, if there is any difficulty in making a diagnosis. While in charge of a small-pox hospital during the Civil War he had not seen cases in which there was any question of diagnosis. The confluent cases that he had seen at that time were very severe, although the mortality was low.

DR. N. C. YARIAN said that he had had a case of undoubted smallpox without the typical eruption. In this case the papules developed a week after the disease began and came in successive crops. They were first vesicular and then pustular. The diagnosis was doubtful until other members of the faculty contracted the disease.

DR. W. E. HART, Elyria, in speaking of Dr. Maynard's case, said that while the pustules looked like smallpox, although they were very small, yet the fact that the fever continued after their appearance led him to exclude smallpox. The case was not isolated and no cases of smallpox arose from it.

DR. CHARLES J. ALDRICH said that it was reported that for the last few years there has been an epidemic of smallpox among the negro cotton-pickers in the South, so mild that many of them have not been confined to the house for a single day. In connection with these cases of smallpox, persons who subsequently handled the bales of cotton coming from the same district contracted the disease. He had seen one case, a boy of 8, recovering from mild scarlet fever, in which there suddenly occurred convulsions and high fever, accompanied shortly by smallpox eruption. This child was completely aphasic for three months, but has recovered.

DR. FRIEDRICHS, in closing, said that the diagnosis was absolutely certain and there should be no doubt in any case. He said we did not have to wait until pustules appear.

DR. WILLIAM H. HUMISTON reported a case of left tubero-ovarian abscess containing a diplococcus closely resembling the gonococcus, and also the colon bacillus. He also reported a case of right pyosalpinx.

SUPPURATIVE CHOLELITHIASIS.

DR. GEORGE W. CRILE reported this case. The patient for two or three weeks had had attacks of pain, both in the right and left sides, and later the right side became perceptibly tender. There was marked leucocytosis and a diagnosis of gall-stones was made. At operation the gall-bladder was found to be so elongated that it extended down to McBurney's point, and was very slender. The tip of the gall-bladder was much distended, and a gall-stone was found therein. It was wedged so tightly as to require crushing before it could be removed. One physician who had seen the case had been misled by the fact that early in the case the pain had been chiefly on the left side. This case showed that there might occasionally be considerable difficulty in diagnosing a case of appendicitis from disease of an elongated gall-bladder, and that pain on the left side does not exclude disease of the gall-bladder.

American Public Health Association.

*Twenty-eighth Annual Meeting, held at Indianapolis,
Oct. 22-26, 1900.*

(Concluded from p. 1171.)

TEACHING OF HYGIENE AND GRANTING OF DEGREES OF DOCTOR OF PUBLIC HEALTH.

DR. WYATT JOHNSTON, Montreal, compared methods of hygienic instruction in vogue in the United States and in foreign countries, with the result that the showing was decidedly favorable to the foreign countries. He inveighed strongly against the looseness of methods in this country by which men are able to secure positions as health officers or as

members of boards of health without having the necessary qualification. Dr. Johnston urged the Association to consider this matter and endeavor to arrive at some standard for a purely hygienic education.

DR. L. P. JONES, Greenwich, Conn., outlined the following scheme for preventive medicine: 1. The endowment of a chair of preventive medicine in each of the leading medical colleges of the country. 2. The establishment of an institute, the members of which should be the incumbents of these chairs. 3. An award of prizes by this institute for essays and discoveries of special merit in sanitary science. 4. Establishment of fellowships for a limited number of advanced students.

DR. JUAN BRENA, Zacatecas, Mexico, dealt with the vice of smoking among youths and offered suggestions as to the means of overcoming it.

REPORT OF THE COMMITTEE ON DISINFECTATION.

PROF. F. C. ROBINSON, Brunswick, Me., presented the following conclusions: 1. Household disinfection after infectious diseases should combine the use of formaldehyde with other means. It can be safely relied on for all exposed surfaces, and these only. 2. Formaldehyde requires moisture enough in the air to nearly saturate it for its most efficient working. 3. There is much disagreement among experimenters as to the disinfection of tuberculous matter. One says a 2 per cent. solution of formaldehyde disinfects it; another, that even a 10 per cent. solution does not. Several say that formaldehyde gas applied as above destroys it; others deny this. Further experiments are needed. 4. Soap is a poor disinfectant, but 1 per cent. caustic alkali, or 20 per cent. carbonate of alkali is efficient. 5. Carbolic acid, less than a 5 per cent. solution, has little scientific value. 6. The cresolates, as used in creolin, lysol and solutol, are safe disinfectants. 7. Alcohol at from 50 to 75 per cent. has considerable disinfecting power, but not at other strengths. 8. Most metallic salts, except those of mercury, have little disinfecting action. 9. Bichlorid of mercury should be used in strength at least 5 to 1000 if tuberculous matter is to be disinfected. A fresh solution is more active than one which has stood for some weeks. The addition of salts does not increase the strength of a fresh solution, but prevents it from losing its strength as rapidly. 10. Bright sunlight kills the tubercle bacillus in a few hours, and, as a rule, pathogenic bacteria keep their greatest virulence only when kept in the dark.

DR. JESUS CHICO, Guanajuato, Mexico, gave some hints about malaria from personal observations, in which he did not think the mosquito was as important a causative factor as had been attributed to it in distributing malaria, but in Mexico he thought the injudicious use of tropical fruits played an important rôle.

REPORT OF THE COMMITTEE TO DEFINE WHAT CONSTITUTES AN EPIDEMIC.

DR. BENJAMIN LEE, Philadelphia, read this report. In the minds of the public at large, and of many of the profession, the word epidemic still conveys an idea of universal atmospheric contamination. This is to be deplored, because, while on the one hand its use inspires an indefinable horror and creates panic, on the other hand it leads to the disregard of the very precautions which are of essential use in restricting the spread of the contagion, namely, those which should be taken in regard to the person and the excreta of the patient, his effects and his immediate environment.

In view of changed views as to the propagation of communicable diseases, the word epidemic has outgrown its usefulness. It has become the means of perpetuating false conceptions, and its official use may be misleading and mischievous. Without attempting any stricter, more comprehensive or more lucid definition of this word, the committee recommended that, as opportunity occurs in all laws and regulations in which certain executive action is made contingent on the declaration by health authorities of the existence of an epidemic, the phraseology shall be altered by omitting the word epidemic, and in place thereof inserting a brief statement of the condition calling for such action, as, for example, "whenever a communicable disease prevails to such an extent, or is

spreading with such rapidity as in the opinion of the board to make it its duty to notify either the general public or the authorities of neighboring towns of the fact that such and such action shall be taken." The report of the committee was adopted, and the committee discharged.

REPORT OF THE COMMITTEE ON NATIONAL LEPROY HOME.

DR. H. M. BRACKEN, Minneapolis, chairman, presented this report. The committee dealt with the desirability of establishing national leprosy in the United States. The records of Dr. Bracken, for certain states, were compared with those of Dr. Hyde. He presumes that Dr. Hyde's figures for Iowa and Wisconsin, 20 each, are estimated. Probably they are not too high. He has taken only those cases of which a history could be given. It is probable that the 120 cases credited to Minnesota are taken from Dr. Hansen's report. It seems to him that this, too, must be an estimate. If there were 120 cases in Minnesota, the speaker can not understand why they are not on his records of 61. If there were that many cases in 1888, the number for Minnesota is much higher than he has given, for many of the cases in the official list can not have possibly belonged to Dr. Hansen's 120. It might appear from the report of cases in the Northwest that leprosy was far more common in Minnesota than in the neighboring state. He can see no reason for this belief, for the lepers in this district are among the immigrants from Norway, Sweden, Iceland and China. These people have quite a representation in all this group of states. He can only attribute the more complete returns for Minnesota to the fact, 1, that there has been less agitation against leprosy in this than in some of the neighboring states; 2, that with this lack of agitation against leprosy physicians report their cases more willingly to the state board of health, which has endeavored during the last twenty years to palliate the sufferings of this unfortunate class; 3, that Minnesota is fortunate in having among its physicians men who are familiar with leprosy, and who are interested in philanthropic work, and these physicians have given material aid to the state authorities engaged in securing a list of all lepers in Minnesota. Several lepers in the Minnesota list give the history of a previous residence in Wisconsin, but their names in not a single instance appear on the Wisconsin records. Of the 37 living lepers known to be resident in the Northwest, 17 only are in Minnesota, and there is a strong possibility of 2 of these being dead, but he has no positive knowledge of the fact. He does not dwell on these facts as an alarmist, but simply reminds the Association that leprosy has existed, does exist, and will continue to exist for years to come in all three countries represented in the Association.

A leprosarium should afford a comfortable home for lepers. This means, not only good buildings, but extensive grounds comprising many acres, where the lepers may have liberties and still be in exclusion. The buildings connected with the leprosarium must combine the privileges of a home and of a hospital. Those who have the disease in mild form may need little if any medical care. They need comfortable clothing and good food. With those in whom the disease is more advanced, the care should be that of a hospital patient, with medicines to lessen their suffering and dressings that would commend themselves to any surgeon. A leprosarium should resemble modern colonies for epileptics. It should furnish employment for those who are able to work, and amusement of various kinds for all. Two of the strongest medical societies in Minnesota have placed themselves on record as favoring the establishment of a national leprosarium, also the American Dermatological Association has appointed a committee to determine the best methods to be used in the care of lepers.

By resolutions the Association placed itself on record as favorable to the establishment of national leprosy.

DR. JOHN H. S. FULTON, Baltimore, described a suitable dress for defense against infectious diseases.

REPORT OF THE COMMITTEE ON ANIMAL DISEASES AND ANIMAL FOOD.

DR. D. E. SALMON, Washington, D. C., chairman, urged the importance of careful observations being made of glanders, in

view of the fact that serum for use in the treatment of many human ailments is obtained from horses. Army horses are peculiarly liable to contract the disease in time of war, on account of the extra exertion and frequent lack of full rations during such periods. He criticized the government for not providing skilled and trained veterinarians in the army. He discussed the subject of hydrophobia, and emphasized the importance of active measures looking to the extermination of this disease. He cited statistics of many outbreaks of rabies, and showed the disease to be peculiarly virulent and almost invariably fatal to human beings. Misguided people, who declare there is no such thing as hydrophobia communicated to man from animals, were sternly rebuked. Dr. Salmon declares that their obstructive tactics have wrought incalculable harm in the way of deceiving people into a careless attitude toward this malevolent disease. The Pasteur treatment was highly commended by the committee, which also recommended that the Association take steps to enlighten the public on the disease and its treatment, as well as means for its prevention.

TUBERCULOSIS.

The committee made strong recommendations on the subject of tuberculosis, asserting its belief in the theory that the disease can be and is communicated from infected cows through their milk. Here also the committee encountered learned men who controverted the theory, asserting that the difference in appearance of the bacillus of human tuberculosis and that of bovine indicates that the latter can not communicate the disease to human beings. Bovine tuberculosis is undoubtedly communicable. He inveighed against loose methods prevailing in many creameries by which the milk received from an infected herd is mixed with the general supply of milk on hand; and further, the practice of distributing, without previous sterilization, the waste milk and cream to be used as food for swine was condemned.

President Bryce added a few vigorous utterances on the subject of the care which ought to be employed in dairies to guard against the distribution of milk infected with tubercle bacilli.

DR. R. M. WOODWARD, Washington, D. C., gave a résumé of the recent foreign work of the Marine-Hospital Service.

DR. F. F. WESBROOK, Minneapolis, reported, on behalf of the Committee on Transportation of Diseased Tissue by Mail, recommending that nose and throat specimens be included in one package.

DR. CRESSY L. WILBUR, Lansing, Mich., presented the report of the Committee on Demography and Statistics in Their Sanitary Relations. He mentioned the progress that has been made in matters relating to vital statistics concerning which the Association had acted in the past. He urged the Association to stand for united and determined action in elevating the standard of registration laws in this country, and in insuring the practical success of new laws when enacted.

The following resolutions were introduced, discussed and adopted:

1. RESOLVED, That the Association, recognizing the benefits of medical school inspection, heartily approves the efforts of boards of health and of education directed toward the establishment of systems of inspection. (Offered by Dr. Adolph Gehrmann.)

2. RESOLVED, That the Association approves of and encourages all efforts made by governments, whether national, state or municipal, for the limitation of pollution of streams. (Offered by Mr. C. Monjeau.)

3. RESOLVED, That a committee of three be appointed, to be known as the Committee on Uniform Municipal Statistics, to take such steps as may seem practicable toward securing greater uniformity in all branches of municipal accounts, reports and statistics, and particularly those branches relating to vital and sanitary statistics; said committee to have power to confer with similar committees from other societies already or hereafter appointed to the same general end, and to report at the next meeting of the Association. (Offered by Dr. Leal, of Paterson, N. J.)

SECTION ON BACTERIOLOGY.

The Section on Bacteriology and Chemistry met at the Pathological Laboratory of the Central Hospital for the Insane, Dr. Theobald Smith, Boston, in the chair.

TUBERCLE BACILLUS IN MILK.

DR. H. L. RUSSELL, Madison, Wis., showed the degree of heat which is necessary to destroy the tubercle bacillus in milk without injuring, commercially, the value of the milk. He also read the report of the committee on the bacteriology of milk in its sanitary relations. As illustrating the peculiar way by which such germs find their way into milk, an incident occurring in an hospital at Leeds, England, was related. The nurses in that institution were in the habit of taking glasses of milk from the pantry up into the sick wards several hours before the milk was drunk. An outbreak of typhoid fever occurred among the nurses. Investigation disclosed the practice to which they had been resorting, and when it was ordered discontinued, the epidemic subsided.

DIPHThERIA DUE TO MILK.

DR. V. A. MOORE, Ithaca, N. Y., related a diphtheria epidemic started in that city from milk delivered by a dairyman whose family had suffered from acute tonsillitis. The eldest son, who attended to the milking of the cows, has been pronounced well and resumed his regular work, but scientific investigation demonstrated that he still had germs of the disease in his system.

The following officers were selected for the ensuing year: President, Dr. Benjamin Lee, Philadelphia, Pa.; first vice-president, Mr. Rudolph Hering, New York City; second vice-president, Dr. J. N. Hurty, Indianapolis; secretary, Dr. Charles O. Probst, Columbus, Ohio; treasurer, Dr. Henry D. Holton, Brattleboro, Vt.

Buffalo was selected as the place for holding the next annual meeting. The executive committee recommended that the time be fixed during the third week in September, 1901.

Therapeutics.

Spasmodic Cough in Bronchitis.

R. Codeine	gr. v	3
Acidi hydrocyanici dil.	m. xl	166
Acidi phosphorici dil.	ʒi	4
Syrupi toluatani	ʒii	64
Aque, q. s. ad	ʒiv	128

M. Sig. One teaspoonful every three or four hours.

Alkaline Diuretic Mixture.

R. Potassii acetatis		
Potassii citratis		
Potassii bicarb. aa	ʒv	26
Aque, q. s. ad	ʒviii	256

M. Sig. One teaspoonful every three or four hours.

—*Merrick's Report.*

Herpes Zoster Costalis.

The following is given for relieving the pain and preventing rupture of the vesicles.

R. Ichthyol		
Magnesii carbonatis		
Zinci oxidi, aa	ʒii	8
Aque, q. s. ad	ʒiv	128

M. Sig. Spread over the affected part and cover with a bandage to prevent rupture by friction. —T. G. Lusk.

Earache.

R. Chloralis camphorata	ʒi	4
Glycerini	ʒi	32
Ol. amygdale dulcis	ʒiiss	10

M. Sig. Saturate a piece of cotton and introduce well into the ear.

Chilblains.

R. Ichthyol		
Resorcin		
Tannin, aa	gr. x	66
Aq. camphoric	ʒi	32

M. Sig. Apply locally two or three times a day.

Bronchitis in Children.

Soils-Cohen uses counterirritation to the chest, inhalation of creosote or formalin, calomel gr. 1/4 when needed and:

R. Tinct. aconiti	m. i	06
Tinct. opii camphorata	m. ii	12
Vini ipecacuanha	m. v	33

M. Sig. At one dose, to be repeated every two hours. He states that alcohol or quinin does but little good.

—*Med. News.*

Intestinal Antisepsis in Children.

R. Benzozaphthol	gr. xii	72
Bismuthi salicylatis	gr. xxiv	15
Bismuthi subcarbonatis	gr. xviii	12

M. Ft. chartula No. xii. Sig. One powder every two hours for a child six months old.

As a Diaphoretic.

R. Pulv. camphora	gr. i 3	02
Pulv. opii	gr. 1/2	03
Potassii nitratiss	gr. iii	20
Saechari	gr. iss	10

M. Ft. chartula No. 1. Sig. To be taken at bedtime in hot tea.

—*Münch. Med. Woch.*

Facial Erysipelas.

R. Guaiacol—cryst. synthetie		
Menthol, aa	gr. xv	1
Olei camphorati	ʒi	32

M. Sig. Apply to the affected area every two hours.

—*Deseosquelle; N. Y. Med.*

R. Acidi carbolici		
Tinct. iodi		
Alcoholis, aa	ʒi	32
Olei terebinthina	ʒii	64
Glycerini	ʒiii	96

M. Ft. solutio. Sig. Paint the affected part every two hours and cover with gauze.

—*La Presse Méd.*

A Compound Hepatic Pill.

R. Pulv. ipecacuanha	gr. i 3	02
Pulv. piperis nigri	gr. i	06
Sodii bicarbonatis		
Masse hydrargyri, aa	gr. iii	2

M. Sig. One such pill every two hours after supper until three have been taken, followed in the morning before breakfast by a saline purgative.

—*Phil. Hosp. Form.*

Tinea Tonsurans (Barber's Itch.)

R. Ichthyol	gr. xx	133
Sulphuris precip.	ʒi	4
Bismuthi formic-iodidi	ʒss	2
Petrolati—benzoinat	ʒi	32

M. Sig. Apply locally three times a day.

—*Buehman; Med. Sum.*

Treatment of Hysteria.

Dr. R. S. Carroll, in the *Medical Mirror*, outlines the following treatment for hysterical conditions, which must be modified to suit the individual case: Moral and hygienic influence; the cold shower daily; strychnin nitrate hypodermically daily, and a mixture similar to the following:

R. Ext. cascara sagradae fluidi	ʒi	32
Ext. opii graveolentis fluidi	ʒii	64
Tinct. nucis vomice	ʒvi	24
Tinct. asafoetide	ʒviii	256

M. Sig. One-half to one teaspoonful in water before each meal.

—*N. Y. Med. Jour.*

This contains stomachic and laxative properties of cascara, the celery and nux nerve tonic, and the antispasmodic asafoetida.

Acute Diarrhea.

R. Tannalbin	ʒiiss	6
Pulv. opii	gr. ii	12
Bismuthi beta-naphtholati	ʒi	4

M. Ft. chartula No. xii. Sig. One every two hours.

Tannalbin is a reddish-brown powder and is a compound of tannin and albumin and is decomposed only by alkaline secretions of the intestines.

A Varnish for Replacing Collodion.

The *Phila. Med. Journal* reports the following antiseptic combination, taken from *Jour. des Praticiens*:

R. Thymol	.....gr. xxiv	175
Balsam toluani	.....gr. lxxx	5 33
Pulv. gum lac	.....5v	60
Alcoholis—90 per cent.	.....5viss	26
Etheris	.....5iii	52

M. Ft. solutio. Sig. To be used as a substitute for collodion.

Ointment for Acne, Pimples or Blackheads.

R. Resorcint	.....gr. i	06
Betanaphtholi	.....
Camphora, aa	.....gr. xii	75
Crete precip.	.....gr. xv	1
Sulphuris precip.	.....5iiss	6
Vaselin	.....5i	32
Lanolini, q. s. ad	.....5iii	64

M. Sig. Bathe the face in hot water, followed by a thorough rubbing with a rough towel, then apply the ointment. Use night and morning.

Ptyalism.

R. Tinct. myrrhe	.....5i	32
Potassii chloratis	.....5vi	24
Aque euphorae, q. s. ad	.....5xvi	512

M. Sig. Shake. Use as a mouth wash every two or three hours to check secretions and harden the gums in mercurial ptyalism.

—*Dominion Med. Monthly.*

Croup.

R. Chloralis	.....gr. lxxx	5
Potassii bromidi	.....gr. xlv	3
Ammonii bromidi	.....gr. xxx	2
Aque cinnamomi	.....5ii	64

M. Sig. One teaspoonful and repeat in twenty minutes if not relieved.

—Joseph Holt.

Injection in Gonorrhoea.

R. Menthol	.....gr. 13	02
Acidi salicylic	.....gr. iss	09
Acidi carbolic	.....
Acidi laetici	.....
Ol. eucalypti	.....
Methyl salicylatis, aa	.....gr. iiii	18
Resorcini	.....gr. viii	5
Aque destil	.....5iii	96

M. Sig. Use as an injection twice daily.

Pousson has used the above with excellent results, stating that the principle of mixing several antiseptics gives better results than can be derived from any single one in a strong solution.

Chronic Pharyngitis.

Dr. Savioere, in *Mercer's Archives* outlines the following treatment:

Wash out the nasopharynx night and morning with an antiseptic solution containing carbolic acid, salicylic acid and menthol; then inhale the following mixture for five minutes:

R. Formalin	.....m. i	06
Menthol	.....5iiss	10
Chloroformi	.....5iss	6
Eau de Cologne	.....5iiiss	112

M. Sig. Use as an inhalation night and morning.

And touch up the nasopharynx with the following:

R. Menthol	.....gr. xv	1
Tinct. iodi	.....m. lxxxv	5
Glycerini	.....5iiss	10

M. Sig. Apply locally by means of an applicator.

Tobacco Heart.

R. Adonidin	.....gr. 110	006
Ammonii carbonatis	.....gr. ii	125
Camphore	.....gr. ss	03

M. Sig. At one dose three times a day.

—Stern: *Mercer's Archives.*

A Good Diuretic Mixture.

R. Potassii citratis	.....
Tinct. hyoseyami, aa	.....5i	32
Aque, q. s. ad	.....5iii	96

M. Sig. One teaspoonful three times a day as a diuretic.

—Bellevue Disp.

To Disinfect the Skin After Scarlet Fever.

R. Calcii hypochloritis	.....
Sodii carbonatis, aa	.....5iii	12
Aque, q. s. ad to make paste.	.....

M. Sig. Apply locally.

H. R. Hopkins states that he has used the above with splendid results in disinfecting the epithelium after scarlet fever. Nascent chlorine is formed, which is germicidal.

Abortive Treatment of Bubo.

R. Unguenti hydrargyri	.....
Unguenti belladonnae	.....
Ichthyol	.....
Lanolini, aa	.....5ii	8

M. Sig. Spread on a piece of surgical lint and apply directly to the swollen gland and over this place a piece of oiled silk. Then apply a large pad of cotton and make firm pressure with a spica bandage.

Christian, in *Ther. Gazette*, follows his method and advises his treatment every other day until resolution is accomplished, which usually takes ten days. —Stevens: *Phila. Med. Jour.*

Fetid Bronchitis.

R. Plumbi acetatis	.....
Terpin hydratis, aa	.....gr. ii	12
Pulv. opii et ipecacuanha	.....gr. iss	09

M. Ft. pilula No. i. Sig. Three or four pills daily.

—Parcelli: *Prog. Médical.*

Dysmenorrhoea.

R. Ergotin	.....gr. xv	1
Quinina sulphatis	.....gr. iiii	20
Pulv. digitalis	.....gr. iss	10
Pulv. cocae, q. s.	.....

M. Ft. pilula No. x. Sig. One pill three or four times a day.

—*Presse Médicale.*

Postpartum Hemorrhage.

R. Ergotinae	.....gr. xvi	106
Syr. aurantii dorum	.....5i	32
Aque	.....5iii	96

M. Sig. One tablespoonful every three hours.

—Bonjean: *Kan. City Med. Rec.*

Nutrient Enema After Abdominal Sections.

R. Laetis—peptonized	.....
Spts. frumenti, aa	.....5i	32
Whites of two eggs	.....
Sodii chloridi	.....gr. xxiv	15

M. Sig. Irrigate the rectum thoroughly with a warm normal salt solution, then give the enema by means of rectal tube or rubber syringe.

—Hunter Robb.

The *American Therapist* contains the following therapeutic measures other than medicaments as given by Johnson in the *Therapeutic Gazette*:

1. Instead of pilocarpin, which is dangerous, use the hot pack, steam or vapor bath, or hot-air bath, in beginning influenza or threatened eclampsia.
2. Instead of atropin and camphor or belladonna ointment to "dry up" the secretion of milk, bandage the breast and massage.
3. Instead of giving opium in acute pleurisy, strap the affected side.
4. Instead of giving ergot for hemoptysis, try intermittent cold applications, sucking of ice, dry cups to the chest and absolute rest and morphin.
5. Instead of rectal injection of chloral and the giving of bromids for convulsions in infants, try cold to the head, the warm—not hot—bath, the mustard pack or mustard foot-bath, flushing of the bowels or enema. Of course remove the cause if possible. Pressure on the carotid and absolute rest.
6. In threatened abortion plug the vagina.
7. In postpartum hemorrhage pack the vagina with plain sterilized gauze.

Rest in many diseases greatly aids in the restoration of health, absolute if possible, but even comparative rest will do very much.

Marfan, in *Jour. de Méd. de Paris*, considers lactation a contraindication to the following drugs: Opiates, atropin, hyoscyamus, colchicum, arsenic, cocaine, chloral, lead salts which are precipitated by milk, digitalis, ergot, antipyrin, the last three only relatively.

Medicolegal.

Disclaiming to be an Expert Not a Disqualification.—Where the testimony of a witness shows him to be an expert in the matter concerning which he gives his opinion, his testimony, the Court of Appeals of Kansas holds, in the case of Walker vs. Scott, is properly received as that of an expert, although he, for some unexplained reason, disclaims being such.

Compelling Excessive Intercourse Warrants Divorce.—The specifications, in the suit of Gardner vs. Gardner for a divorce on the ground of cruel and inhuman treatment on the part of the defendant, were that he was a man of inordinate lust, to which by threats he compelled submission, which had seriously impaired her health. The chancellor, however, refused to permit her to testify to the treatment of her husband in forcing her to submit on the ground that such an inquiry would be against public policy. He also refused to permit another witness to prove conversations had with the defendant husband on the subject. The Supreme Court of Tennessee holds that both of these rulings were erroneous.

Mental Incapacity to Set Aside Deed.—The first appellate division of the Supreme Court of New York says, in the case of Hoey vs. Hoey, that a person who seeks to have a deed set aside on the ground of mental incapacity in the grantor when he executed it has the burden of showing that, at the time the act sought to be avoided was executed, the disease had reached such a stage as to so seriously impair the mind that the capacity to make a valid disposition of property did not exist. The law, the court goes on to say, recognizes that persons suffering from mental disease may make valid contracts or deeds or wills. If, at the time of the execution of the instrument sought to be avoided, the mental condition was such that the act was the intelligent act of the individual, based on his intelligence and rational judgment, with sufficient mental power to understand the nature of his property and his relations to those who would be the subjects of his bounty, and without prompting to arrive at a determination as to what disposition he wished to make of it, the court is not justified in declaring such disposition invalid. Much more is required than merely to show that the grantor or testator was suffering from a mental disease. There must, the court holds, be satisfactory evidence that the disease had progressed to such an extent that his capacity to contract was impaired.

Province of Boards of Insanity.—The Supreme Court of Oklahoma holds, in the case of Maass vs. Phillips, that an order of a board of insanity adjudging one to be insane has no bearing on his legal mental status. The effect of such an order, it says, is to admit one to the territorial asylum for treatment; and it is not entitled to the faith and credit of a judgment of a court, as the members of such board do not act as judicial officers, but as a special board, clothed with special power only. Again, the court says that such an order amounts to no more than the expression of an opinion by any other person or persons out of court as to the mental condition of a defendant's mind, except where the right of the officers of the asylum to confine and treat such person is called in question, or in other cases of a kindred character which fall within the spirit of the law authorizing such finding by the board of insanity. The boards of insanity are special boards created by law for a special purpose. It was only intended to clothe them with the power to determine who should be confined in the territorial asylum for treatment, and they have not the power to fix one's legal status (that is, to declare one to be, in law, sane or insane), and the fact that probate judges are made members of these respective boards changes not the rule. When a probate judge acts in this capacity, he acts as another member of the board, and not as a probate judge or as a probate court. It is the kind of an order adjudging one to be insane which the Oklahoma statutes vest authority in the judge of the probate court to make in certain cases, after a full hearing, sitting as a probate court, the supreme court adds, that the authorities refer to as being entitled to faith and credit, and not to the orders of ordinary boards of insanity.

Communications to Physician in Bastardy Case.—The prosecuting witness and the accused in a bastardy case disagreed as to the date that the first intercourse took place, whether July 15, or August 3. Finally, the latter proposed that witness be examined by a competent physician, and, if the examination disclosed that her pregnancy was of not more than four months' duration, he would regard himself as the author of her trouble and the father of her unborn illegitimate child, and would marry her. This offer was finally accepted, and a reputable physician was agreed on to make the examination. The examination was made, and, in the judgment of the examining physician, it disclosed that the pregnancy was more than six months advanced. To this result of the examination the physician was permitted to testify on the trial. But he was not allowed to testify that during the examination the complaining witness stated to him that the first connection with accused took place, as stated by the accused, on August 3. And this, the Court of Appeals of Kansas holds, case of Clark vs. State, was error. The evidence was excluded on the theory that it was a confidential communication, and therefore incompetent. But a statute making a physician or surgeon incompetent to testify concerning any communication made to him by this patient with reference to any physical disease, or any knowledge obtained by a personal examination of such patient, the court holds, can not be construed to cover such facts as disclosed in this case. The court emphasizes that the physician was not present as the physician of the complaining witness. She was not his patient. The examination was not made for the purpose of treating her for any physical, or supposed physical, disease. She agreed and submitted to the examination for the sole purpose of satisfying the accused as to whether he was the father of the child. She knew that the result of the examination was to be made known to her parents and to the accused before she submitted to it. Under such circumstances, the court holds, statements made by her to the physician during the examination, as to when the first connection took place, could not be regarded as confidential.

Insurantee Not Vitiated by Prescribed Use of Drugs.—One of the provisions in a policy of life insurance, which the Supreme Court of Tennessee had to pass upon in the case of the Endowment Rank, Knights of Pythias vs. Allen, was that if the assured's death was caused or superinduced by the use of intoxicating liquors, narcotics or opiates, then only a pro rata payment should be made on the policy. Under this, the trial judge charged the jury, in effect, that, if they found from the evidence that the death of the assured was caused or superinduced by the use of narcotics, opiates, or intoxicating liquors, and should further find that at the beginning of his illness his attending physician had prescribed such narcotics, opiates, or liquors in moderate doses, and that he continued to use the same in moderate doses, under the advice and prescription, but not beyond the directions, of his physicians, such moderate and prescribed use would not be a violation of the rules, regulations, and by-laws of the insurer. He also charged the jury that the insurer was liable on its policy even if it did show by a preponderance of the evidence that the death of the assured was caused by the use of intoxicating liquors, narcotics, or opiates, if the jury likewise believed from the evidence that he took the intoxicants, opiates, or narcotics under the advice of his physician, and in the manner and amounts prescribed by his physician. It was argued that the advice of a physician in the case would be no protection, and that the contract was plain that, if death was caused by the use of narcotics, there could be no recovery. But the view expressed in the instructions stated, the supreme court holds correct, and says is supported by authority. It also holds that witnesses who were not physicians or experts were not competent to give opinions such as that the assured was a wreck "from the use of morphin and liquor," and "that he seemed to be unable to resist the habit longer," or that "he seemed to be a slave to morphin," and that his physical condition was the result of his taking morphin. Moreover, a physician having stated that he prescribed morphin and whisky for the assured, and, in

answer to the question whether he took more than was prescribed, said that he did not know, the court holds that it was incompetent for the witness to add that he "thought he did," this last being a mere conjecture on the part of the witness, and not an opinion based on facts or appearances.

Distinguishes Between Medical and Legal Insanity.—A California statute requires a suspension of the proceedings in a criminal case whenever it is found pending same that the defendant is insane: that he be committed to the state insane asylum, and that the superintendent of the asylum shall send him back as soon as he becomes sane, in order that the court may proceed to trial or judgment in his case. These provisions, the Supreme Court of California says, in re Buchanan, establish nothing new in criminal procedure. They merely put in statutory form a well-known regulation of the common law—a regulation applicable to lunatics or madmen. But here was a man whose trial for murder had been suspended in compliance with these provisions, who was seeking, by habeas corpus proceedings, to be sent back to have his trial proceeded with, when the officers of the asylum strongly insisted that he was not sane, and never could become so. This leads the supreme court to say not only that there is difference, but that it is notorious that there is a difference, between the medical view of insanity and the view on which the statute is founded. And it holds that the question of sanity or insanity in such a case as this is to be determined with reference to the latter, as contradistinguished from the former, view. Continuing, it says that when the rule became a part of the common law, modern views of insanity were unknown. No sort of insanity was recognized except that which manifested itself in mental deficiency or in mental derangement. A congenital idiot or a raving lunatic was understood to be insane, but in the absence of any sensible loss of memory or material impairment of the intellectual faculties a man was counted sane. If he could remember events and could reason logically, he was not within the letter or the reason of the rule which suspended proceedings against a madman or a lunatic because he was disabled by the act of God to make a just defense, if he had one. And, if he was not within the common-law rule, neither is he, the court holds, within the rule of the statute, which merely re-enacts the common law, and has no other purpose than to suspend proceedings against a defendant who is by reason of mental infirmity incapable of making his defense. So, here, it orders the man in question returned to the custody of the sheriff, that his trial may be proceeded with on the criminal charge, the evidence all showing him to be in possession of every faculty requisite to the defense of the accusation against him, his insanity being of a character which does not manifest itself in any apparent weakness of intellect or failure of memory, but may be best described as a sort of chronic and latent disease of the brain, which, under the excitement of intoxicating drink, to which he is predisposed, will lead him to the commission of criminal acts. The court adds that, if, being found not guilty and discharged from custody, it is thought he should be put under restraint as a person dangerous to be at large, the law affords the means of having that fact adjudicated in a proper proceeding.

Current Medical Literature.

New York Medical Journal, October 27.

- 1 Supplementary Report on a Recurrent Tonsillar Tumor. R. P. Lincoln.
- 2 "Thinkles" for Massage and Stripping of the Seminal Vesicles. J. Rilus Eastman.
- 3 Fractures of the Nose. Thomas Amory De Blos.
- 4 A Case of Total Evagination. Charles G. Schmidt.
- 5 Disturbances of Gastric Motility and Their Significance. (Concluded.) Andrew MacFarlane.
- 6 The Management of Normal Labor, Including the Use of the Forceps. Austin Flint, Jr.
- 7 Effects of Digestion of Food Prepared by the Use of an Alim Baking Powder. E. E. Smith.

Philadelphia Medical Journal, October 27.

- 8 The Etiology of Yellow Fever. Walter Reed, James Carroll, A. Agramonte, Jesse W. Lazear.

- 9 *Restitution of the Continuity of the Tibia by Transplantation of the Patella Into an Extensive Osteomyelitic Defect. N. Sean.
- 10 *Interrelationship Between Cardiovascular Disease and Renal Disease. With Particular Reference to the Diagnosis and Treatment. Augustus O. J. Kelly.
- 11 A Case of Progressive Pernicious Anemia. L. M. Van Meter.
- 12 The Significance of Diacetic Acid in the Urine. C. K. Johnson.

Medical Record (N. Y.), October 27.

- 13 *Puerperal Sepsis; Its Pathology and Treatment. William R. Pryor.
- 14 *Foreign Bodies in the Esophagus. George W. King.
- 15 *Report of Three Cases of Intestinal Obstruction Due to Alcock's Diverticula. John F. Erdmann.
- 16 *Electric Light—Its Physiologic Action and Therapeutic Value in Tuberculosis of the Throat and Lungs. W. Freudenthal.
- 17 *The Importance of Preliminary Treatment of Intranasal Operations. Carl Seiler.
- 18 *A Contribution to the Diagnosis of Suppurative Appendicitis. A. Robin.
- 19 Intestinal Obstruction Complicating Appendicitis, With the Report of a Case. Thomas M. Paul.

Medical News (N. Y.), October 27.

- 20 *The City and Its Consumptive Poor: A Plea for a Municipal Sanatorium Outside of the Corporate Limits. Alfred Meyer.
- 21 *Repairing the Abdominal Wall in Ventral Hernia: A New Operation. Carl Beck.
- 22 *A Plea for the More Frequent Avoidance of Excision of the Ovaries in Connection With Operations Upon Diseased Tubes. Philander A. Harris.
- 23 *The Importance of Rest in Pulmonary Tuberculosis. Carroll E. Edson.
- 24 Present Status of Interstate Reciprocity Concerning Licenses to Practice Medicine. (To be continued.) Emil Amberg.

Boston Medical and Surgical Journal, October 25.

- 25 *Congenital Dislocation of the Hip Joint. E. H. Bradford.
- 26 *The Coroner System of the United States at the Close of the Nineteenth Century. S. W. Abbott.
- 27 *Autopsies and Physical Examinations. R. O. Harris.
- 28 A Case of Contracting Scar of the Palm of the Hand Remedied by a Flap from the Abdomen. F. M. Briggs.
- 29 Removal of the Greater Part of Stomach for Carcinoma; Closure of the Pyloric End; Anastomosis Between Jejunum and Cardiac End; Recovery. W. A. Brooks, Jr.
- 30 *Congenital Tumors of Childhood. Estrela M. Riley.
- 31 Anal and Scrotal Eczema. J. S. Moreman.

St. Louis Medical Review, October 20.

- 32 Tertiary Syphilis of the Nose. Robert Levy.

Medical Age (Detroit), October 25.

- 33 Nephritis. With Special Regard to Prognosis. Frederick W. Robbins.
- 34 Iodism. Douglas W. Montgomery.

Pediatrics (N. Y.), October 1.

- 35 The Treatment of Scarlatinal Nephritis. (To be continued.) Robert Coleman Kemp.

- 36 The Care of the Higher Grades of Feeble-Minded. A. W. Wilmarth.

Chicago Medical Recorder, October.

- 37 *Compound Fractures. N. Sean.
- 38 *The Value of Antiseptic Nebulae in Pulmonary Tuberculosis. Homer M. Thomas.
- 39 *Pressure Therapy in Gynecology and Obstetrics. Palmer Findley.
- 40 *Renal Calculi. M. L. Harris.
- 41 Dipsomania. G. M. Lealie.
- 42 Occipito-Posterior Presentations. H. V. Sweringer.

Archives of Otolaryngology (New Rochelle, N. Y.), August.

- 43 Two Cases of Otitis Lateral-Sinus Disease; Operations, with Ligation of the Jugular. O. Joachim.
- 44 *Acuteness of Hearing Before and After Radical Operations. F. Wagner.
- 45 On Diseases of the Organ of Hearing in Pernicious Anemia. Dr. Schwabach.
- 46 A New Case of Mastoiditis in a Diabetic Patient. Dr. Muck.
- 47 Upon the Color of Living Rhachitic Bone as Found During Mastoid Operations in Rheumatic Children. Dr. Muck.
- 48 Contribution to the Knowledge of the Orogenous Diseases of the Brain, Meninges and Sinuses. Dr. Muck.
- 49 Cholesteatoma of the Middle Ear, and Its Radical Operation; With Report of a Case. C. Zimmermann.
- 50 Contribution to the Knowledge of Intracranial Complications of Ear Diseases. Dr. White.
- 51 Contributions to the Knowledge of Intracranial Complications of Ear Disease. Dr. Muck.
- 52 A Personal Experience of an Acute Attack of Autophony. Herman Knapp.
- 53 Report on the Progress of Otolaryngology During the First Quarter of 1900. Arthur Hartmann.

The Ophthalmic Record (Chicago), October.

- 54 Two Cases of Nystagmus. Alexander Duane.
- 55 The Influence of Abducting and Adducting Prisms on the Estimating of Distance. J. A. Lipplinet.

- International Medical Magazine (N. Y.), October.**
- 56 *The Diet in the Acute Stage of Pneumonia. Andrew H. Smith.
- 57 *The Prevalent Treatment of Croupous Pneumonia in Hospitals. Julius L. Salinger.
- 58 *Hydratic Measures in Pneumonia. Simon Baruch.
- 59 Alkalometric Treatment of Acute Affections of the Respiratory Organs. William F. Waugh.
- 60 Displacements of the Eyeball by Diseases of the Frontal and Ethmoid Sinuses—Two Cases. S. D. Hilsley.
- 61 Bacteriology and Microscopic Diagnosis of Pneumonia. A. Robin.
- 62 Empyema in Children. Floyd M. Crandall.
- 63 The Treatment of Blepharitis. Walter L. Pyle.
- 64 The Treatment of Pneumonia. W. Blair Stewart.
- 65 A Brief Discussion of Bronchitis and Pneumonia in the Aged. Guthrie McConnell.
- 66 The Etiology and Symptomatology of Dilatation of the Stomach. (Dilatatio Ventriculi, Gastroectasis.) Boardman Reed.
- 67 Acute Laryngitis. E. B. Gleason.
- Iowa Medical Journal (Des Moines), October 15.**
- 68 Address Before the Iowa Medical Society. J. F. Richardson.
- 69 Address Before the Iowa Association of Railway Surgeons. N. C. Morse.
- 70 The Present Standing of Rectal Surgery as a Specialty. R. D. Mason.
- 71 Eclampsia. J. Herbert Darcy.
- 72 The Retroversio-Flexio Uteri et Fixata, or Better, Incompleta et Complicata. Its Conservative and Operative Treatment. O. Thlenhaus.
- 73 Epistaxis. B. C. Kelly.
- 74 Report of Section Materia Medica and Therapeutics. S. Bailey.
- 75 Smallpox. C. Stuart Hutchinson.
- Journal of Tuberculosis (Asheville, N. C.), October.**
- 76 *Arthritis and Tuberculosis. Alfred C. Croftan.
- 77 The Growing Necessity for Sanitaria for the Tuberculous. William Porter.
- 78 Importance of Early Diagnosis and Prevention of Tuberculosis. J. L. Campbell.
- 79 Some Personal Observations on the Management and Treatment of Pulmonary Tuberculosis. Boyd Cornick.
- Archives of Ophthalmology (New Rochelle, N. Y.), September.**
- 80 Case of Traumatic, at First Doubtful, Orbital Sarcoma, Followed by Aseptic Thrombosis of the Cavernous Sinus. Herman Kuapp.
- 81 Spasmodic Action of the Obliques in Cases of Abducens Paralysis. Alexander Duane.
- 82 *The Chromoscope: A Convenient Instrument for Studying the Color Sense of the Macula Lutea and Its Anomalies. M. Knies.
- 83 *On a Frequent, but Hitherto Unrecognized, Form of Congenital Violet-Blindness and on Color-Anomalies in General. M. Knies.
- 84 On the Color Disturbance Produced by Santonin in Normal and Color-Blind Eyes. M. Knies.
- 85 Transfixion of the Iris. Hugo Aschheim.
- 86 The Examination of Two Cases of Old Specific Chorioretinitis. G. Nagel.
- 87 A Contribution to the Therapy and Prophylaxis of Expulsive Hemorrhage During Cataract Extraction. Carlo Veinone.
- Woman's Medical Journal (Toledo), October.**
- 88 The Development of the Placenta. Susan Lehe.
- 89 Preventive Therapeutics. Julia S. Kapp.
- 90 The Medical Relations of X-Rays. J. William White.
- University Medical Magazine (Philadelphia), October.**
- 91 Address by Provost Charles C. Harrison, Delivered at the Opening of the Medical, the Dental and the Veterinary Schools, Upper Merion, October 1, 1900.
- 92 Review of the History of Cardiac Pathology. With Especial Reference to Modern Conceptions of Myocardial Disease. (To be continued.) Alfred Stengel.
- 93 *The Relative Infrequency of Acute Specific Infection in the First Year of Life, With a Probable Explanation for It. A. C. Abbott.
- 94 Cystic Pelvic Tumor Appearing Below Poupart's Ligament and Containing Numerous Peculiar Loose Bodies. De Forest Willard and William G. Spiller.
- 95 *Review of Surgery, With Special Reference to Operation for Lateral Sinus Phlebo-Thrombosis. B. Alexander Randall.
- 96 *Cases Simulating Glandular Fever. J. P. Crozer Griffith.
- 97 *Acute Cervical Lymphadenitis in Children (Glandular Fever), With Remarks on the Terminology and Treatment. Alfred Hand, Jr.
- 98 Report of Two Cases in Which the Signs of Mitral Stenosis Disappeared as Compensation Was Established. M. Howard Fussell and J. Dutton Steele.
- Journal of Eye, Ear and Throat Diseases (Baltimore), Sept.-Oct.**
- 99 Voice Pictures; or, The Wonders of Sound-Force.—Their Production and Their Photography. J. Mount Bleyer.
- 100 Recording of Hearing Tests—Project of Unifying—Synopsis, and Conclusions. F. Schiffers.
- Canada Lancet (Toronto) October.**
- 101 A Case of Colloid Goiter, Involving the Middle Lobe of the Thyroid Gland, Associated With Asthmatic Attacks and Resulting in Sudden Death. H. B. Anderson.
- 102 The Alkaloids. Llewellyn B. Ashton.
- 103 A Chinese Hospital. Colin A. Campbell.
- 104 A Case of Broncho-Pneumonia Treated by Oxygen Inhalation. J. T. Fotheringham and A. F. Stanton.
- Chicago Clinic, October.**
- 105 *Treatment of Retro-Dislocations. S. G. West.
- 106 *The Significance of Pain in Appendicitis. E. H. Lee.
- 107 The Relation of Diseases of the Mouth to Diseases of the Internal Organs. J. H. Salisbury.
- 108 Infant Feeding With Modified Cow's Milk, With Special Reference to the Methods of Trinity Diet Kitchen. George T. Palmer.
- 109 An Anatomical Lecture. W. T. Eckley.
- 110 Intubation and Tracheotomy. Aime Paul Heineck.
- Kansas City Medical Record, October.**
- 111 Vaginal Fistula: An Operation Refused. T. J. Riggs.
- 112 "Then and Now." E. R. Lewis.
- 113 Inflammation. Andrew L. Fulton.
- Journal of Medicine and Science (Portland, Me.) October.**
- 114 *Accidents of Syphilis. G. A. Pndor.
- 115 Placenta Previa and Accidental Hemorrhage. R. W. Bucknam.
- Medical and Surgical Monitor (Indianapolis), October.**
- 116 Foreign Body in Larynx and Its Removal. G. V. Woollen.
- 117 *The Gynecologic Hot Donche. Frank C. Ferguson.
- 118 Report of Two Cases: Dermoid Cyst Complicating Pregnancy: Large Ovarian Tumor in a Girl Four Years Old. Thomas B. Eastman.
- Medical Examiner and Practitioner (N. Y.), October.**
- 119 Height and Weight Table Compiled by a Committee of the Medical Section of the National Fraternal Congress, 1900. R. E. Moss.
- 120 Report of Committee on Tuberculosis. C. A. McCollom.
- 121 Some Results of Correspondence With Medical Examiners. T. Millan.
- 122 Appendicitis in Its Relation to Insurance. E. Francis Morrill.
- 123 How May We Secure Better Medical Examinations? A. H. Ware.
- 124 Women as Insurance Risks. M. M. Danforth.
- 125 The Relationship Between Cancer and Tuberculosis. J. D. Nagle.
- Pennsylvania Medical Journal (Pittsburg), October.**
- 126 Address in Surgery—Fracture of the Spine. Walter Lathrop.
- 127 Address of Welcome. F. M. Nichols.
- 128 Address of Welcome. H. M. Neale.
- 129 *Interrelationship Between Cardiovascular Disease and Renal Disease, With Particular Reference to the Diagnosis and Treatment. A. O. J. Kelly.
- 130 *The Diagnosis and Treatment of Beginning Pulmonary Tuberculosis. Charles Rea.
- 131 *The Treatment of Pneumonia With the Anti-Pneumonia Serum. Edwin Rosenthal.
- 132 Report of a Case of Meningitis Complicating Pneumonia. With Recovery. T. C. Ely.
- Oklahoma Medical Journal (Guthrie), October.**
- 133 Examine Railway Employees' Eyes Periodically and in a Scientific Manner and Thus Avoid Accidents by the Proper Observation of Signals. John R. Hamill.
- 134 When to Use Forceps in Obstetrical Cases. E. O. Barker.
- 135 Functional Heart Trouble. E. O. Barker.
- Southern California Practitioner (Los Angeles), October.**
- 136 Infusion of Normal Salt Solution in Disease. John H. Haynes.
- 137 The Lodge Question. Ernest Hall.
- 138 Hernia—Operations For. Claire W. Murphy.
- 139 Hydatid Cyst of the Liver—Report of Case. J. De Barth Shorb.
- 140 Mountain-Climbing in a Locomobile. Walter Lindley.
- 141 Treatment of Anemia and Loss of Weight in Wasting Disease. C. G. Stivers.
- Doctors' Magazine (Alma, Mich.), October.**
- 142 Habits and Mode of Life of the Mountaineers of North Carolina. C. B. Burr.
- 143 Notes from My Journal. Wm. Rittenhouse.
- 144 Chureot and the Salpetriere. L. Harrison Mettler.
- 145 Antenatal Diagnosis. J. W. Ballantyne.
- Alabama Medical Journal (Birmingham), October.**
- 146 Cholera Infantum and Summer Diarrhea of Children. P. H. Brothers.
- 147 Treatment of Burns, With Report of Cases. H. N. Rosser.
- 148 Burns. Ira J. Sellers.
- 149 Acute Entero-Colitis of Infants. William W. Harper.

AMERICAN.

2. Massage of Seminal Vesicles.—Eastman notices the difficulties of stripping the seminal vesicles, a practice which has come to be regarded by many as a valuable method in the treatment of chronic vesiculitis. The average finger is unable to reach more than a portion of this organ and he, therefore, has invented a thimble, imitating in its form the bent finger,

by which all portions can be reached and pressed. He has used these instruments for several months in a considerable number of cases and has had good results. Of course, they will be serviceable only in chronic cases, and should not be used until a careful examination has been made with the finger alone to ascertain the state of affairs.

3. **Fracture of the Nose.**—De Blois describes conditions met with in fracture of the nasal bones, showing how frequent the accident may be and how it may be remedied. There is more apt to be dislocation than fracture; the nasal bones become separated at their internal borders from the nasal processes of the superior maxillaries and take false positions. The most important treatment is reduction of the dislocation, and if injury is recent this is easy. Sometimes, if the patient is frequently seen and is ordinarily quiet, apparatus can be dispensed with after the fracture has been reduced, but otherwise, if the septum bulges or one side of the nasal bone shows a tendency to slip inward, an internal splint should be introduced on that side. External splints, well padded, will be found useful when the bone border has a tendency to slip outward, and also to protect the reduced dislocation or hinder second displacement. He gives an account of several cases showing how this accident occurs and how it has been remedied.

6.—See abstract in THE JOURNAL of October 27, p. 1104.

7. **Alum Baking Powder.**—Smith has experimented on two healthy young men with bread made with alum baking powder and control-bread without it, using a test meal in each case and examining for total acidity, total hydrochloric acid, free hydrochloric acid, combined hydrochloric acid, and the pepsin test. The results in the two cases have been only such as would be likely to occur under any circumstances between the tests and varied alike after using the alum baking powder bread and the control-bread. The amount of bread used each time was 60 grams, which has been found to be most beneficial for stimulating gastric secretions; he considers it a fair amount. A more elaborate experiment was undertaken to determine whether the baking-powder bread was absorbed from the alimentary tract to the same extent as the control-bread and whether in the process of digestion and absorption there was evidence of any disturbing influence. The procedure was based on the method for determining the coefficient of availability of the constituents of the dietary. An individual was given a definite diet for a certain period of time—in his experiment, three days—and from the amount and composition of the food eaten and the stools separated it was determined how much the body had gained from the diet. By comparison with a control period under precisely the same conditions it was possible to conclude from his experiment whether or not the baking-powder bread was utilized by the body to the same extent as the control bread. The inquiry further included a study of the urine during each period to determine the nitrogenous waste and the relative amount of the products of putrefaction absorbed from the intestine. The subject was a healthy man, who had slight dyspepsia sometimes, but under ordinary circumstances had normal digestion. The diet during the experiment consisted exclusively of bread, meat, milk and butter. He gives the details of the experiment. It was found that the availabilities of the diets in the two periods are practically identical, agreeing as closely as can be expected from duplicate experiments on precisely the same diet. The conclusion reached by the author from these experiments is that food prepared by the use of a so-called alum baking powder does not interfere with secretion in the stomach, and that, even when it makes up the major part of the diet, it is utilized by the body in the same way and to the same extent as an acceptable control diet. The investigation does not reveal any reason for believing such food at all injurious or unwholesome.

8.—See editorial in last week's issue and also p. 1170.

9. **Transplantation of the Patella.**—Senn reports and illustrates a case of extensive osteomyelitic defect of the tibia in which restitution of the bony structure was made by transplantation of the patella. The limb appears to be in a useful

position and the patient is able to go about with the use of a cane, though it is hoped that this can soon be dispensed with. The case also shows that we can not rely on transplantation of bone from the lower animals, as this method failed.

10.—See also §129.

13.—See abstract in THE JOURNAL of October 27, p. 1104.

14. **Foreign Bodies in the Esophagus.**—King reports the case of a penny whistle impacted in the esophagus which required esophagotomy for its relief. He describes the anatomical structures and conditions and reviews the possibilities in such cases. Of course the operation of election would be removal through the mouth, but there are cases in which esophagotomy is called in; forcing the object down into the stomach is permissible when the object is known to be smooth and straight and not liable to lacerate the tissues.

15.—See abstract in THE JOURNAL of November 3, p. 1172.

16. **Electric Light in Tuberculosis.**—The value of light always has been recognized and Freudenthal gives special attention to the effect of electric light in laryngeal tuberculosis, reporting cases. He was induced to try this method by a patient who claimed great benefit from transillumination of the larynx made for diagnostic purposes, and while his expectations have not been entirely fulfilled in this kind of treatment, he believes that it is valuable and will be perfected. For the last twelve months he has been trying to have a more perfect apparatus made for light treatment of lung tuberculosis, but has not as yet succeeded. At present, however, he is able to say that we have in the chemical rays of electric light a healing power which promises to be of the greatest value in the near future. Although his attempts at treating tuberculosis of the lungs by this method are encouraging, he is not yet prepared to report upon them.

17. **Preliminary Treatment for Intra-Nasal Operations.**—The importance of preliminary treatment before operating on the nose is emphasized by Seiler, who describes the methods. What he calls the natural method, or as some patients have described it, drinking through the nose, is easily taught, easily learned and is efficient without being harmful. It consists in placing two ounces of blood-warm Seiler's solution in a small tumbler or cup, and placing the end of the nose within the rim of the tilted vessel until the liquid enters the nostrils, closing the mouth, and then, by a moderate inspiratory effort, drawing the solution into the nose and nasopharynx, thus bringing it in contact with all the parts of the nasal mucosa. The vessel should then be quickly removed and the liquid within the nasal cavity blown out through the nostrils at once and the process repeated until the vessel is emptied. The solution which he uses is that of his antiseptic pastil, which he says at present is not made accurately by manufacturers according to his formula, and he has therefore requested them not to use his name with it, as has been done. The cleansing process thus applied should be continued by the patient, while local applications of mild astringents and alteratives to the mucous membrane of the anterior and posterior nasal cavities are made by the surgeon at intervals of a day or two. The solution which he prefers is the iodine solution in glycerin (iod. met., gr. viii; glycerin, ℥ss; potass. iodid., gr. xxiv). This is best applied by pledgets of cotton on the end of a delicate armed applicator, which should be carried through the nostrils along the lower meatus, which manipulation should be executed as gently as possible. Cocain in any shape or strength of solution should never be used within the nasal cavities except as a local anesthetic for minor operations. The habitual use of the drug has a relaxing effect, inducing slow repair of the injuries. He takes up the preliminary treatment in cases for operation for several weeks until the mucous membrane becomes comparatively healthy. In cases where on one side there is atony, or cartilaginous projection occludes one of the anterior nasal chambers, while the other is the seat of atrophic changes, stimulating astringents such as zinc sulphate, etc., should be employed until a reaction from the atrophic condition has taken place.

18. **Diagnosis of Appendicitis.**—The point made by Robin is the blood-count in which the leucocytes will show an addition, sometimes within twenty-four hours. He asks what other means we have for diagnosing suppurative appendicitis, and answers, "Unfortunately, none." What we are able to diagnose is purulent peritonitis, but that does the patient very little good. We may occasionally detect a walled-off abscess, if it points externally, but this is rare. It is rational, therefore, to use a frequent blood-count in cases of appendicitis, and he maintains that this is almost imperative. It is true that sometimes fatal toxemia comes on so rapidly that no increase of leucocytes foretells it, but this is not the rule.

20. **The Consumptive Poor.**—Meyer makes a plea for the erection of state institutions for the care and treatment of the consumptive poor. He reviews the objections, mentioning that expense is a bugaboo and ought not to be considered. The saving would be in the wrong direction if it was made at the expense of human life. The claim that it will not eradicate the disease is not reasonable, and he asks why we should stop trying to eliminate or prevent it for this reason? He gives statistics showing the inadequacy of present provisions and holds that since the disease is a menace to public health, the state should take a hand in attempting its suppression.

21. **Ventral Hernia.**—The operation described by Beck suggests the one reported by Ferguson and abstracted in our last number. However, instead of using the rectus-muscle sheath, he takes a section of the muscle itself. His illustrations are intelligible and fairly explain the operation.

22. **Excision of the Ovaries.**—Harris pleads for conservatism in sparing the ovaries in operations for diseased tubes, and divides the operation for abolition or removal of the tubes into two general classes: One in which more or less of the tube is removed by cutting it off, which he calls amputation of the tube, and the other embraces the performance of complete removal of the tube, which can be effected only by an encircling or elliptical dissection around the tube and into the uterine mucosa. The incision in the wall of the uterus is then sutured. This he calls excision of the tube. Amputation alone does not, he thinks, destroy the function, and pregnancy may follow. It is probable in many cases that the short tubal stump forms a new ostium. He is satisfied that it would be better in the majority of cases to dissect away the diseased tissues around the ovaries and save these organs, or at least part of them. He himself has abandoned the practice of removing the ovaries with diseased tubes.

23. **Rest in Pulmonary Tuberculosis.**—The advantage of rest in pulmonary tuberculosis is insisted on by Edson, who points out the dangers of bringing about inflammatory action by exercise. The most important physiologic reason for insisting on rest in pulmonary tuberculosis is, he says, the influence of bodily exercise in increasing the temperature. Not only our physiologic knowledge, but clinical experience shows that the surest way of reducing the fever of pulmonary tuberculosis is by prolonged rest in the open air, that is, as nearly complete bodily quiet in the recumbent position as can be had. The additional tax on the circulation and respiration, especially in thinner air or higher altitudes, is all the work it is well to ask of the consumptive at first. If the patient adds to this a further call for muscular exertion the task is over-great. He gives as an illustration one case out of many showing the contrasted action of rest and muscular exertion under these circumstances. The objections offered to the treatment are the irksomeness, which he thinks is fallacious, and the possible interference with digestion and elimination, which he also considers ungrounded. Any signs of intestinal stasis are more easily remedied than the harm from extension of tuberculous disease induced by over-exertion.

25. **Congenital Dislocation of the Hip.**—Bradford advocates opening the joint and spreading the capsule in such a way as to free the acetabulum, inserting the head of the femur, stretching the capsule over and sewing it to the tissues around the neck. He advises osteotomy in cases in which there is a

twist in the neck of the femur or an anterior obliquity of the plane of the acetabulum, as it remedies the condition. The cases operated on in the last year or so are encouragingly successful.

26. **The Coroner System.**—Abbott is in favor of the abolition of the coroner system, which, he thinks, is a hindrance to medical progress. He reviews the conditions existing in different parts of the country, in the main accurately, as we suppose, though he errs in regard to Illinois when he says that coroners are there appointed by the governor.

27. **Autopsies and Physical Examinations.**—This paper is written by a lawyer. The point on which he insists is the necessity of thorough examinations, instead of mere satisfaction as to the immediate cause of death. The autopsies, at least the correct and careful ones, can be made but once, and it is only by careful observation that all theories can be met and all questions answered, and this may be of the greatest importance to the state and to accused parties. In conclusion he makes some remarks in regard to physical examination of the living and the partisanship of experts.

30. **Congenital Tumors of Childhood.**—Riley reports the case of an extensive tumor of the abdominal wall which, she thinks, may be called a lipoma telangiecticum, and reviews the general subject of congenital growths.

37. **Compound Fractures.**—Senn's address treats exhaustively of the subject of compound fractures, reviewing the old and the more recent methods and statistics, the etiology, diagnosis, pathology, prognosis and treatment of these accidents. The treatment of the wound is far more important, he says, than that of the fracture, and especially during the first two weeks. The utmost care should be taken to render it aseptic in these cases. The dressing should be changed as little as possible. In case the wound should become infected, as shown by the rise of temperature after the first twenty-four hours, every stitch must be removed and drainage established wherever it appears necessary. Moist antiseptic compresses must take the place of dry dressings and frequent antiseptic flushings are indispensable. Antiseptic irrigation should be preceded by hydrogen peroxid and, if suppuration does not yield promptly to this treatment, continuous irrigation with mild antiseptics, such as Thiersch's, should be employed, which may save life. For further details the reader is referred to the article itself.

38.—See abstract in THE JOURNAL of October 3, p. 975.

39.—Ibid.

40. **Renal Calculi.**—Harris' article is largely historical, reviewing the facts and literature, also giving the symptoms, diagnosis and treatment. He holds that almost all renal calculi are microbial in their origin; the division into bacterial and non-bacterial will not stand the test. He describes the operation of nephrolithotomy. Other treatment is practically useless. There is no medical treatment unless it be symptomatic.

44. **Hearing After Operations.**—Wagner discusses the possibility of damage to hearing before and after radical operations, its tone-limits, hearing-duration, tone-education, etc., and concludes that when diseases in the ear have progressed to such an extent that all symptoms indicate the necessity of operation, the hearing power is reduced so that it will be affected to only a very small degree by the operation. The state of hearing occupies only a second place in the indications for operation, though in doubtful cases it may be that the expectant treatment will be desirable and useful.

56. **Diet in Acute Pneumonia.**—The theme of this paper is the special indications as regards feeding in acute pneumonia and a protest against over-feeding. The author thinks that pushing the nourishment has become with many the leading indication and the fact that adynamia is a result of systemic poisoning and not of exhaustion has been lost sight of. The full stomach aids in embarrassing the already labored breathing and also may produce flatulence as a result of fer-

mentation, making a very serious complication. We should restrict the diet in pneumonia, according to Smith, to the amount that can be easily digested and assimilated under the unfavorable conditions present. The food should be of such a nature that it will not readily ferment. The occurrence of atulence should be met promptly by such medication as to the quantity and quality of food as will reduce the production of gas to a minimum. If other forms of food are not properly digested and assimilated, the substitution of a larger proportion of alcohol is indicated.

57. Treatment of Pneumonia in Hospitals.—Salinger, after remarking on the diet, which should be nutritious and easily assimilated, mentions the symptoms that often require attention. Pain is about the first of these, and can be relieved by local applications, though in some cases opium may be desirable. The early use of blisters is unnecessary, and enesection, while generally abandoned, may be life-saving in some cases, especially in young robust subjects with marked cyanosis, greatly distended right ventricle, feeble pulse and labored breathing. Here the withdrawal of 8 or 10 ounces of blood often materially helps the case. The second symptom is cough, which may be troublesome, but is readily relieved by small doses of opium. The temperature rarely requires treatment; antipyretic drugs are dangerous. If aetnal dyspnea is present the hypodermic use of strychnin is valuable and oxygen inhalations may be useful, but they must be continued for at least fifteen minutes at a time and repeated every two or three hours. Among the cardiac tonics strychnin is perhaps the best and may be given either hypodermically or by the mouth. Alcohol as a routine treatment is not necessary. It has its value in asthenic and alcoholic cases, but may be harmful in others. Heart failure is best controlled by strychnin, digitalis and the nitrates. When there is evidence of contraction of the peripheral circulation, nitroglycerin pushed to its physiologic effects often reverses the fatal issue, sulphonal and trional are the best drugs for insomnia; hyosine hydrobromate is of use in some cases. The salts of ammonia are useful in the stage of resolution and normal salt solution under the skin is indicated when the tendency to collapse is marked. Tonics are often required during convalescence, but recovery is usually rapid. In drunkards, active stimulation is necessary; alcohol, strychnin and oxygen are chiefly to be relied upon.

58. Hydratic Measures in Pneumonia.—Barach mentions the advantages of the tub-bath, with a temperature of 5 F., reduced in five to eight minutes to 85, in children. Baths of this kind repeated every four to six hours at the bedside calm the respiration, reduce the temperature, promote sleep, slow and strengthen the pulse and refresh the nervous system. In the interval between the baths he is in the habit of raising the temperature and pulse are high, of using a compress wrung out of water at 65 around the upper portion of the trunk, renewed every hour if necessary. This may keep up the effects of the bath and diminish the need of its frequent repetition. In adult patients the tub-bath is less convenient, but wet compresses wrung out of water at 60, repeated every hour or oftener, if hot when removed usually fill all the therapeutic indications, and together with this he gives frequent draughts of water at 45. He finds this fortifies the patient's resisting power. The frequency of application, temperature, etc., are matters of judgment in each individual case.

76. Arthritis and Tuberculosis.—Tuberculosis and arthritis are rarely combined and Croftan has found in 100 consecutive cases of the latter, i. e., functional manifestations of the uratic diathesis, typical and atypical gout, only one case tubercular infection, while in 300 selected cases of advanced almonary tuberculosis, only 3 showed coincident arthritic manifestations. He recalls his former articles showing that the arthritic taint consists in a tendency on the part of the organism to disintegrate a quantity of nuclein in excess of the normal and that the poisons circulating in the blood of the arthritic subject are the alloxuric bases. He argues that there is, consequently, a tendency to deposit the mineral constituents of the blood in the infected area of devitalized tissue and

to aid in cutting them off from the rest of the body. In this way insufficient pabulum is offered the imprisoned bacilli, their vitality becomes impaired and they are ultimately destroyed. The necrotic tissues are absorbed and of the whole process nothing may remain but a fibrous cicatrix of chalky nodule. When leucocytic activity, a tendency to form concretions and nuclein-katabolism are at a maximum, the probability of invasion by the tubercle bacilli would be reduced to a minimum; therefore, arthritis forms a considerable immunity against tuberculosis. Diagnostically, when we find an increase of the excretion of the sum of alloxuric bases and of uric acid in cases at all clinically suspicious, we may consider it corroborative evidence toward the diagnosis of arthritis. The prognosis is in a measure favorable as regards tuberculosis, but if these are entirely absent in urine, and a low figure for the sum of uric acid and alloxuric bases is found, together with absence of perinuclear basophile granulations from the blood, it may be taken as corroborative evidence in the early diagnosis of tuberculosis.

83. Chromoscope.—Kries describes the chromoscope, an instrument devised by him for detecting color-defects, consisting of a box lined with black velvet in which one side can be turned down nearly to a horizontal. On the opposite side above is a small projection on which is a mounted flint-glass prism with an angle of 60 degrees. A strip of white paper 5 to 10 millimeters broad, is viewed through the prism, one margin of it being brought into the field, and the patient is instructed to select a skein of yarn similar to the color seen, without calling it by name. With this instrument he has detected a new form of congenital violet-blindness previously unrecognized, which he thinks is not rare. In ordinary life such persons are regarded as having normal color perception; it can hardly be noticed that they call violet blue or purple red. He sums up the chief points of his paper as follows: 1. Besides the well-known anomaly in which only two colors are seen, there is another still more frequent anomaly—violet-blindness—in which the remainder of the spectrum is seen correctly, and at least three fundamental color-perceptions must exist. 2. This color-anomaly accords neither with the Helmholtz nor with the Hering theory. 3. The chromoscope is a very convenient instrument for determining the color sense of the macula. 4. The four colors seen in the chromoscope are the fundamental colors for that particular individual. These may differ at different times in the same person if there is disease of the optic nerves. 5. According to their number and location in the spectrum, the congenital color-anomalies with normal anatomical and ophthalmoscopic conditions may be differentiated into two forms, each with two fundamental colors, the most fitting designations for which are: yellow-blue seeing and orange-blue seeing (the red-blindness and green-blindness of Helmholtz, protanopes and deuteranopes of v. Kries, and red-green blindness of Hering), or a form with as many fundamental colors as the normal-sighted possess, which is best designated as violet-blindness, since this is its prominent characteristic, although there is a shortening of the long-waved end of the spectrum, which measured in wave lengths is almost as great as the shortening of the short-waved end—perception of four colors with contraction of both ends of the spectrum. 6. All three of these forms of congenital color anomaly are to be regarded as states of a less advanced development of the color-perception. The latter develops in extruterine life in a way contrary to that in which it is lost in disease of the optic nerve. The three congenital anomalies of color are the three principal stages in the development of the color-sense. Intermediate stages may at times come under observation, but these are very rare.

93. Acute Infections in Infancy.—Abbott notices the infrequency of septic infections in early infancy and accounts for it on the theory that the mother affords the child immunity through milk, protecting it temporarily from the same disease from which she had herself suffered, and that with the cessation of nursing this protection is withdrawn.

95. Lateral Sinus Thrombosis.—The improved prognosis of operations for this condition is noticed by Randall, and he

remarks in regard to the operations that there are three things in regard to which much yet has to be learned, one of which is diagnosis. The clinical symptoms may be strongly indicative in some cases or there may be complications masking their import. The prognosis in virulent infective cases is invariably fatal, as also in the less severe cases occurring in the weak and cachectic. The possibility that infection may dislodge septic particles or admit air-emboli must not be disregarded. In technique rapidity should be of the utmost importance. Jugular ligation is not invariably needful. He advises the thorough removal of all possible infection, hence curetting is probably, on the whole, better than irrigation. Shock should be sedulously avoided by preventing loss of blood, by the use of hot saline solution to maintain the temperature and by rapid and smooth use of the chisel, spoon or rongeur, avoiding as much as possible the mallet. Metastases already formed, even in the lungs, are not always contraindications for the operation, since the secondary foci are generally less virulent and may heal. Brain abscesses should be watched for, especially in the cerebellum. Meningitis alone seems to preclude recovery, and in some cases its symptoms disappear, showing it to have been a purely irritative affection.

96-97. **Glandular Fever.**—Several cases are reported by Griffith which simulated glandular fever and showed the difficulties of positively identifying such a condition. In the cases reported it would seem that influenza was really itself present. Hand reports several cases and concludes that the trouble is of various etiology and obscure as yet as to its pathology, and while the generally existing view is that it is one of the manifestations of influenza, there are cases where this complication and other causes are undoubtedly absent. The designation acute cervical lymphadenitis is, on the whole, better than that of glandular fever.

105. **Treatment of Uterine Retro-Dislocations.**—West recognizes three classes of cases of retro-dislocations: The first class, comprising about 6 to 8 per cent. of the cases, includes those of recent origin, that have existed less than one year. They are without adhesions and can be cured by palliative means such as restoration by bi-manual palpation and injections of bichlorid of mercury and water, and tampons and pessaries. The second class includes those with slight adhesions, which may be easily broken with the finger or may be dissipated by massage when more persistent treatment is required; there is also some promise to the patient from treatment with pessaries. The third class includes the old chronic dislocations without adhesions; these can not be cured by the use of the pessary, nor can they be remedied by plastic operations from below. The great majority of cases, with or without adhesions, form over one-half of all cases which present themselves for treatment, and he reviews the different operations. If there are firm adhesions in Douglas' cul-de-sac, with or without adhesions of the appendages, laparotomy in the median line, followed by uterine suspension, or Alexander's operation modified by anterior or posterior colpotomy, median laparotomy or incision through the internal rings may be required. If it is certain that adhesions to the fundus and tubes exist without other pathologic conditions, it is possible to safely separate these adhesions per vaginam and perform Alexander's operation. In cases of doubtful separation and doubtful condition of the appendages laparotomy in the median line should be performed. The advice to incise through the internal inguinal ring in order to deal with adherent tubes and ovaries does not recommend itself. It is a double operation, more open to the dangers of infection, and the danger from hernia is much greater. The objections to uterine suspension are not valid; they are only so as opposed to uterine fixation. He formulates his conclusions as follows: 1. There is a certain percentage of curable cases of retro-dislocation by palliative means alone. 2. Plastic operations alone will not cure chronic retro-dislocations. 3. Vaginal operations, except as adjuvants, are, as a rule, a failure. 4. The Alexander operation is indicated in all uncomplicated cases of retro-dislocation requiring operative treatment. It is indicated in cases of retroverted, ante-

flected uterus without adhesions. It is indicated in cases of retro-dislocation with adhesions, when normal appendages exist, the adhesions in these cases first to be separated by anterior or posterior vaginal incision.

106. **Pain in Appendicitis.**—Lee finds that in appendicitis, as well as in other abdominal lesions, the pain in the early stages of the disease is of a colicky nature and due to an acute distention of the organ affected; that the greater the distention, the greater the pain. 2. That as soon as the acute constriction or distention has subsided or the obstruction has been relieved, these reflex colicky pains and nausea and vomiting cease, and the pains after this time are of a steady character. They should be described more as a tenderness in the right iliac fossa and are due to the circumscribed peritonitis. 3. That this last-mentioned pain subsides as the disease progresses toward its favorable termination, either by a perforation of the abscess into the bowel or possibly by the absorption of the circumscribed inflammatory process.

114. **Accidents of Syphilis.**—The accidents of syphilis noticed by Pudor include mistakes of diagnosis, non-recognition of syphilis and false diagnosis of its existence. Both of these may be disastrous, as he shows by case histories. The second series of accidents are those of treatment. He says that, with the exception of a few misguided individuals, the profession is uniform in the belief that in the mercurials we have a veritable specific against the virus. The form of mercury and the method of its administration, however, are disputed points. He mentions two ways of administering it, inunction and the internal use of the drug. The former is the one on which he depends as the only proper and satisfactory treatment. The so-called abortive treatment he condemns absolutely because it destroys the possibility of diagnosis at the time. Another accident of treatment is that of not giving the patient severe and explicit directions how to protect his neighbor, and he reports cases illustrating this fact. Nothing should be left for the patient to think out for himself in these cases.

117. **Gynecologic Hot Douche.**—The successful use of the hot douche in pelvic inflammation depends: 1, upon the degree of heat in which it is used. The water should have a temperature of 115 to 125 degrees; 2, the length of time in which it is employed. If it is discontinued before the secondary effect is secured, the parts are left in a worse state than they were before the douche was begun. It should not be discontinued under fifteen or twenty minutes. The longer the operation the better. The posture of the patient is of great importance and he recommends Sim's position, in which the vagina is ballooned out and its folds are obliterated. This is rather inconvenient, but the better efficiency of the position amply repays for all extra trouble. The head of water is important, and he thinks that this is overdone. It should not be over five or six inches above the pelvis. This gives a slow, steady flow of the current without much force, but carries as much heat to the part as two or three times that amount of water. He has invented a fountain syringe for irrigation. It has a double bag with a Y-piece and connected to a common discharge pipe. Each bag, however, is regulated by a faucet and the temperature can be increased or decreased at will.

129. **Cardiac and Renal Disease.**—The relation between cardiovascular disease and renal troubles is discussed by Kelly, who calls attention to the hypertrophy of the heart, the cardiac complication characteristic of chronic intestinal nephritis. This affects the left ventricle and with it we find increased arterial tension and other degenerative changes, showing evidences of embarrassed circulation. The clinical picture, in cases where compensation fails, is that of primary cardiac disorder and it may be important to know whether this is actually the case or whether the kidney disease is the real cause. If, however, we find, in addition to hyaline epithelial casts that albumin continues in the urine in spite of reduction of congestion in other parts of the body, it is probable that there is nephritis, but whether this is of long standing or not is to be determined by the past history. In the early stages of the condition, when the cardiac and renal dis-

orders are discovered before clinical evidences of their existence appear, the prognosis is not bad as regards life-expectancy. The patient should be advised to lead a hygienic, moral and abstemious life. When, however, the circulation becomes embarrassed, the prognosis becomes bad. The dangers to be apprehended are cardiac failure, arterial rupture and remia. The patient should be put under hygienic conditions, should avoid excessive exercise, keep the bowels regulated, favor the action of the skin by using hot baths judiciously, and the diet should be regulated. Large quantities of proteids are certainly injurious. Meat once a day is sufficient, tea and coffee in moderation, but alcohol should be prohibited. If, with the above methods and an occasional saline purge, the symptoms are ameliorated, no medicine should be given, but when the heart begins to flag, Kelly knows of no better remedies than nitroglycerin and caffeine. Only enough should be given to produce amelioration. The amount he suggests is nitroglycerin in 1/100 gr., and caffeine in 3 gr. doses, but more may be required in individual cases. If there is an attack of remia, as shown by headache, nervousness, etc., it is well to restrict the diet to milk and to give large quantities of water, as well as to add saline cathartics and alkaline diuretics. When there is no marked cardiac debility, there are several drugs that should not be given, among these digitalis and stramonium. The latter is valuable in all stages of parenchymatous nephritis, but is not so useful in renal cirrhosis. When marked dilatation is present and compensation fails, digitalis is indicated; but if it is not found of use after three or four days, it should be discontinued and strophanthus substituted. The alternative use of these remedies may also be useful. tryphmin is also another valuable remedy. Other remedies mentioned are the iodids, and mercuric chlorid, but the author does not specially favor their use. See also ¶10.

130. Incipient Tuberculosis.—The early symptoms of pulmonary tuberculosis, with sputum tests, are: First, a dry, hacking cough of the unobtrusive or throat-clearing variety, growing worse as the disease progresses. Next, the temperature. Normal or practically normal temperature after 5 or 6 a.m. is of great diagnostic import. The next is the pulse-frequency and arterial tension, beginning with almost constant acceleration of 10 to 20 beats, with diminished pulse-tension, the pulse not being influenced by the recumbent position. Hemoptysis and the gastric symptoms are also important. The patient has had no experience with the X-ray in diagnosis, but thinks it would be of value only when used by an expert. He has been afraid to use the tuberculin test. Too much consideration must not be given to any one physical sign or symptom; every point that can be brought out must be considered. In the treatment of incipient tuberculosis he lays special emphasis on out-door life and fresh air. As far as the diet is concerned, he would give nitrogenous foods first place in importance. Pulmonary gymnastics are of value, should be frequently indulged in and to the point of respiratory fatigue, he thinks that forced expiration is as important as prolonged inspiration. The wisdom of this, however, is doubted in slightly advanced cases on account of the danger of spreading the foci in forced inspiration. Pulmonary gymnastics with intrapulmonary medical treatment by nebulization under high pressure is a plausible method of treatment. Of the external remedies, eucosote has probably stood the test of time best, but lately he has used ichthyol in its place with better results as regards the stomach. The serum treatment, he thinks, offers more promise for the future than any other, though at present it is not perfected. In no disease is a specific and methodic attention to details more essential. This is the reason why sanatoria have such success.

131. Antipneumonia Serum.—Rosenthal has employed antipneumonic serum apparently with advantage, using it hypodermically in the side of the chest. When the temperature is 103 F. or over, the pulse 140, and the respiration 48 or over he begins with 20 c.c. of the serum, or where the type is more severe, with double this amount, followed every four hours by double the initial injection until the disease is under control, as shown by lowered temperature, slowing of respira-

tion and disappearance of pain and improvement of the pulse and general condition. He thinks that it does not interfere with any other treatment and is itself harmless. It is important to get a fresh and reliable preparation and none of the foreign preparations possess these qualities.

FOREIGN.

British Medical Journal, October 20.

Prevention of Valvular Disease of the Heart in Cases of Acute Rheumatism. RICHARD CATON.—To prevent heart complications in rheumatism stop the disease as rapidly as possible and prevent all aggravation of it by chills. For this purpose rest in bed is of the first importance; salicylates to be given in full dose, often with alkalies, and cholagogues in such measure as to cause free evacuation but no diarrhæa. The diet should be confined to milk and light farinaceous food; no red meat should be allowed for a considerable length of time. If there should be cardiac trouble or a bruit has developed which can be heard in the axilla and the second pulmonary sound becomes accentuated, rest is still more important and should last for five or six weeks at least. He advocates blisters near to or above the joint, and also in the region of the first four dorsal intercostal nerves, to directly stimulate the trophic and vasomotor nerves of the heart. For the removal and absorption of exudates he uses the iodids, usually sodium iodid and sometimes with caution a mercurial. His results in 85 cases during the last fifteen years, have been on the whole very satisfactory; of 54 already having had signs of cardiac trouble 34 of the diseased hearts apparently completely recovered, and only 3 of these in which it did not exist on reception developed it. He sums up the principles of treatment in acute endocarditis into prolonged rest and avoidance of active or violent exertion for several months after the attack and other precautions against another attack of rheumatism.

On the Resting Position of Anopheles. L. W. SAMBON and G. C. LOW.—The authors' remark on the statement which is going around that the anopheles at rest has its body nearly perpendicular to the surface on which it is fixed, and state that the anopheles claviger as observed by them in the Roman Campagna this year, had its body only at a partial angle, and by no means perpendicular. Some other species, however, agree with the common description. The resting attitude of the mosquito has lost this important diagnostic character between the culicx and the anopheles genera.

Oophorectomy in Cancer of the Breast.—Boyd has investigated the subject of the effect of oophorectomy in cancer of the breast and tabulates the cases which he has obtained notes of in the literature. He thinks that the atrophy of cancerous masses after oophorectomy can not be an accident, and it is not due to laparotomy, nor to the use of thyroid. He divides his tabulated cases into two classes: 1, those where it seems to produce a clear or considerable result, and 2, those where it had little or no effect or the effect was dubious. Comparing these two groups he thinks that the average age of group 1 is considerably more than that of group 2, that is to say oophorectomy appears to do the most good in elderly women, contrary to what would be naturally supposed. The cases in group 1 are of more chronic type than those in group 2, and with one exception all the patients certainly past the menopause are included among the failures. As regards the amount of disease present the cases in group 2 are rather worse than those in group 1, though the quantity of superficial disease does not make the difference between failure and success. Wherever it has been evident that viscera and bones have been infected no improvement has taken place in them. On the other hand a very slight amount of disease may be little affected by the operation. The evidences of success appear early. Amenorrhœa, atrophy of the uterus and more slowly of the breasts, are constant phenomena. Unpleasant effects, such as premature aging, grayness, mental changes, etc., seem to be rare. Sexual feelings are usually unaffected. He concludes that oophorectomy should be offered in cases other than the very acute in women over 40, with no visceral or bony lesions, in fair condition and before the menopause. The subject is still in the experimental stage.

Surgical Treatment of Exstrophy of the Urinary Bladder. JOHN BERG.—The conclusions of Berg's paper are as follows: "1. There is yet no method of treatment suitable for every case of exstrophy of the bladder. In selecting a method we must take into consideration the local changes as well as the patient's age, general state and especially the functioning of the heart and the kidneys. In so doing I think we shall meet a certain number of cases where all the circumstances are so extremely favorable for the less dangerous treatment—I mean the direct union—that no other method ought to be thought of, at least not until this has been tried in vain. 2. We are able in a number of cases to create such favorable circumstances—which could not be affected by means of orthopedic measures—by a sychondrosectomy after Trendelenburg or an osteotomy after Berg. The last named operation may have the advantage of a quite reliable osseous healing and of a more easily corrected position of the two halves of the basin. It can be performed on older patients. Trendelenburg puts as the highest age for the operation 8 years. I have successfully osteomised a patient of 15 years. With both these operations the direct danger of the treatment no doubt becomes greater, and thus we are left to make our choice between the autoplasic method and the transplantation of the ureters. 3. I suppose that many surgeons yet prefer the autoplasic method, as probably less dangerous. Personally I prefer, for reasons before named, to recommend the above-described method with single skin flap, covered by Thiersch's plan on its deep surface. 4. Considering the improved technique and the diminished danger which the operation of John Simon in our time has achieved, especially through Professor Magell in Vienna, it seems probable that this operation will be found to supersede other methods in a number of cases. For my own part, I should not hesitate to make use of it in old cases where the bladder is deeply destroyed or the other methods have failed. Though I fully join in Professor Bergmann's opinion expressed two years ago, that our present treatment of this deplorable deformity is far from ideal, I shall believe that the work of the past century even in this field has given us sufficiently firm ground for further labor, and that it would be unwise to make any wide departures from that which has already been gained."

The Lancet, October 30.

The Clinical Study of Heart Disease. NORMAN MOORE.—Moore advises full notes in every case of heart disease, giving what is actually heard or seen without any mixture of hypothesis as to the cause. The habit of determining accurately what we hear should be cultivated and all doubtful or doubting expressions avoided, so far as the evidence of the senses is concerned. Another point is to observe the pulse and compare its results with that of auscultation. In examining a case of valvular disease it is not too much to feel the pulse with close attention throughout three complete minutes, giving the number of beats in a minute in which any inequality or other peculiarity is observed. Another point in examining, is to determine if hypertrophy of the heart exists: it has almost always a morbid explanation. If it is a hypertrophy of the left side it means that valvular disease, chronic interstitial nephritis or adherent pericardium is present. When it is determined, it is to be decided which of these three conditions has produced it. As to the amount of hypertrophy his own experience does not entitle him to go farther than to say that when the apex-beat is in the nipple line and sixth interspace it may be double its natural weight. Dilatation, as distinct from hypertrophy, may be inferred from symptoms, but is rarely capable of being accurately demonstrated by physical signs alone. It may be rapid; he has seen extreme dilatation in six weeks. In most cases of long-standing chlorosis he believes some dilatation of the heart exists. In undoubted valvular disease the cardiac impulse is sometimes accompanied with a thrill. The question is whether this is due to mitral stenosis, to rigidity of the aortic valves, or to aortic aneurysm. The thrill produced from mitral stenosis is never felt except at the apex, but the thrill of rigid aortic valves may be felt there as well at the base and sometimes alone at the apex. The character of the pulse will in such cases prevent error. The systolic murmur of aortic obstruction, and the diastolic murmur of aortic regurgitation,

and the double murmur caused when both defects are present, are occasionally distinct at the apex and more rarely inaudible at the base. The murmur of mitral stenosis is never audible at the right base. The murmur of aortic stenosis is probably the loudest of all; it is the only one he has ever heard at a distance of six inches without contact with the patient's chest. Any systolic murmur which is distinct at the apex may also be heard at the angle of the left scapula, and the great majority of these will prove to be cases of mitral regurgitation. The diastolic or presystolic murmur of mitral stenosis is never heard at the back. Careful auscultation of the back is important, especially in relation to the separation of a group of murmurs in the same heart. If the patient has mitral regurgitation and aortic stenosis, the systolic murmur produced at the mitral and aortic orifices may thus be distinguished in many cases. On the back the mitral murmur will be loudest at the angle of the left scapula; the aortic murmur will often be well marked in right supraspinous fossa. If this systolic murmur is traced down toward the angle of the left scapula it will be found to grow fainter, and then when the angle is reached to be again loud. The aortic stenosis murmur is generally audible in the right supraspinous fossa, where the diastolic murmur of aortic regurgitation may sometimes though less frequently be also heard. It may not be always possible to be sure that both mitral stenosis and aortic regurgitation are present. A distinct thrill confined to the apex will in many cases prove that the presystolic sound is due to mitral stenosis, while an accompanying diastolic murmur at the right base is never due to this and is proof of the presence of aortic regurgitation. Disease of the valves of the right heart are rare. Moore has seen postmortem one case of tricuspid stenosis in which stenosis of the mitral valve was not present. He has seen three cases of stenosis of the pulmonary valves without any congenital malformation or any valvular disease. The characteristic feature of such cases are the congenital murmur, loudest at the left base, and the fact that the pulse is normal and has none of the characters of the disease of the aortic valves or of the inequality common in mitral disease. It may be difficult in early childhood to distinguish the disease of the mitral valve from pulmonary obstruction with a small opening at the upper part of the septum between the ventricles. Careful and repeated examination of the pulse often is the best guide. One of the most difficult things to determine is whether or not there is an adherent pericardium, and Moore thinks the diagnosis can be made with actual certainty only when the mitral stenosis without other valvular disease is present. It is never on its own account, associated with hypertrophy of the left ventricle, and if we have this without signs of chronic interstitial nephritis the hypertrophy is certain to be due to adherent pericardium. The commonest valvular disease in the young is mitral regurgitation, and it is the most hopeful as regards prognosis. In a general way Moore thinks we ought to believe that every case of rheumatic fever is a case of endocarditis, and take the child's temperature four times a day if possible and treat every slight rise in temperature as a fresh attack. When angina pectoris is present, disease of the aortic valves is almost always present. Now and then a severe cardiac pain toward the apex occurs in mitral disease, but lasts longer than true angina pectoris. Aside from angina pectoris, mitral stenosis is of all forms of cardiac disease the most distressing to the patient, and absence of such distress will make it clear that aortic regurgitation and not mitral stenosis is the cause of a thrill and diastolic murmur. In mitral stenosis engorgement of the liver takes place early and often causes much pain. Bleeding from the arm, before a painful degree of hepatic engorgement has taken place, often relieves the heart, and after considerable engorgement of the liver has set in some relief may be obtained by leeches applied over this region.

Bulletin de l'Académie de Médecine (Paris), October 9.

Restoration of Palate, Nose and Lachrymal Ducts. GOLDENSTEIN.—The entire palate process, upper teeth and nose had been destroyed in the patient presented. Goldenstein's prosthesis consists of a part supplying the missing roof of the mouth, gum and teeth, with a second portion applied over the

cavity of the nose, applying an artificial nose and screwing to the portion inserted from below. The average weight of the parts to be supplied is about 66 gm. and this prosthesis weighs 6 gm. less. By an ingenious contrivance of springs the latter is supported by the floor of the nasal fossa, on which spring clamps hold it immovable.

Journal de Médecine de Paris, October 7.

What Fractures are Amenable to Immediate Massage?

LUCAS-CHAMPIONNIÈRE.—The term *gluco-kinesis* has been coined by Championnière to express his method of gentle massage without causing pain, applied as soon as possible after the injury that caused the fracture, with no attempt at immobilization. The repair of the bone and absorption of fluids is much more rapid and complete than with other methods of treatment. The vitality of the parts, suppleness and nutrition are maintained while the pain and contraction rapidly disappear. The fractures that always benefit by this treatment are those of the upper portion of the humerus to the insertion of the deltoid, and of the lower portion to four finger widths from the joint; all fractures of the malleoli with no tendency to displacement sideward or backward; all fractures of the elbow and especially of the olecranon, all fractures of the radius at the wrist without too much retrodisplacement; nearly all of the clavicle; all of the lower portion of the fibula without a tendency to deviation from the axis of the foot; all fractures of the femur or tibia at the knee without displacement, and also all fractures of the scapula. Other fractures which exceptionally justify this method of treatment are those of the middle portion of the humerus and of the two bones of the leg without displacement, and fractures of the two bones of the forearm. In certain other cases massage and immediate mobilization can be combined with the use of an apparatus, but the results are less complete and remarkable than when no apparatus is used. In children mobilization is sufficient without massage, and the latter is also omitted in the aged if the veins are dubious.

Presse Médicale (Paris), September 26 and October 17.

Remote Results of Operative Treatment of Hypertrophied Prostate.

F. LEGUEU.—Hypertrophy of the prostate is taking its place as a primary affection, the bladder involvement secondary to the mechanical interference, with consequent retention of urine. The most rational treatment is the removal of the obstacle. The benefits will be more apparent the earlier the intervention, before the bladder has lost its contractility and before infectious complications have appeared. The excision must be ample, removing all the portions of the gland that are hypertrophied or liable to become so. Suprapubic prostatectomy is sufficient for a limited obstruction, but the lateral lobes can be effectively reached only by way of the perineum, although it is impossible to remove the extravascular protuberances by this route. Legueu suggests that a combination of both routes might be useful, removing the middle lobe by a hypogastric incision and the lateral lobes by the perineal route. He anticipates in the near future the advent of total prostatectomy. Cystostomy is a last resource and merely palliative. Castration is only beneficial when bilateral and done in the first phase of acute retention. Later it proves merely a palliative resource to prevent recurring orchitis and attacks of congestion with hemorrhage, although it occasionally improves the vesico-prostatic conditions. The only benefit derived from vasectomy and its only indication is the suppression of recurring orchitis. These operations on the testes will soon join Battey's method of ovarian castration as a treatment for uterine fibromata, and only survive in history.

Revue de Chirurgie (Paris), October.

Suturing Wounds of the Heart. F. TERRIER.—Two years ago Terrier reviewed the experiences and indications for suture of the heart and pericardium in the treatment of stab wounds. He has since collected twelve new cases, and after carefully studying the methods of incising and suturing and the results of the intervention, pronounces the evidence in favor of Fontan's method of reaching the heart. This is by means of a large flap opening outward, comprising the fourth, fifth and sixth ribs, the nipple in the center, the inner edge just inside the chondrocostal articulations, the lower edge extending

through the center of the space below the sixth rib. The upper edge of the flap follows a horizontal line from the center of the space on the left to the chondrocostal articulation of the fourth rib. This flap, turned outward, can be enlarged at will. The soft parts and cartilages left on the right can be turned back over the sternum. The upper and lower ribs are cut on the axillary line; the middle rib is broken with the hand. This flap can be rapidly cut and enlarged at will. Hemostasis is simple and it is easy to keep from injuring the pleura, but the chief advantage is that it allows the latter to be detached and pushed out of the way. Fontan and Maliszewski seized the bleeding portion of the lung with forceps and left it until after they had attended to the heart wound. This terminated, they returned to the lung, resecting or suturing with catgut, and then attending to the pleura. In suturing the heart a continuous suture seems to be preferable to separate stitches. The pleura, and especially the pericardium, should not be drained, but closed completely whenever possible. Three of the 12 patients recovered. The deaths occurred between the first and twentieth day. Infection was evident in 5 cases, in 2 death was due to extreme loss of blood. Narcosis was induced in 2 of the 3 successfully operated cases. The left ventricle was the seat of the injury in 7, the right in 2, the apex 2, and the left auricle in 1. In each case the pleura had been traversed by the stab and blood was found in it, once as much as 3 liters.

Subpyloric Gastroduodenostomy. E. VILLARD.—In three cases of cicatricial stenosis of the pylorus Villard isolated it and produced an ample outlet for the stomach with none of the disadvantages of the usual gastroenterostomies, by suturing together the stomach and the duodenum where they parallel each other below the pylorus. He first made a continuous suture of the two juxtaposed sides, stopping an inch or so below the arch of the pylorus. Then both stomach and duodenum were incised for the proper distance, the incisions brought face to face and the suture continued around them, thus making a lateral anastomosis. Fine silk was used for the sutures. The incision into the stomach was made on the posterior margin of the greater curvature, not on the front. The benefits were apparent at once in the three cases described. Vomiting ceased and with it the oppression and pain. One patient gained two kilograms in six days, and more than twenty-three in four months. The chemistry of the stomach has become normal even in one case in which suspected cancer and pulmonary tuberculosis are progressing. One case dates from 1897. The indications are cicatricial stenosis of the pylorus, or stenosis of biliary origin in which the mere liberation of an adhesion will not re-establish the lumen of the intestine. He has found the operation very successful in relieving an ulcer of the stomach with hematemesis and uncontrollable vomiting. Thorough lavage and emptying of the stomach is an indispensable preliminary.

Berliner Klinische Wochenschrift, September 24 and October 8.

Treatment of Bronchial Affections by Reclining with the Head Lower Than the Feet.

O. JACONSON.—The benefits of reclining flat and then having the foot of the bed raised are most pronounced in chronic bronchial affections. Jacobson explains the mechanism of the process as the shifting of the secretions by their own gravity from the spot where they have been accumulating to spots where the mucous lining has not become desiccated by long contact with them. When they touch new, sensitive points, reflex coughing is induced and the entire accumulation is coughed up. This method prevents stagnation and putrefaction of the secretions and is particularly valuable in curing fetal bronchitis, relieving the patient for all day. It also renders good service in certain cases of abscess of the lungs, and especially in chronic "cylindrical" bronchogonorrhoea. It is contraindicated in acute bronchial affections in which the mucosa is always hypersensitive, and coughing is incessant. The patients recline for an hour morning and evening, and later only in the morning.

Centralblatt f. Bakteriologie (Jena), September 20.

To Fix Blood Specimens. A glass bell, like a large bottle without a bottom, is placed over the thin specimens of blood on cover-glasses. One drop of formalin is then placed on a

cover-glass fastened to the bottom of the stopper of the bottle, which is then replaced and the specimens left for fifteen to thirty minutes in the fumes that develop. The bell is about 135 mm. in diameter by 150 high.

Dermatologisches Centralblatt (Berlin), October.

Prevention of Syphilis and Sycois in Barber Shops. S. BEHRMANN.—There is little hope that barbers will conscientiously sterilize their instruments and towels to prevent contagion, even if police regulations require it. Behrmann thinks that the better way is for the customer to require him to rub a little mercurial ointment or soap on every spot that bleeds after shaving. Extensive bleeding can be controlled with salicylated gauze or cotton. He recommends carrying some of this salve and gauze to the barber shop for the purpose. Bay rum will destroy the parasite of sycois or herpes tonsurans, and a little gray ointment rubbed into and left on a cut or scratch will destroy any syphilitic infection. This can be done after the return home.

Muenchener Med. Wochenschrift, October 9 and 16.

Commencement of Idiopathic Dilatation of the Heart. E. WOLFFHEGEL.—All the injuries which lead to acute dilatation of the heart have in common an increased pressure in the arterial vascular system and an increase in the heart's action to overcome it. The most frequent cause is an infectious disease, in the largest majority of cases influenza or articular rheumatism. The obesity that follows excessive beer drinking is another cause. Most of the cases of idiopathic dilatation have long been preceded by abnormal heart action, although not sufficient to arouse attention. Marching in uniform, with constricting collars and belts, is an important factor, interfering with respiration and secondarily with the heart action. Under other circumstances the coat is thrown open, the burdens laid down on the first symptoms of oppression, but the soldier is ambitious to keep up and in his place. Excessive exertion is not necessary to tax too far a heart with a congenital or acquired weakness of the muscle. Auscultation and percussion determine, in case of valvular insufficiency, whether it is a regulating process or due to weakness of the muscle. Radioscopy is also an important aid in diagnosing. In general it is best to refrain from taxing soldiers who present evidences of a dilating weakness of the heart muscle during the second year of service, while on the other hand, during the first year it is reasonable to expect that judicious training will strengthen the muscle. If the weakness persists after the first year it is practically irremediable.

Acute Formalin Intoxication. J. KLUEBER.—A healthy man drank a little diluted formalin by mistake. His symptoms resembled those of acute alcohol intoxication, stupor for several hours, anuria for nineteen and congestion of the conjunctivæ and throat, with complete recovery by the third day.

October 16.

Typhoid Cystitis. H. CURSCHMANN.—About fourteen writers have mentioned the occurrence of typhoid bacteriuria in their experience, ranging from 2 to 100 per cent. of all cases of typhoid fever, or an average of 15 to 30 per cent. None mention the occurrence of secondary bladder infection, but Curschmann has recently had occasion to observe three cases of suppurative cystitis with the typhoid bacillus pure in the lesion. The affection seemed milder in its course than cystitis due to the streptococcus or staphylococcus, and yielded readily to the ordinary measures. Houston's is the only similar case to be found in literature and his was distinguished by the duration of the cystitis—three years. The urine was acid in each of these cases.

Disinfection With Carboformal Incandescent Bricks. DICHPONNE.—A very simple and effective method of disinfection of rooms, etc., is provided by the bricks, containing 59 gm. of paraformaldehyde in the center, which have recently been put on the market. Lighted with a match, the bricks smoulder and the paraformaldehyde generates gas without actually igniting. For country practice they will be found invaluable. To produce the necessary preliminary moisture two liters of boiling water will fill an ordinary room with steam. Tests with 2.5 gm. formaldehyde to the cubic meter in these carboformal

bricks destroyed all the bacteria and almost all the anthrax spores. Even as small a quantity as 1.6 gm. destroyed 60 per cent. of the germs.

Significance of the Crystals in the Feces. SCHILLING.—Numerous examinations of the sediment of softened feces have convinced Schilling that the variety and amount of crystals to be found in the stools has been far underestimated. He states that every plant, berry, fruit, blossom, leaf and root contains crystals, mostly oxalates and calcium carbonates. These are found in the feces in great numbers and also the triple phosphates. The glittering of the crystals can be seen with the naked eye in the sediment of the feces. These crystals probably serve some useful purpose in the alimentary canal, possibly stimulating peristalsis and the innervation by the mechanical irritation of the thousands of tiny insoluble particles. If this assumption prove correct vegetable diet acquires new significance in the treatment of habitual constipation.

Brazil Medico (Rio Janeiro), September 23.

The Operated Xiphopagus. I. DA ROCHA.—In all scientific literature there were only three cases recorded of the separation of a xiphopagus, until Chapot-Prevost operated on Rosalina-Maria. One of the three cases is extremely doubtful: it was recorded in 1689, and is mentioned as dubious by contemporaries. The second was only a superficial connecting band between two twins, the wound measuring 5½ cm. The patients in this case were operated on by the father, Dr. Boehm, of Bex, Switzerland, in 1866. The third case was a true xiphopagus, the first ever operated on, and was reported by Blandet and Bugnion in 1881. The liver was continuous, and both children died in six hours afterward from hemorrhage of this organ. Chapot-Prevost's operation is thus the first successful one of the kind in history, and although Maria died from pleuro-pericarditis five days later, the autopsy showed that the wound in the liver was normally cicatrized. The connecting band was 14 cm. wide by 7 thick; the area of the cut surface of the liver, 4 to 6 sq. cm. Such an extensive hepato-tomy has never been done before. The operation was performed at the urgent request of the parents. The heart in the surviving Rosalina is on the right side.

Revista Medica del Uruguay (Montevideo), August.

Syphilitic Contagion from Nurslings. L. MORQUIO.—The outside service of the Foundling and Orphan Asylum at Montevideo had charge of 819 children in 1899, with a mortality of 8.9 per cent. In spite of the most rigid care, there were a few cases of syphilitic contagion of the wet nurses to whom the foundlings are confided at their homes. To prevent this calamity Morquio is urging the regulation that every infant less than 3 months old, whose parents are unknown, shall be considered possibly syphilitic, and not given out to breast-nursing. Besides avoiding the danger of contagion, this enlarges the choice of nurses. He always gives the preference to those in good circumstances rather than to the very poor.

Change of Address.

- C. L. Abbott, Ft. Seneca, Ohio, to San Pablo, Cal.
 J. W. Beebont, Hiram, Ohio, to Caldwell, Ohio.
 B. B. Braselton, Vinesburg, to Wetherford, Tex.
 D. M. Barstow, 6 E. 9th St., to 21 W. 53d St., New York City.
 W. R. Beck, 5 E. Market St., to 121½ N. Jefferson St., Huntington, Ind.
 J. C. Bird, 1148 6th St., Louisville, Ky., to Soldiers' Home, Danville, Ill.
 W. R. Blue, 214 W. Broadway, to 308 W. Chestnut St., Louisville, Ky.
 J. L. Bell, French Lick, Ind., to The Nelson, Walnut Hills, Cincinnati, Ohio.
 W. J. Bell, Atlanta, Ga., to Berlin, Germany.
 Harold Bailey, Charles City, Iowa, to 6 Upper Bedford Place, Russell Square, London, W. C., England.
 J. F. Clark, Toledo, Ohio, to Oaray, Colo.
 W. N. Culmer, Bedford, to Springville, Ind.
 Johnson Elliot, 1417 M St., N. W., to 718 H St., N. W., Washington, D. C.
 J. L. Fleming, Jack's Creek, Tenn., to Fulton, Ky.
 W. J. Furness, 744 St. Nicholas Ave., to 271 W. 134th St., New York City.
 M. Frahm, Mattoon, to Tuscola, Ill.
 J. H. Farrell, San Francisco, Cal., to 52 State St., Chicago.
 E. S. Goffred, Jr., 418 S. Broad St., to 261 S. 10th St., Philadelphia, Pa.

A. W. Harold, Akeley to 117 E. Burlington St., Iowa City, Iowa.
 G. P. Hurd, Reading, to 94 Main St., Winchester, Mass.
 V. H. Hulden, 406 Sutter St., to 135 Geary St., San Francisco, Cal.
 Lenora B. Hamly, 1424 Clarkson St., to 326 15th St., Denver, Colo.
 R. B. Jackson, 156 W. 53rd St., New York City, to Harvard University, Washington, D. C.
 R. B. Johnson, Norfolk, to Madison, Neb.
 W. W. Johnston, Cameron, to La Grange, Ill.
 E. F. Jones, Garretson, Iowa, to Garretson, S. D.
 William Kelly, Changteh, Hunau, China, to U. S. Consulate, Shanghai, China.
 P. D. Kerrison, 158 W. 97th St., to 772 Park Ave., New York City.
 P. W. Kerchner, Belleville, to Caseyville, Ill.
 J. H. Keaney, 1026 N. Eutaw St., to 500 Madison Ave., Baltimore, Md.
 J. Klein, 530 Lunt Ave., to 4810 N. Clark St., Chicago.
 Emma J. Keen, 1404 Tremont St., to 1618 Glenann St., Denver, Colo.
 J. E. Lacy, 822, to 713 S. Summer St., Nashville, Tenn.
 Edw. Lnehr, 9241, to 9141 Hudson Ave., South Chicago.
 S. L. McElroy, Kirklind, to Allapaha, Ga.
 A. S. McKnight, Adamsville, R. 1., to 1095 N. Main St., Fall River, Mass.
 R. E. Mason, Jr., Seneca, S. C., to Gastonia, N. C.
 P. H. McMillan, Shiloh Hill, to Ava, Ill.
 P. L. Manning, 10 Deatur St., Atlanta, Ga., to Gould Bldg., Inuberry, Ohio.
 J. H. Mullett, Ann Arbor, to Pontiac, Mich.
 J. H. Murphy, St. Paul, Minn., to Boston, Mass.
 M. G. Motler, 2114 Connecticut Ave., Washington, D. C., to 633 16th St., Philadelphia, Pa.
 S. H. Mueller, Denver, Colo., to 204 W. 114th St., New York City.
 G. Natanson, 1535 Madison St., New York City, to 209 Eastern Parkway, Brooklyn, N. Y.
 W. B. Newton, Glasco, Kan., to 513 S. College St., Nashville, Tenn.
 H. A. Reinhard, Milwaukee, Wis., to 460 W. Adams St., Chicago.
 A. Q. Shryock, 28 33d Pl., Chicago, to Grass Creek, Ind.
 J. F. Strong, Hildebrand, Iowa, to Socorro, N. M.
 G. W. Shipman, Armada, to 278 Forest Ave., W. Detroit, Mich.
 E. L. Tompkins, Fine Creek Mills, Va., to 1512 A St., Washington, D. C.
 C. C. Tallman, Keota, Iowa, to Silver Cross Hospital, Joliet, Ill.
 R. H. Tullis, Eldora, Colo., to Springfield, Mo.
 G. G. Verbyrck, Green River, to Tie Siding, Wyo.
 C. P. Vickers, Kansas City, Mo., to Zimberry Bldg., Wichita, Kan.
 C. J. Warner, Wooster, to Congress, Ohio.
 E. Walker, Parksville, to Millwood, Va.
 John Wright, Clinton, Ill., to Rosebery, Ore.
 J. W. Williams, 125 Patterson Park Ave., to 2326 Fairmount Ave., Baltimore, Md.
 E. R. Westcot, Hunt Spur, to Sidaw, Mich.
 B. W. Yielding, Starrucca, to Forest City, Pa.

usual plate on the door of the office, and the pension card in the window.

UNTOWARD ACTION OF DRUGS.

CHATTANOOGA, TENN., Oct. 25, 1900.

To the Editor:—Will you kindly state in THE JOURNAL if there is any work on the unusual, peculiar or strange action of drugs, similar to but more satisfactory than Lewin's "Untoward Action of Medicine?"
 Yrs. sincerely,
 U. S. McGHEE.

Ans.—We know of no recent work. Some years ago Morrow published a work on drug eruptions (Wm. Wood & Co.), but this does not cover the whole field and we believe there has been no recent edition of either it or Lewin's work. There have been numerous articles in the medical journals on special by-effects of various drugs, but no collective summary of them in book form so far as known to us.

OWNERSHIP OF PRESCRIPTION.

ESSEX, ONT., Oct. 29, 1900.

To the Editor:—Would you kindly inform me to whom a prescription belongs, druggist or physician, after being once dispensed? If druggist removes from one store to another can he legally take the prescription with him for the purpose of again being dispensed at request of patient, supposing, of course, that the physician objects. It appears to me the physician has a property-right in his prescription. Please answer in the next issue of your valuable journal.
 J. B.

Ans.—This question is one in regard to which there has been as yet no legal decision. In THE JOURNAL, June 24, 1899, p. 1463, there appeared a notice of a Texas decision, in the case of Stuart vs. Hirsch, in which the Court of Civil Appeals held that a druggist has a right of property in prescriptions filed with him, and such rights are transferable in Texas. The rights here spoken of, however, are considered particularly as existing between the druggist and third persons, the rights of the persons depositing the prescriptions being only incidentally referred to. The court did not consider a prescription merchandise in the usual and understood sense of the term, so as to be covered by a mortgage of stock, fixtures, etc. This does not seem to touch especially on the property-right of the physician. The subject has been considerably discussed, and the view held by the druggists and physicians appears to be that whatever may be the case as between them, the patient has no property-right in a prescription.

The Public Service.

Army Changes.

Movements of Army Medical officers under orders from the Adjutant General's Office, Washington, D. C. Oct. 17 till 24, 1900, inclusive:

William J. Boyd, first lieutenant and asst.-surgeon, U. S. V. (recently appointed), is assigned to the 40th Infantry, with rank from Sept. 6, 1900.

Henry H. Bradley, acting asst.-surgeon, from Camp William H. Osborne, Idaho, to Buffalo, N. Y., for annulment of contract.

Carroll D. Buck, acting asst.-surgeon, to proceed from Fort Yellowstone, Wyo., to San Francisco, Cal., for transportation to Manila, P. I., where he will report for assignment in the Division of the Philippines.

James Carroll, acting asst.-surgeon, sick leave of absence extended.

William D. Crosby, captain and asst.-surgeon, U. S. A., member of a board in New York City to examine officers of the quartermaster's department for promotion.

Charles Fitzpatrick, first lieutenant and asst.-surgeon, U. S. V. (recently appointed), is assigned to the 45th infantry, with rank from Aug. 9, 1900.

Joseph C. Garlington, acting asst.-surgeon, from Washington, D. C., to duty at Fort Mott, N. J.

James H. Hysell, major and surgeon, U. S. V., leave of absence granted.

Thomas D. Ingram, acting asst.-surgeon, from Fort Mott, N. J., to Washington, D. C., for annulment of contract.

David J. Johnson, acting asst.-surgeon, from Plattsburg Barracks, N. Y., to Roxbury, Mass., for annulment of contract.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board in New York City, to examine officers of the quartermaster's department for promotion.

Paul H. Ludington, acting asst.-surgeon, from Omaha, Neb., to New York City, for assignment to the transport *Kilpatrick*.

Edward L. Munson, captain and asst.-surgeon, U. S. A., sick leave of absence extended.

Herman J. Schlapeter, acting asst.-surgeon, from temporary duty at Vancouver Barracks, Wash., to report to the commanding general, Department of California, for assignment.

Milton Vaughan, acting asst.-surgeon, relieved from duty in the Department of Eastern Cuba, to proceed to San Francisco, Cal., for assignment to duty with troops going to the Division of the Philippines.

Richard Wilson, acting asst.-surgeon, from duty in the Department of Eastern Cuba, to report to the Surgeon-General at Washington, D. C., for instructions.

Queries and Minor Notes.

MEDICAL PRACTICE LAWS.

RIDGEFARM, ILL., Oct. 31, 1900.

To the Editor:—What states require an examination before state Board for practice? It is the states of Iowa, Indiana and Wisconsin of which I wish to know. I may say that I am a graduate of Bellevue Hospital Medical College of New York City. If you can give me any information relative to the subject you will greatly oblige.
 Yours respectfully,
 J. B. M.

Ans.—License is given on registration of a satisfactory diploma a Wisconsin. If diploma is not satisfactory examination is required. The State Board of Medical Examiners meets on the second Tuesdays in July at the Park Hotel, in Madison; in October, at the Athearn Hotel, in Oshkosh, and in January and April, at the Hotel Pfister, in Milwaukee. Circulars of instruction can be obtained from Dr. H. M. Ludwig, secretary, Richard Center, in Iowa a satisfactory diploma and examination is required. The secretary is Dr. J. F. Kennedy, of De Moines. The conditions of practice in Indiana were given in THE JOURNAL, Sept. 8, p. 656.

PENSION BOARD SIGN.

CHICKASAW, I. T., Oct. 20, 1900.

To the Editor:—In the following instance what is your opinion? A Pension Examining Board selects the office of secretary of the said board as its regular place of meeting for the transaction of its official business and designates such place to the public by affixing the words "Pension Board" on the window facing a public thoroughfare, said window is contiguous to a window on which the secretary's name is lettered, together with the word "doctor." Is this office legal and unethical?
 C. P. B.

Ans.—Applied for pensions would be put to some inconvenience to find the examiner's office if it were not designated by some sign. The putting of the Doctor's sign in an adjoining window is a matter of taste, but is not unethical or objectionable, because it does not advertise himself any more than a doctor's would do. As a matter of taste it would be better to have the

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ended Oct. 27, 1900.

P. A. Surgeon D. H. Morgan, commissioned passed asst.-surgeon from Nov. 27, 1899.

Asst.-Surgeon R. E. Ledbetter, appointed asst.-surgeon from Oct. 19, 1900.

Marine Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Oct. 25, 1900.

Surgeon Preston H. Ballhache, to proceed to the purveying depot, New York City, as inspector.

Surgeon J. M. Gassaway, two days' leave from October 19, 1900, under paragraph 179, Regulations.

Surgeon G. W. Stoner, three days' leave of absence Oct. 16, amended so that said leave shall be for two days only.

Asst.-Surgeon L. E. Cofer to proceed to Philadelphia and report to the medical officer in command for temporary duty.

Asst.-Surgeon Carroll Fox to proceed to Portland, Ore., and assume command of the service.

Asst.-Surgeon J. C. Bean granted leave of absence for two days.

Asst.-Surgeon G. A. Gregory granted leave of absence for seven days.

Hospital Steward and Chemist H. Gahn granted leave of absence for twenty days from November 12.

Temporary Hospital Steward and Assistant Chemist A. M. Roehrig relieved from duty at San Francisco, Cal., and directed to proceed to the Immigration Depot, New York City, reporting to Surgeon L. L. Williams for duty.

Hospital Steward W. P. Schlaar, upon being relieved by Temporary Hospital Steward and Assistant Chemist A. M. Roehrig, to proceed to Washington, D. C., and report at bureau for duty.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Oct. 27, 1900:

SMALLPOX—UNITED STATES.

Colorado: Arapahoe County, Sept. 17-Oct. 10, 9 cases; Rio Grande County, Sept. 25-Oct. 5, 4 cases; Custer County, Oct. 5, 1 case.

Kansas: Cherokee County, Sept. 1-30, 3 cases; Crawford County, Sept. 1-30, 4 cases; Douglas County, Sept. 1-30, 1 case; Rawlins County, Sept. 1-30, 4 cases; Shawnee County, Sept. 1-30, 2 cases.

Louisiana: New Orleans, Oct. 13-20, 1 case.
Minnesota: Minneapolis, Oct. 13-20, 1 case.
New Hampshire: Manchester, Oct. 13-20, 1 case.
Ohio: Cleveland, Oct. 13-20, 7 cases.
Pennsylvania: Philadelphia, Oct. 13-20, 3 cases.
Utah: Salt Lake City, Oct. 13-20, 6 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Aug. 1-31, 10 cases, 4 deaths.
Austria: Prague, Sept. 22-29, 1 case.
Belgium: Antwerp, Sept. 22-29, 1 case.
Canada: Yukon Territory, Dawson, Sept. 24, 4 cases.
Egypt: Cairo, Sept. 23-30, 1 death.
England: Liverpool, Sept. 30-Oct. 6, 4 cases; London, Sept. 22-Oct. 6, 3 cases; Southampton, Sept. 30-Oct. 6, 4 cases; West Hartlepool, Sept. 30-Oct. 6, 3 cases.
France: Paris, Sept. 23-30, 7 deaths.
Gibraltar, Oct. 1-7, 1 case.
Greece: Athens, Sept. 30-Oct. 6, 2 cases.
India: Bombay, Sept. 18-25, 1 death; Calcutta, Sept. 15-22, 1 death; Madras, Sept. 15-21, 2 deaths.
Italy: Sorrento, Oct. 10, generally prevalent.
Japan: Formosa, Aug. 1-31, 1 case.
Mexico: Vera Cruz, Oct. 6-20, 2 deaths.
Russia: Moscow, Sept. 22-29, 2 cases, 1 death; Odessa, Sept. 30-Oct. 6, 10 cases, 1 death; St. Petersburg, Sept. 22-29, 7 cases; Warsaw, Sept. 15-20, 22 deaths.
Scotland: Glasgow, Oct. 5-22, 25 cases, 1 death.

YELLOW FEVER.

Columbia: Boens del Toro, Oct. 22, 1 case.
Cuba: Havana, Oct. 6-13, 18 deaths.
Mexico: Tampico, Oct. 7-14, 3 cases, 1 death; Vera Cruz, Oct. 6-20, 13 deaths.

CHOLERA.

India: Bombay, Sept. 18-25, 61 deaths; Calcutta, Sept. 15-22, 7 deaths; Madras, Sept. 15-22, 51 deaths.
Japan: Nagasaki, Sept. 11-20, 1 case.

PLAGUE—UNITED STATES.

California: San Francisco, Oct. 5-10, 2 cases bacteriologically confirmed.

PLAGUE—FOREIGN AND INSULAR.

China: Hong Kong, Aug. 18-Sept. 1, 13 cases.
Egypt: Alexandria, Sept. 17-21, 2 cases, 1 death.
India: Bombay, Sept. 18-25, 89 deaths; Calcutta, Sept. 15-22, 24 deaths.
Japan: Formosa, Aug. 1-31, 4 cases, 3 deaths; Kobe, Oct. 23, present.
Scotland: Glasgow, Sept. 30-Oct. 6, 1 death.
Wales: Llandoff, Oct. 11, 1 case on steamship *South Garth* from the River Platte.

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Original Articles.

MEDULLARY ANESTHESIA IN GYNECOLOGY.*

J. RIDDLE GOFFE, M.D.

Professor of Gynecology at the New York Polyclinic Hospital;
Visiting Gynecologist to the New York City Hospital;
Assistant to the Skin and Cancer Hospital, etc.
NEW YORK CITY.

It is now about one year and a half since Bier, of Kiel, Germany, announced to the profession that he had found a new method of anesthesia, consisting of injections of cocain into the subarachnoid space of the spinal cord¹. His methods were promptly put to the test by various obstetricians, gynecologists and surgeons, and to-day the whole surgical world is agog to learn the indications for the use of this method, its limitations and its special field. The original supposition was that it was applicable to cases demanding a limited field of work and the practice of the early operators was to confine it to operations upon the lower extremities. This was gradually extended to include operations within the pelvis, the line of analgesic demarcation being drawn at the umbilicus. This naturally led to the conclusion that the special field for its application was embraced in the three departments of obstetric, gynecologic and genito-urinary surgery, together with the general surgery of the lower extremities. Further experience with the method and with the use of larger doses has extended to the regions of the body in which surgical work can be done under this method of anesthesia until it includes all parts, both superficial and deep, from the tip of the toes up to and including the breasts. The head, neck and upper extremities are outside its sphere, and probably will always remain so.

It would seem, therefore, to be a matter of special pleading to insist that gynecology has any special claim on the method for its particular use, and yet there are reasons for insisting that it has in this department a special indication. We know that after an injection of the cocain, the analgesic effect begins in the toes and gradually extends up the lower extremities, the extent of its complete analgesic influence depending on the amount of the drug used. It has been thoroughly established, however, that the dosage necessary to produce anesthesia as high as the umbilicus is perfectly safe; its action is prompt and the unpleasant effects are not severe.

Tuffier began his extension of the work from the lower extremities to the trunk of the body by operations, first on the perineum, then on the rectum, extending it

gradually to the bladder, ureter, to vaginal hysterectomies, appendectomies, hernias, and finally gastroenterostomies. Encouraged by his success in these regions, he has extended the field of operation to the kidneys and even to operations on the breast. To secure surgical anesthesia in these latter regions it is not necessary to make the injection any higher than the fourth space in the lumbar region, but it is necessary to use larger doses.

On Sept. 27 last, I had the privilege of seeing Dr. Neven, one of Tuffier's assistants, remove a small fibroid tumor from the right breast, the patient showing no signs of pain, either during the incision or the sewing up of the wound. In this instance three cubic centimeters of a 2 per cent. solution of cocain were used. Seven minutes after the injection the incision was made and the entire operation completed in about twenty minutes. There was no vomiting in this case, but the respirations were excited and sighing in character. Profuse perspiration came on during the operation, and when the woman was raised up on the table for the purpose of applying the dressing and bandage, she became extremely faint and limp, and asked for water. The faintness was not, however, greater than under similar circumstances after the use of ether or chloroform. Hot black coffee was used in this case as a stimulant.

In addition to the increased dosage, it is possible that the line of anesthesia can be carried higher up the body by a forcible injection of the cocain. In my own experience, the first case in which I used it was subjected to this method; that is, the piston was shoved home quickly and the fluid was suddenly and forcibly injected. In that case, although the operation was a vaginal hysterectomy, the tests that were applied showed that the line of analgesia extended above the breast line; and it was remarked at the time that undoubtedly an operation in that case could have been performed on the breast as painlessly as on the uterus.

At the Lariboisière Hospital it is the custom of both Dr. Tuffier and his assistants to inject the cocain slowly and steadily. Whether there was headache following the large dose of cocain in the breast case just mentioned I was unable to learn, but the other phenomena—nausea, vomiting, sweating, chilly sensations and general depression—were not so pronounced as in a case of vaginal hysterectomy for epithelioma of the cervix done on the same day by Dr. Lyot, another of Tuffier's assistants, with only 1/6 grain of cocain. It has doubtless been the observation of all of us that in many instances a small dose of morphin administered hypodermically will be followed by serious nausea, vomiting and headache, while a larger dose in the same patient will not be attended by any of these distressing symptoms. It is quite possible that the same rule will apply to the dosage of cocain in these spinal injections. Indeed, in conversation with Tuffier in the early part of this month, he expressed himself as inclined to think that the rule

* Read in a general discussion of Anesthesia by Lumbar Puncture before the Section on Obstetrics and Gynecology of the New York Academy of Medicine, Oct. 25, 1900.

1. Bier performed his first operation under medullary analgesia Aug. 16, 1898, and published a report of his first six cases in April, 1899. We now know that J. Leonard Corning, of New York, devised this method and put it on a practical basis in 1885.

would hold, and that the dosage would be rather enlarged than diminished as further experience was gained. In one case in which I saw him operate, the operation being an abdominal hysterectomy for bilateral hydrosalpinx, 1/3 grain of cocain was used. The anesthetic effect was more promptly produced, the vomiting consisted in one slight eructation about three minutes after the injection was made and before the operation was begun. There were very extensive and firm adhesions in the pelvis, but during the entire operation, even to the passing of the final stitch, the patient gave no evidence of the slightest pain or discomfort from the manipulations.

The various phenomena, the vomiting, sweating, the hurried respiration and excited pulse, are aggravated in nervous patients; the apprehension of pain and the fear that something terrible is going to happen is much more common with women than with men, and it is permissible, therefore, to attribute the exaggeration of these symptoms to nervous excitement rather than to any untoward effects of the drug. Tuffier illustrated this fact in an operation which I saw him perform on a young man of 23 years for an omental inguinal hernia, with adhesions. In this case 2/3 of a grain of cocain was injected and the patient lay as quiet and indifferent as to what was going on as he would had he been reclining in a barber's chair.

The temperature present in a large proportion of cases is undoubtedly due to a mild form of sepsis, the infection being carried in by the needle as it passes through the skin. If this explanation is correct, the needle devised by Dr. Leonard Corning, in which he passes a smaller needle through a trocar thrust into the skin, would tend to avoid, if it did not completely obviate, the possibility of infection. The same object could be accomplished by the little procedure suggested by Dr. Bodine, of first incising the skin with a bistoury and passing the needle in at the bottom of the incision.

The practical question suggests itself: When is this method to be used in preference to general anesthesia by ether or chloroform? Accepting Tuffier's dictum that the method is absolutely safe, is it as well for the patient? Many men as well as women suffer profound shock even from the sight of blood; in many the constant apprehension lest they might suddenly suffer great pain is a serious element of depression; and the conversation of the surgeons, the consciousness of some unforeseen accident in the midst of an operation, are the unfortunate factors in a surgical case. It is true that occasionally, perhaps frequently, conditions arise in the course of an operation in which it is important to know the desire of the patient in reference to extending the originally contemplated operation, and of course the spinal anesthesia affords an opportunity for this.

Whether or not it will prove a safe method of anesthesia in cases suffering from heart complications, or kidney involvement, can only be determined by more extended experience. Tuffier has had one death in a series of over two hundred cases in which this method had been used, but autopsy confirmed the previous conviction that any other form of anesthesia was contra-indicated.

From my experience with the method, and from what I saw and heard from Tuffier and his assistants at the Lariboisière Hospital, I believe that the method can be relied on to produce anesthesia in all cases demanding gynecologic or abdominal operations. The

failures may be accounted for in various ways: escape of the solution through the puncture, too long level of the needle point, or to using stale solutions of cocain, or to boiling the solution for the purpose of sterilization. It is an accepted fact that boiling a solution of cocain destroys its potency to a greater or less degree. Tuffier uses a solution of cocain prepared in the laboratory. The cocain is first dissolved in sterile or distilled water, then sealed in glass bulbs and subjected for one hour on two successive days to a temperature of 175 F. This solution may be drawn from the bulb directly into the syringe or poured into a sterile glass and drawn into the syringe from it. Van Horn & Co., at my instigation, have had some bulbs made and have placed on the market a solution of cocain sterile and ready for use. Tuffier declares in his latest article on the subject, that he regards the method as absolutely safe. He does not hesitate to declare, however, that its safety depends on the most rigid asepsis in every detail. This, I think, we are all ready to accept. The great danger is that in carelessness in some of the many details unfortunate consequences may follow and the method be brought into disrepute.

Dr. W. W. Keen, of Philadelphia, has successfully substituted, in at least one case, beta-eucain for the cocain solution in his use of the method, on the ground that this drug can be boiled when in solution without impairing its efficacy, and that it is less toxic than cocain, and therefore safer.

It may be said that in gynecology there are both psychologic and esthetic considerations why the method should not be used, but in appropriate cases it offers a means of anesthesia when general anesthesia may be positively contra-indicated. I shall continue to use it in my clinical work and thereby contribute my experience, as far as it may go, to determine the actual and relative value of the procedure.

PURPURA HEMORRHAGICA OR SCORBUTUS?

A CLINICAL SKETCH.*

HENRY E. TULEY, A.B., M.D.

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Home for Friendless Women, Louisville City Hospital, etc.
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Since encountering the case shortly to be detailed the writer has been inclined to the belief that the condition known as purpura hemorrhagica is not a distinct morbid entity. Buck¹ describes it as a disease of the skin, characterized by the development of variously sized, smooth, reddish or purplish hemorrhages which do not disappear under pressure. Quain² calls it a diseased condition in which circumscribed effusions of blood take place into the upper layers of the cutis and beneath the epidermis, occurring with or without certain constitutional symptoms or in the course of various diseases, and attended by hemorrhages under and from the mucous membranes as well as into various serous cavities. Oliver³ states that purpura resembles scurvy, differing from it in that it is not specially associated with deprivation of any particular kind of food. Struempell³ points out the only difference between scurvy and purpura is that in the latter there is no hemorrhage from the gums.

The cause of purpura as an independent condition is not clear. It is generally believed, however, to be

* Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

the result of an acute infection, most likely from the gastrointestinal tract. Efforts to discover bacteria in the ecchymotic spots have been unsuccessful. It has not been attributed, so far as the writer can ascertain, to errors or deficiencies in diet. By some it is considered as entirely symptomatic, by others, notably Oliver,³ as a distinct morbid entity, due to toxic, mechanical or vascular causes.

Among the vascular causes of purpura, mentioned by Fruitnight,⁴ are specific blood diseases, anemia, leucocytosis and jaundice; and the mechanical causes given are hepatic and cardiac diseases. These would rather have reference to the symptomatic forms than to the idiopathic.

Those who are the warmest advocates of the belief that purpura hemorrhagica is a distinct pathologic condition claim but little is known in regard to its pathology. Steffen⁵ quotes Casel and Leloir as having found in scorbutus and morbus maculosus an extensive endarteritis, hyaline and fatty degeneration of structure, narrowing of lumen, hypertrophy of the endothelium and secondary thrombi.

It is also true that in an altered blood state, with normal vessel walls, there will be a passage of blood through them, or as Oliver⁵ states, there may be an altered blood state and a disturbed nervous mechanism whereby nutrition of the walls of the arterio-capillaries are deranged and a hemorrhage results.

A purpura simplex is described clinically as appearing in the form simply of petechial spots everywhere, without much prodroma, beyond perhaps a slight indisposition, the first symptom of consequence being the appearance of the hemorrhages. Generally there is a quick recovery. Purpura hemorrhagica has been described as a severe purpura simplex. Steffen records 128 cases, of which 32 were personally seen. Of these 128 cases there were 40 deaths.

Scorbutus has perhaps been more closely studied than any other disease, especially since Northrup first called the attention of the profession of this country to it. Since then a great number of cases have been reported, and the collective investigation of the American Pediatric Society has greatly added to our knowledge of it.

It was early described as a condition of malnutrition which affects the capillaries, allowing the blood to escape from the vessels, producing gingivitis or spongy gums, hemorrhages and collections of blood.⁶

The classical symptoms presented are the following:⁷ spongy bleeding gums, swellings and ecchymoses about the joints, hemorrhages from the nose and occasionally from other mucous membranes, extreme hyperesthesia and often pseudo-paralysis of the lower extremities. In addition there is generally a cachexia with marked anemia.

The cause is essentially dietetic, generally one of the proprietary foods being used exclusively, or the continuation of one article of diet to the exclusion of all others, which is deficient in some element necessary to the child's nutrition. The improvement under an "antiscorbutic" diet is almost magical and is universally seen in all cases.

CASE—W., aged 2 years and 7 months, was the second of three children; was breast fed until about one year of age, after which time he was fed at the table and given a general diet. He was subject to frequent attacks of vomiting and diarrhea, as often as every two or three months, from which he generally recovered quickly and apparently perfectly. He had no trouble with his teeth, which appeared at about the usual

time. There is no history of a "bleeder" in the family, either in near or remote connections.

On Nov. 21, 1899, he was first seen by Dr. C. H. Stine, the attending physician, through whose courtesy I was later called to see the child, and to whom I am indebted for the details of the child's early history. At the time of this visit by Dr. Stine the child had a diarrhea, with mucous stools containing some blood. This irritation of the bowel was found to be due to a quantity of canned corn which had been eaten the day before. This was removed by free catharsis and by irrigation of the bowel. On light diet, irrigations, and a mild astringent he was discharged cured on the 26th.

He was not seen again until December 11, when Dr. Stine was again summoned and found much the same state of affairs as before, the digestive disturbance this time being due to oatmeal which had been freely eaten and which was evidently undercooked, it being passed undigested. Castor-oil was administered as before, the stools then containing some mucus. The child was cross and peevish, but had no temperature. On the fourteenth he was seen again; there was considerable diarrhea, stools frequent, which were thin, green and contained mucus and blood.

About this time there appeared a few petechial spots on the legs and thighs; co-incidentally there appeared a tenderness of the ankles and a slight fusiform swelling. This was followed in a day or so by pain in the knees and an inability to walk. The gums were spongy and bled upon the slightest irritation, the lips and teeth were covered with dried blood. Very soon the thighs, buttocks and back were thickly covered with purpuric spots varying in size from a five-cent piece to areas larger than a silver dollar. There were a few scattered spots on other parts of the body. The stools continued to contain blood and mucus; there was considerable prostration and restlessness with some fever, reaching 101 to 103 at times.

He was seen first on December 22 by the writer in consultation with Dr. Stine. There had been but little fever for several days previously, the prostration increased, and there was great restlessness, with anorexia. There was considerable irritation in the bowel with frequent small movements accompanied with a good deal of straining. The child was markedly cachectic, the pallor being somewhat intensified by his auburn hair.

The diagnosis was made of scorbutus. He was given calomel, followed by bismuth and tannalbin, with orange juice and broths. The orange juice was taken greedily, the broth only after considerable persuasion. His condition improved for twenty-four hours very materially, the diarrhea and tenesmus ceased and he seemed much more comfortable. On December 24 the temperature rose to 104.5 F., the breathing became much more rapid and there was some cough. Auscultation revealed very high pitched breathing over the bases of both lungs posteriorly, which gradually increased in intensity, approaching bronchial. He died in the early morning of the 27th.

Milk was not given at this time, because of the great bowel irritation, but it was our intention to begin its administration as soon as the bowel irritation had subsided.

Bearing in mind the points as detailed above, we have, clinically, a typical case of scorbutus, presenting the cardinal symptoms as detailed by all authorities; spongy, bleeding gums; fusiform swellings at ankle-joints; hyperesthesia; pain and inability to walk; hemorrhage from the bowels; petechial spots and ecchymoses all over the body, especially the lower extremities and lower portion of the trunk; diarrhea and considerable temperature.

The symptoms presented were also those of purpura hemorrhagica, as mentioned in the beginning of this paper. As the child had been fed at the table upon a more or less general diet, the case could hardly have been scurvy, as Crandall and others state that children who are allowed to eat at the table and have a very general diet never develop scurvy. Bearing in mind also the findings of Casel and Leloir, the similar path-

ologic findings in scorbutus and morbus maculosus, we are more at sea than ever as to the proper classification of this case.

As the child had not been fed upon an exclusive diet for a long time, though presenting the symptoms of scorbutus, taking the view of the authorities above quoted, it could hardly be classed as scorbutus. The joint symptoms being much more pronounced than generally described as being present in purpura hemorrhagica, and there being bleeding gums, which, according to Struempell, is not common to purpura, leaves it out of that class.

The occurrence of pneumonia, with the rapid dissolution, prevented the complete response to the "anti-scorbutic" diet, which we believe would have occurred, because of the temporary improvement for twenty-four hours before the onset of the pneumonia.

From a study of these subjects, then, it is the belief of the writer that purpura simplex, an occurrence of petechial and ecchymotic hemorrhages in the skin, is never an idiopathic disease; that purpura hemorrhagica, the disease in which there are hemorrhages into the skin, from the mucous membranes, subperiosteal and into the serous cavities, is not an independent condition, but is a modified form of scorbutus. It is due to, perhaps, a one-article diet, or to an ill-directed general diet, with a consequent development of a malnutrition, atrophisa or marasmus as a forerunner to scorbutus.

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DISCUSSION.

DR. J. P. C. GRIFFITH, Philadelphia—It has been my conviction for a good many years, and it has been my constant habit of teaching that many of the diseases in which we have purpuric eruptions and certain other cutaneous manifestations, shade into each other. I do not mean to say that they are all forms of one disease, for I do not know that; only that I have noticed this curious way in which they shade into one another. For instance, take that disease ordinarily called purpura rheumatica, in which we have with the purpuric eruption a swelling of the joints. In many of the cases there is rather a decidedly urticarial eruption. Certainly the name purpura is here a misnomer, for purpura is by no means always the most marked symptom. Another affection which is closely allied to urticaria on the one hand, and more remotely to purpura on the other, is that curious affection, angioneurotic edema. We note, too, the form in which the purpuric eruption is very well marked, but in which there are also curious visceral complications. I refer to Henoch's purpura. I have sometimes thought certain of the varieties of purpura might be allied to scurvy, but I tried treatment by dietetic measures with no result whatever.

After all, "purpura" is just such a word as jaundice, and jaundice is only a symptom. The causes of the purpuric eruptions we do not know as yet. We must remember that we can have a purely symptomatic purpura eruption, as in cases of profound sepsis, and in cases of advanced marasmus, and is then an indication of impending death. Further study may perhaps teach us what these various causes of purpura are, but the relationship of the different purpura affections is certainly not much understood at present.

DR. J. LOVETT MORSE, Boston—I think we must admit at present that our knowledge of so-called purpura is very limited. What we do know is that purpura is a symptom, and not a disease. This symptom is due to some change in the blood-vessels, and this change may be the result of various causes. These causes may be bacterial invasion, or the pres-

ence in the circulation of bacterial substances, probably toxins, or of other chemical substances, probably not toxins, or malnutrition. That is about all we know. As to scurvy being due to a single cause—food—it seems to me to have been disproved; it is much more probable that it is due to many causes. Food, however, is undoubtedly the most important.

DR. A. C. COTTON, Chicago—I think we should not overlook the fact that sponginess of the gums does not necessarily indicate scorbutus, though it is one of the conditions obtaining in scorbutus. Purpura does not specially indicate scorbutus. I believe sponginess of the gums in this relationship is partly an accident, for it obtains when there are no other evidences of scorbutus. That it is a dietetic disorder, or due to that, may be true enough, but that we should insist on calling a case scorbutus because of the sponginess of the gums seems to be no more necessary than that we should call it scorbutus because of the purpura. Hemie conditions have been generally held to be responsible for purpura. As Dr. Griffith has well said, purpura is an accident of certain conditions of the circulation found on the approach of death. The old term "necremia" may still be used to explain one of the etiological factors of purpura, that is a condition of the blood giving rise to purpuric spots.

DR. BURNS—I wish to speak of the case of an adult who had had in childhood two attacks of purpura hemorrhagica with bleeding from the mucous surfaces. The first attack followed a fall from a horizontal bar when he was a boy of 9 or 10 years. At the time I saw him he was about 26 years of age, and had had malarial chills. He insisted on going about in spite of having chills on alternate days. The blood destruction was very great, and there were very free hemorrhages from the mucous surfaces. He did not have very much fever or distress. The purpuric eruption was of a bluish cast. I do not recall at present the condition of the gums. I mention the case because malaria, as a great blood-destroyer, may be one of the etiological factors. We have a good deal of gingivitis without the purpura and hemorrhages from the mucous surfaces, except from the gums.

DR. HENRY E. TULEY, closing discussion—My principal reason for reporting this case, was that the discussion might bring out the present difficulties of differentiating scorbutus and purpura. I believe, as stated in my paper, that the term "purpura hemorrhagica" should not be used, and that the conditions ordinarily described under that name should be classed as scorbutus. I am in accord with Dr. Griffith when he says that ordinary purpura, like jaundice, is merely a symptom, and that the name should not be used in the classification of disease. That purpura may occur without any alteration of the blood-vessels I believe is true, also that purpura may occur as the result of an alteration of a blood state, and not necessarily of a change in the blood-vessel wall. The sooner we recognize that purpura is a symptom, and not a disease, and that cases of so-called purpura hemorrhagica should be classed as scurvy, the more quickly will we arrive at a better understanding of this subject.

DIABETES MELLITUS IN CHILDREN.

A REPORT OF TWO CASES.*

LEOPOLD F. W. HAAS, M.D.

NEW YORK CITY.

The etiology of this disease in children, due to its rarity, is obscure. A few years ago Stern had collected 117 cases which had been reported in medical literature. Between 30 and 50 years of age, the proportion of males to females affected is about 3 to 2, but at the extremes of life this difference tends to disappear. Heredity plays an important part in its causation, while a family history of insanity, phthisis or gout is frequently obtainable. The patients generally belong to the wealthier classes; the Jews are often the sufferers.

* Address to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The immediate causes are variously stated to be: Injuries of the nervous system, especially of the floor of the fourth ventricle; lesions of the pancreas, of the liver, and of the kidney. Its occurrence as a sequel to some infectious diseases, such as rheumatism, typhoid fever, diphtheria, malaria, and syphilis, has given origin to the microbial theory of diabetes.

Normal blood contains .05 per cent. of sugar, and the urine of a healthy person contains traces. Ten times as much sugar is found in the blood of diabetics, while their urine contains from 2 to 15 per cent.

In 1819 Bernard proved that the liver contains sugar after death, and he inferred that the liver was a sugar-producing organ, an inference which has since been substantiated. Carbohydrates are absorbed as sugar, stored as glycogen in the liver, and reconverted into sugar to meet the demands of the system. Pavy showed that sugar can be artificially produced from proteids, and assumed that the body can also do this. The sugar which is put into circulation by the liver is stored as glycogen in the muscles and used up when the muscle is in action. This is proved by the loss of glycogen in a muscle which has been exhausted by tetanic contraction, e. g., after strychnin poisoning. Whether in diabetes the increase of sugar in the blood is due to an over-production by the liver, or to a diminished consumption in the muscles, is still a debatable question. If the elimination of carbon dioxide in diabetes were below the normal, we would have a convincing proof that less sugar was consumed than in a healthy person, and that our efforts must be directed to increase the consumption. But repeated experiments have failed to show this.

Efforts have been made to prove the so-called nervous origin of diabetes. This theory is based on the fact that glycosuria often follows injuries to the nervous system; for example, to the cardiac and solar plexuses, to the nerves of the liver, and to the various parts of the brain and spinal cord. Diabetes has been caused experimentally, by puncturing the floor of the fourth ventricle—diabetic puncture—but diseases of this locality, although met occasionally, are not very common. Other experimental lesions have been followed by glycosuria, the glycogenic power of the liver being abnormally stimulated for the time being; but as a rule these effects are only transitory.

In 1857 Lancereaux advanced the theory that the pancreas was affected in all cases of diabetes. Latterly, extirpation of the pancreas in dogs, with resulting glycosuria, has helped to support this view. Still more convincing is the fact that no diabetes follows when a small portion of the pancreas is left, or is grafted into the muscles of the abdomen. But why should the pancreas have such an influence on the excretion of sugar? Lepine suggested that the pancreas secretes a sugar-destroying ferment, but the exhibition of pancreatic extracts has had no action in controlling the disease. Two months ago MM. Lepine and Boulu¹ reported that the urine of diabetics contains a diabetogenous substance which produced an intense glycosuria when injected subcutaneously in dogs and guinea-pigs. Further experiments on this subject ought to prove interesting.

Robert Saundby, in speaking of the duration and prognosis of diabetes in children, says: "In children and young persons diabetes is an acute and rapidly fatal disease, lasting only weeks or months, or at most one or two years, but even in children cases have been known to extend over five, six, or more years." Other

authors agree with him in this hopeless outlook. A very few cases have been reported cured, but these are generally regarded with suspicion.

The following are the histories of two children in one family who have been under my care:

On Feb. 23, 1900, I was called to see the first patient, who complained of pain in the joints, fever, and palpitation of the heart. She had been sick for two days. The family history was as follows: The father had had an attack of articular rheumatism some ten years ago, but had recovered without sequelae. The paternal grandfather and an aunt on the father's side had died of tuberculosis, and the paternal grandmother of cancer. The patient's mother has had several severe attacks of asthma, and probably has tuberculosis, but refuses to be examined. The maternal grandmother died of tuberculosis, but the rest of the mother's family are healthy. There is no history of insanity or nervous diseases on either side, and none were ever known to have diabetes. There are four children in the family, and all have adenoids and large tonsils. The urine of every member of the family was examined, but no sugar was found except in the two children whose histories are given.

CASE 1.—M. F., female, aged 9. Patient is a pale, thin child, fairly well developed and nourished, rather small for her age, but seemed to be bright and intelligent. She complained of pain in the left shoulder, arm, and hip. The joints were not swollen, but slightly reddened, and the limbs could not be moved freely on account of pain. There was a rash on the body and legs, dark-red in color, looking like purpura around the painful joints, and like measles at some distance from the joints and on the right leg. The eruption was burning in character and not itching. Her temperature was 100.5 F., respiration 32, and pulse 132, full and strong. The apex-beat could be seen distinctly, even at a distance. The heart sounds were clear. The bowels were regular, no vomiting, and no pains in the stomach. Lungs, spleen, and liver were normal. The tonsils were enlarged and the patient breathed with her mouth open. Urination was frequent, and the child wets the bed at night. There was marked thirst. The case thus far appeared to be one of peliosis rheumatica. Salicylate of soda was prescribed, and cold compresses were ordered to quiet the heart's action. The urine passed that morning was of a pale straw-color, with a specific gravity of 1040; it contained no albumin, but 5.1 per cent. sugar. At first this was thought to be a temporary glycosuria, but on telling the mother at my next visit that the child had sugar in the urine, she informed me that another one of her children, a boy of 5 (Case 2), also had sugar in the urine, according to the statement of a physician three or four months before. On February 24 the patient was again seen, and the rash had disappeared from the legs and body, but the neck and arms were now covered. The pain had entirely disappeared and the joints appeared to be perfectly normal. The temperature had fallen to 99 and the respiration was normal, but the pulse was still 132. Cold applications to the heart were continued. She passed 64 ounces of urine during the 24 hours; specific gravity 1040. On February 25, rash was present on forearms and face, but was of a lighter shade; pulse was 114 and heart's action less tumultuous. No adventitious heart sounds heard. On February 26 the rash was still present on the face and head, but the rest of the body was free. Pulse was 110; temperature and respiration normal; specific gravity of urine 1042; su-

gar 4.9 per cent. On February 27 the rash had disappeared entirely and there were no signs of any constitutional disturbance. Pulse was 96 and specific gravity of urine 1044. The appetite, which had remained fairly good, now increased, while urination was not so frequent, but still copious. During the last three days no carbohydrates had been allowed; nothing but milk, beef tea, and soft-boiled eggs had been given.

On February 28, pulse had fallen to 72, and specific gravity of urine 1036; general condition good. On March 2, patient felt very well and showed no signs of any trouble, except that her appetite and thirst were abnormally developed. She had a craving for bread, which, however, was not allowed to be satisfied. Codein and bicarbonate of soda were substituted for the sodium salicylate, and the patient allowed to go out into the open air. No desquamation had occurred. Her weight was 55 pounds; specific gravity of urine had increased to 1044, and still showed 5 per cent of sugar. The diet had been increased, and she was allowed small pieces of toast in addition to other nourishing food. From this day, however, she was put on a strict anti-diabetic diet, and all carbohydrates were interdicted. The effect of this was to reduce the specific gravity from 1044 to 1038 on March 6, and the sugar to 2.8 per cent. on March 15. Carbohydrates were now allowed in small quantities. On April 1 she voided only 48 ounces of urine, and did not wet the bed at night as she had done previously. Urine was 1040 and contained 4 per cent. of sugar. On April 17, her weight was still 55 pounds, and the amount of urine voided was 332 ounces; since then she has been passing the same quantity daily. On May 7 her weight was 54 pounds, and her urine contained 5.2 per cent. of sugar.

At present her condition is as follows: Her weight has fallen to 53½ pounds, but her condition otherwise is excellent. She is bright and runs about a great deal. Her complexion is clear but sunburned; her hair is rather coarse, a family trait, which, however, is said to be a frequent condition in diabetes. Her tongue is clear and healthy looking; some of her teeth are in bad condition. The lungs are absolutely normal, but the heart's action is slightly irregular. Her bowels are regular; her appetite is good, but not as voracious as it was. She voids on the average 32 ounces of urine daily, which has a specific gravity of 1040 and contains generally about 5 per cent. of sugar. Her general condition being so good, all medication was discontinued, while a moderately strict anti-diabetic diet was continued.

CASE 2.—F. F., male, aged 5; a bright child, well developed and well nourished. He had been troubled with large tonsils, which had been removed three years ago. He still breathes with his mouth open, but does not have the choking spells which had been so common before the operation. There are some adenoid vegetations in the pharynx at present. About eighteen months ago he was run over by a bicycle and severely hurt, although I could not ascertain the exact nature of the injury, except that he was hurt internally. In November, 1899, he suffered from general malaise and pains in the back. Kidney trouble was suspected and his urine examined. Neither albumin nor casts were found, but quite a large amount of sugar. On February 23 I saw him for the first time, and nothing appeared to be wrong with him. His urine was examined the next day; it had a specific gravity of 1044 and contained 5.6 per cent. of sugar. His weight was 47 pounds, and he passed about 32 ounces of urine daily. The

bowels were regular. He was put on a moderately strict diet. In March he had an attack of measles, with quite a severe bronchitis, but made a good recovery. Since then he has been doing very well. On May 7 his weight had fallen to 46 pounds, and he passed 24 ounces of urine, which had a specific gravity of 1040 and contained 4.8 per cent. of sugar. At present he weighs 45 pounds, looks well, and he voids on the average 24 ounces of urine daily, which has a specific gravity varying between 1036 and 1034, and contains between 4 and 6 per cent. of sugar.

These two cases are interesting for several reasons. The well-marked family history of tuberculosis on both the maternal and the paternal side bears out the view that tuberculosis predisposes to diabetes. In neither of the cases do we know how long sugar has been present in the urine, a fact which is to be regretted. In the boy's case we have the history of an injury sustained a year before sugar was first noticed in the urine. Whether this injury has any etiologic significance or not is, of course, uncertain. It is unfortunate, also, that the physician who treated the boy after the bicycle accident is now dead, for he would have been able to supply several important details as to the nature of the injury.

From the coincidence of the eruption, the joint pains, the fever, and the tumultuous heart action there is no doubt that the first patient had peliosis rheumatica in addition to diabetes. It is a question whether these two conditions came on simultaneously or whether the diabetes existed before the rheumatic attack.

CONCLUSIONS.

1. Diabetes occurs more frequently in children than is generally supposed.
2. Urinalysis is just as important an element in the scientific diagnosis of disease in children as it is in adults. It is to be regretted that the general practitioner rarely realizes this fact.

3. There is a possible etiologic connection between peliosis rheumatica and diabetes. The pathogenesis of both conditions is so obscure, however, that speculation on this question can only point out a direction for further research.

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DISCUSSION.

DR. HEINRICH STERN, New York City.—As to the frequency of diabetes mellitus in children, according to the statistics of the New York City Board of Health, which I have collected and carefully gone over from 1889 till 1899, there occurred: 4 deaths under 1 year old, 1 death at one year, 2 deaths at 2 years, 2 deaths at 3 years, 4 deaths at 4 years, 11 deaths between 5 and 9 years, 17 deaths between 10 and 14 years, 38 deaths between 15 and 19 years.

Out of a grand total of 1867 deaths from diabetes mellitus for the period of eleven years, the mortality from this affection in childhood and early adolescence, when it almost always terminates fatally, being 79, forms about 4.25 per cent. of all the deaths from the disease during the period in question. The period of puberty seems to exert no specific influence on the causation of diabetes mellitus nor on its lethal termination. Of the 13 instances of death which took place under 5 years of age, 3 were in females. The 66 other deaths were divided equally over both sexes; 33 occurred in males and the same number in females.

The pathogenesis of diabetes in children, it seems to me, is not obscure in the measure as is commonly supposed. In my opinion, the glycosuric condition of children, in most cases, has nothing whatsoever to do with the true diabetic state in the adult. The glycosuria, I opine, is rather due to some developmental anomaly, especially of the medulla oblongata and other portions of the nervous system. Death in these instances

rather supervenes on account of the developmental structural inefficiency than on account of "diabetes," though the symptom-complex may point to a fatal termination by the latter. The disease in childhood, in most cases, does not seem to be caused by any metabolic disorder as such, and I do not hesitate to predict that in the near future the life of many children affected with "diabetes mellitus" so-called, will be saved by simple operative procedures within the skull.

DR. LOUIS J. LAUTENBACH, Philadelphia—In connection with this paper, there is a subject which seems to me to have come up in every Section I have attended this year. It may be a fashionable complaint, or it may be a common disease which has not been generally recognized. I notice the author referred to adenoids as a possible factor in the causation of his cases. I was surprised that no mention was made of whether or not he removes them. These adenoids in the vault of the pharynx seem to be an expression of some deep general condition, probably tubercular, syphilitic or scrofulous, the exact nature of which is not apparently known as yet. In all of the cases of phlyctenular conjunctivitis I have seen there have been adenoids in 40 per cent, or more of the cases. This may give us a clue to the nature of the disorder. We specialists take the ground that whenever we know adenoids are present it is our duty to remove them promptly. Whether adenoids are a part of a strumous condition or not I do not know, but I do know that their presence does induce a series of other phenomena which should be avoided whenever possible, and the only thing to do is to remove the postnasal obstruction at once.

DR. LOUIS FISCHER, New York City—I had the pleasure of seeing at my clinic several months ago the cases reported in the paper. I examined the urine and found a large percentage of sugar. A very important point, it seems to me, and one brought out in the paper, is the fact that those cases which are tuberculous or of a type formerly called scrofulous, are the ones in which we look for these abnormal conditions. It was only two or three weeks ago that I undertook to examine a series of urines from children in private practice, and in the urine of 61 children I found one case that showed a transitory glycosuria. Sugar was found in the urine from this child on three different occasions, though the child presented no symptoms whatever pointing to either diabetes mellitus or insipidus. The child has a little atrophesia and general malaise, yet the urine contained 1 per cent. of sugar. It would be well, I think, for us to make it a rule to examine the throat and the urine of every child coming to us for examination.

DR. HEINRICH STERN—May I ask by what method the uranalysis was performed?

DR. FISCHER—By Fehling's test and the fermentation test.

DR. EDWIN ROSENTHAL, Philadelphia—I have only seen two cases of diabetes mellitus, and the impression that I gained was that it was the first beginnings of life that started diabetes. In one of these children, 5 years of age, having a good family history, the diet had been an artificial food. The child died at the age of 5 years. The second case was the grandchild of a professor of obstetrics in Philadelphia. The child was a girl. The prognosis in these cases is invariably bad. The question of consumption, syphilis and similar disorders does not enter at all into these cases. I myself thought the diabetes in these cases was the result of the method of bringing up the children. One of the children had never been nursed, having been entirely fed artificially.

DR. J. C. DE VENNEY, Harrisburg, Pa.—I wish to state that I have seen a case similar to the one mentioned by the last speaker. It had been fed on malted milk and an artificial food until 4 years old. It was a well-marked case of diabetes.

Pathogenesis of Acute Deafness.—Baginsky relates in the *Arch. f. Kindh.* xxviii, that a girl of 13 presented the clinical picture of cerebrospinal meningitis with complete deafness in two days. The latter persisted after recovery. She succumbed three months afterward to sepsis from a malignant carbuncle on the lip. At the autopsy no traces of the supposed meningitis could be discovered, but indications of a bilateral lesion of the labyrinth were unmistakable. The organ of hearing had been completely destroyed by endostitis ossificans, which had manifested itself clinically as cerebrospinal meningitis.

MALARIAL HEMOGLOBINURIA.*

WILLIAM BRITT. BURNS, M.D.

BECKERVILLE, ARK.

We are accustomed to using this term—the principal symptom of the disease—because it overshadows all others. Under ordinary circumstances it makes the diagnosis, and the layman knows its import.

The synonyms are, black-water fever (Das Schwarzwasser Fieber), hematuria, hemoglobinuric fever, swamp fever, ieterohematuric fever; fièvre bilieuse hématurique, first described by French naval surgeons stationed at Nosibé, a French settlement off the northwest coast of Madagascar.

The pathology and pathologic anatomy of malarial hemoglobinuria is in all essential particulars the same as—and in fact is—that of a malignant malaria, with the addition of hemoglobin in the urine and rapidly increasing jaundice. There is always a history of one or more paroxysms—chills and fever—with insufficient or no treatment.

A cachectic may have had no active manifestations of malaria for months, and after undue exposure or fatigue, have a violent hemoglobinuria and die in twenty-four hours. Usually, however, there are two, three or four, or even more paroxysms, immediately prior to the hemoglobinuric symptoms. There may or may not be a cold stage; my cases have all shown a short mild cold stage with distressing prolonged fever, sometimes very high temperature, more often not to exceed 103-4 F. When the fevers have been of short duration the urine has cleared up rapidly; this has been no assurance though that at the end of twelve or twenty-four hours longer an exacerbation of all symptoms would not come on in an aggravated form.

The general appearance of the patient, if seen early after the coloration of the urine, is one of more or less excitement; the face is blanched as if in extreme shock; the eyes follow every movement; the speech is catchy and respiration sighing; he may be fairly quiet, more often there is restlessness, at times tossing over the bed, seeking a comfortable place; yet he seldom complains of pain. Indeed, the rule seems to be that there is very little pain, and if asked will answer that there is no suffering; but he goes on sighing and groaning. I have seen persons with a notably clear skin and sclera pass black water with a first or second paroxysm and in twelve hours present the color of saffron. The spleen and liver are nearly always palpable below the costal margins and are extremely tender; some tenderness exists over the kidneys, sometimes extreme backache. Nausea and vomiting are usually present, but it is only rarely that it is so prominent that the stomach has to be abandoned in treatment altogether. These symptoms obtain far more often in acute malaria than in hemoglobinuria. The vomited matter may be at first a straw color, but it soon becomes green, dark-green, brown, almost black, blue-black and grumous, sometimes offensive. After icterus comes on, the saliva, perspiration and lachrymal fluids are loaded with bile pigment, which responds to bile tests. The urine is from a poke-berry juice to a black-coffee color. All of these fluids, and the feces when diluted, show a saffron stain and deposit of bile salts on linen. Consequent upon repeated and accumulating infection we have the destruction of red corpuscles by the malarial parasites, the liberation of hem-

* Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

oglobin along with the malaria toxins into the blood plasma.

Under ordinary circumstances the liver cares for the hemoglobin by converting it into bile pigment, and the remnant corpuscles by elaboration into young corpuscles, or the complete destruction of same. But there are metes and bounds beyond which the liver will not stand. Besides its metabolic functions, constructive and destructive, its other functions must be safeguarded, and it must also protect itself from a flank movement from the intestinal tract, from which source come our intestinal toxemias. One-sixth, or even one-third, of all the red corpuscles may be destroyed by one pernicious paroxysm, this coming when the hemopoietic function is overthrown; the liver now fails to care for the free hemoglobin here liberated, and a hemoglobinemia obtains. It must not be understood that each parasite-destroyed cell contributes its normal quota of hemoglobin to the existing hemoglobinemia; it is considered that the greater percentage is consumed and converted into proper tissue and pigment by the parasites.

It is suggested that there is set free at sporulation a certain hemoglobin-dissolving substance, which hitherto has acted as a digestive agent in the assimilation of the coloring matter of the red cells and which retains after liberation its digestive function, continues to act as a hemoglobin solvent, and so dissolves out hemoglobin from healthy cells, or at least, probably, unstable young, and vulnerable red corpuscles. May it not be possible to recover some of the hemoglobin from the malarial pigment thus set free by the same agent?

We know that there is a distinct poikilocytosis; at times there does not appear to be a sound corpuscle in the patient's body. The erythrocytes are terribly misshapen, crenated, spiculated, tailed and buckled, shriveled and otherwise deformed; there are microcytes, megalocytes and shadows, and after the second or third hemoglobinuric paroxysm, the vessels are empty and relaxed, and the blood so deteriorated that it is a difficult matter to get a smear. The blood does not exude, even after large punctures. The adhesive quality is lacking to the extent that the ordinary adhesion of the lens through immersion oil drags the cover-glass from the slide. Here the field is practically colorless, save the debris and a few ghost-like corpuscles; the wonder is that there should ever exist a hemopoietic power sufficient to restore such a blood to normal. There is now added to the destruction wrought by the plasmodia *per se*, their toxins. Moreover, the presence of bile salts and bile acids induces a cholemia, which latter condition, says Oliver, comes on before the appearance of pigment or icterus in all forms of jaundice.

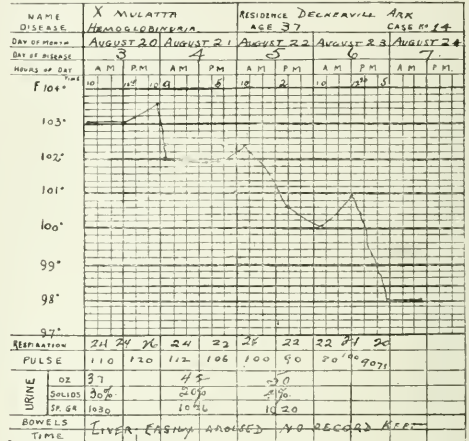
If we now reflect upon the toxicity of the bile salts, we may be able to explain in part the appearance of such a quantity of hemoglobin in the urine, which is not satisfactorily accounted for by parasitic destruction *per se*. We find that even in aqueous solution of 2 per cent. bile salts kill one kilogram of body-weight; the chlorate of sodium in dose of 54 eg. and chlorate of potassium in dose of 46 eg. Bouchard says that during twenty-four hours a man makes by the activity of his liver alone, enough poison to kill three men of his own weight.

Indeed, a cholemia alone may produce a hemoglobinuria; injection of bile salts into the circulation has produced hemoglobinuria in animals. Moreover, there are various solvents which find their way into the blood-current and which will take from the erythrocytes their hemoglobin, or a part at least, without accomplishing the

destruction of the protoplasmic body. The extreme pallor of the uninfected red cells is a striking evidence that there are hemoglobin solvents in the circulation which do not otherwise injure these bodies.

Maraghano explains paroxysmal hemoglobinuria on the idea of a lessened resistance to the ordinary environments, and especially to the toxic plasma.

The effect on the liver of this great hemolysis may be polycholia—filling of the gall-bladder; injection of the bile capillaries, even to their finest rootlets. The liver cells are thinned, capillaries are dilated and in places



This mulatto had been passing claret-colored urine for over forty-eight hours before I was summoned. He was very weak, his skin saffron-colored, and his eyes injected with bile. Fever and hemoglobinuria were continuous. I at once gave calomel gr. xvi, turpentin, gr. xx, to be repeated gr. ii and grt. ii, respectively, every two hours until the urine should clear up. I also gave quinin dihydrochlorate, gr. xv, hypodermically at 10 a. m. and 2 p. m. on the 20th.

Urine.—Claret-colored; containing blood and granular casts, amorphous granular matter and hematin crystals.

Blood.—Very pale; red cells almost devoid of color. Spiculated, tailed and buckled pigmented leucocytes, crescents and ovoids. There was seen one presegmenting form.

At 10 a. m. on the 21st the urine was clearing up slowly. Calomel was replaced by sodium hyposulphite and quinin sulphate was given in 7-gr. capsules every three hours, while the turpentin was continued. Raw eggs were also given.

At 2 p. m. the urine was clear, and the blood showed pigment and pigmented leucocytes. The urine remained clear, and the temperature gradually decreased. He was dismissed on the 23d.

This is the first case I have ever seen before frost. Cases 11, 12 and 13 have been reported, all very much the same as this. (See Trans. Section on Materia Medica, Pharmacy and Therapeutics, Columbus meeting; *Louisville Med. and Surg. Jour.*, Aug. 1899.)

are replaced by fat drops. Necrobiotic change occupying rather extensive areas, are seen. The vessels are filled with pigmented leucocytes, dead parasites, remnants and debris, and blocks of yellowish-black pigment; Kupffer's cells and certain endothelial cells undergo multiplication by karyokinesis. Thus we have the hepatic tumor; this has a blackish, leaden appearance and is soft on section.

The splenic tumor may be merely palpable below the costal margins or it may reach below the navel and to the anterior superior spinous process of the ilium. Ord-

narily, however, the enlargement does not assume the great proportions seen in malarial cachexia. Post-mortem, the surface of the spleen is dark, sometimes black; on section the gland tissue is also found to be dark; the parenchyma of the organ is much softened; the tarry pulp may be washed away with quite a gentle stream of water. The pigment of malaria is here found within the endothelium of the arterioles and capillaries in minute grains, often in actual blocks; we find aggregations of pigmented leucocytes, dead and breaking-down parasites forming actual thrombi and actually

abundance of pigment and pigmented leucocytes. Quinin dihydrochlorate, gr. xv, was given in solution. This was vomited and repeated immediately and retained. At midnight the fever was subsiding rapidly, and the urine clearing up slightly. Turpentin, gr. xv, was given at 10 p.m. and repeated in 2-drop doses every two hours until urine cleared.

Dec. 21: At 8 a.m. the urine was clear, and there was no fever. The blood contained free pigment, pigmented leucocytes and debris, also two old crescents. Quinin bisulph., gr. v, and strychnin nitrate, gr. 1/200, in solution was ordered. Sodium hyposulphite and beef-juice to be given every two hours and a bath and normal salt solution every four hours.

Dec. 22: At 8 a.m. patient was put on tonic and light diet.

It will be noted that at 5 p.m., Dec. 20, quinin, gr. viiss, was given hypodermatically, yet the paroxysm came on at 10 p.m., at which time quinin, gr. xv, in solution by the mouth was administered and vomited, repeated at once and retained, and emeticism was profound. This may be evidence of precipitation of the alkaloid by the alkaline tissues.

occluding the vessels. The spleen and bone-marrow have the distinction over all other organs of containing pigment in the cells of the parenchyma outside and away from the blood-vessels. In these latter organs pigment is contained in ordinary leucocytes, but in the splenic vein this substance is included not only in leucocytes but also in certain large white cells identical with those occurring in the spleen and evidently of splenic origin. The rôle of the spleen in infectious diseases has lately been gone over by Courmont and Duffau, Blumreich, Jacoby and Kurloff. Their deductions appear to be, that it makes no particular difference whether the spleen is present or not. Splenectomy seems to contribute to an increase in the bactericidal powers of the blood, while its antitoxin properties are unimproved. Ligation of the splenic vessels, the spleen being allowed to remain, appears to subserve the same end as does splenectomy on experimental infections. One of the striking changes in the blood after splenectomy is an increase in the number of leucocytes, especially the lymphocytes. This lymphocytosis is said to produce the protective powers of the blood seen in the cutting out of the circulation the spleen. It is explained again, that the spleen during health retains the disintegrated leucocytes and other cells. This detritus is regarded as being closely related to the alexins, and after splenectomy it accumulates in the blood and thus increases its bactericidal powers. Have we not occlusion of the splenic vessels in a hemoglobinuric spleen sufficient to act in a like manner, or in a considerable degree at least, as would a ligation of those vessels? May not this account in part for the lymphocytosis in hemoglobinuria?

The decrease in the bile pigments and the increase of the amount of bile secreted, as demonstrated by A. Pugliese, and the experiments of Fedeschi showing that the livers and bone-marrow in animals deprived of the spleen are richer in iron than the livers of normal animals, would show the close chemical relation of the two organs, and further the hypothesis of a grave occlusion of the splenic vessels in hemoglobinuria, as suggested. The condition would also contribute to the existing polycholia. The kidneys in an early stage of the disease are enlarged and congested; the tubules are blocked with hemoglobin infarcts; the cells are loaded with yellow pigment grains, and the capillaries with black malarial pigment. If the patient survives three or four weeks he is said to die of uremia. The appearances are then those of the large white kidney. The severest cases of nephritis of malarial origin are found in hemoglobinuria. The urine between the attacks may be per-

NAME		I R		ADDRESS DEERAVILLE		AGE 7		CASE NO. XY	
DISEASE		MALARIAL HEMOGLOBINURIA							
DAY OF MONTH		DEC. 19		DEC. 20		DEC. 21		DEC. 22	
DAY OF DISEASE		1		2		3		4	
HOURS	TEMP.	A.M.		P.M.		A.M.		P.M.	
		Temp.							
103°			102.6	101.8		101.5			
102°									
101°									
100°									
99°									
98°									
97°									
RESPIRATION		5	5	5 1/2	5	5 1/2	5	5	5
PULSE		8	8	8 1/2	8	8 1/2	8	8	8
SWEAT									
URINE			3 S	3 1/2		3 1/2		4	
BILIRUBIN			38%	25%		18%		25%	
SP. GRA.			1.023	1.023		1.025		1.020	
BOWELS			5	6		5		6	
TIME		4	1/2	2 1/2	4	2 1/2	5	10	2 1/2

This patient had a chill, December 17. Quinin in No. 2 capsules was administered every four hours until hemoglobinuria came on.

Dec. 19: At 11:30 a. m., the patient was comparatively comfortable and slightly drowsy. The urine was dark. A smear of blood was taken and while examining it, I was hurriedly summoned. I found the urine the color of coffee. Both this and the first specimen responded to the guaiac-turpentin test.

The first blood showed plasmodia. A second smear taken after the urine colored up showed: plasmodia, estivo-autumnal parasites in all stages of development, moderate poikilocytosis, a number of lymphocytes, leucocytes greatly increased, polymorphonuclear and mononuclear phagocytosis.

The lips and gums were pale, also the tongue, which is large and flabby, with a thick, white coat and a tinge of brown over the back part. Icterus notably mild.

At 1:30 p.m., calomel gr. x and turpentin grt. xx—turpentin in a beaten egg—were administered, to be repeated every two hours in doses of gr. i and grt. ii, respectively, until the urine cleared up. Quinin dihydrochlorate, gr. viiss, hypodermically, was given at 1:30, 5 and 10 p.m., adding strychnin, gr. 1/220 to each injection. At 10 p.m. the urine was still black.

Dec. 20: At 8 a.m. the urine was clearing up nicely. Calomel was replaced by sodium hyposulphite solution, gr. xx, every two hours. Beef juice was ordered—a half teaspoonful every two hours. Quinin bisulphate in hot solution was ordered—gr. x every four hours.

At 5 p.m. the dihydrochlorate, gr. viiss, was given hypodermically to avoid paroxysm. A tepid bath, containing a little sodium bicarbonate for a cleanser, followed by hot whisky and quinin, was given. Sponge and normal salt enema every four hours.

At 11:30 a.m. the urine was clear; turpentin was discontinued and at 5 p.m. the condition was practically normal.

At 10 p.m. the urine was quite dark.

The blood contained numerous hyalin bodies, crescents and round bodies; leucocytosis was marked. There were a few lymphocytes; phagocytosis was marked, and there was an

fectly or practically normal, but with the attack it becomes, as before mentioned, from a poke-berry juice to a black-coffee color, somewhat turbid and smoky in appearance, and when allowed to stand precipitates an abundant chocolate-like sediment. This sediment is chiefly amorphous granular matter, disorganized corpuscles, with minute hematin crystals. Urea is generally increased; albumin is in abundance and globulin may be seen on close testing. The specific gravity ranges between 1015 and 1030, is usually acid in reaction, but oftentimes faintly alkaline, and the volume

oldest being 38 and the youngest 5 years of age. Dr. McElroy, of Stovall, Miss., shows a record of 40 cases, of these there were 30 males and 10 females.

Hemoglobinuria is extremely rare in infants. Fish reports one case in a child of 14 months; McElroy, one at 12 months. It is said that the full-blooded negro is immune to the disease. Easman, Eyles and Quartey-Papafio have recorded hemoglobinuric attacks in native Africans; Krause, of Memphis, reports one case in a "pure negro." Of my 16 cases, 3 were very light mulattoes; of Dr. McElroy's 40 cases 13 were negroes, 2 of which he writes to me were full-blooded negroes. There are, however, observers of decided repute who maintain very stoutly that the disease does not obtain in negroes of full blood.

The parasitology of hemoglobinuria, so far as my observations go, is estivo-autumnal pure and simple; and I believe this is the consensus of opinion; there are those, on the other hand, who hold to a special parasite, and others appear to have observed a special bacillus in the blood and urine.

Paroxysmal and toxic hemoglobinemias aside from the parasitic agent are accounted for in the same manner as that of malarial origin, i. e., any agent that will set free more hemoglobin in the circulation than the liver can care for will set up a hemoglobinemia—this in turn is thrown off at the most convenient outlet by the renal epithelium—a hemoglobinuria. Paroxysmal hemoglobinuria is precipitated by exposure to cold, or to the application of cold to the hands, etc.

Toxic hemoglobinuria is said to be produced by certain drugs, among which are cited: chlorate of potassium, carbolic acid, naphthol, carbonic oxid and quinin. To all of these, save quinin, I objected in my paper on hemoglobinuria, read before the Section on Materia Medica and Therapeutics, of this Association, at Columbus, Ohio. Chlorate of potassium is being used in large doses by my confrères and myself for pytalism, as recommended by the elder Gross; hemoglobinuria does not follow, nor does any other toxic effect. Carbolic acid, because a poisonous dose produces a coagulation of albumin and such a rapid and violent inflammation of the mucous lining of the stomach, that absorption is prevented to any great extent, and death is so sudden that hemoglobinuria could hardly obtain. Naphthol: Bouchard says it would require a half-pound to produce death in a healthy man weighing 150 pounds. Carbonic oxid combines with the hemoglobin of the red cells and renders them unfit for conveying oxygen, but does not disturb the continuity of the cell—no hemoglobinemia, no hemoglobinuria.

TREATMENT.

Of my first 6 cases, 2 died, 1 of these latter never having had a movement from the bowels, despite large doses of calomel and frequent enemas. Whether this was a paresis of the bowels, due, as Dr. Jones, of Memphis, thinks, to malarial toxemia, I am not prepared to say. Calomel, turpentin, eliminants, hot applications and supportives formed the treatment. I am persuaded that this gave a good percentage of recoveries. No. 7 bade fair to recover; urine was clear for 72 hours; but the patient relapsed after gormandizing; collapse followed with suppression of urine and passing of feces; yet his kidneys partially recovered, and he became strong enough to start on a journey home, but died on the way. No. 8 got on nicely without quinin. Nos. 9 and 10 died. No. 11, a little girl of 5, had no chill in two or three months; then she had a chill at 3 a.m. I was

NAME	DISEASE		ADDRESS		AGE	CASE NO.	
JR			DEER CREEK AVENUE		39	XV 1	
DATE OF ONSET	APRIL 7 TH	APRIL 8 TH	APRIL 9 TH	APRIL 10 TH			
HOUR	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	P.M.
TEMP.	8	2	8	2	8	2	5
104°							
103°							
102°							
101°							
100°							
99°							
98°							
97°							
RESPIRATION	30	30	28	37	30	36	30
PULSE	8	74	74	100	71	100	84
URINE							
oz.					5.0		
SOLIDS					20%		6%
SP GR.					1.025		1.020
BOWELS							
TIME	LIVER ACTED WELL						

Patient was a cigarette smoker since 10 years of age. He had had bronchitis for several days, together with some pain in the chest. There were no other signs of pneumonia, and hot applications to the chest relieved the pains. Quinin, gr. v, every hour did not control the fever, but a purgative acted well.

On the morning of the 8th the urine was of a pokeberry-juice color, and responded fully to the guaiac-turpentin test for hemoglobin. The blood showed poikilocytosis, leucocyte-increased, estivo-autumnal parasites in all stages of development. The red cells crenated, tailed and buckled; phagocytosis. The urine showed a large quantity of granular and blood casts; amorphous granular matter, hematin crystals, squamous and columnar epithelium. Icterus was intense. Quinin dihydrochlorate, gr. xv, and strychnin, gr. 1/40, were given hypodermically at 8:30 a.m., and the same was ordered by the mouth at 4 and 10 p.m.

At 9 a.m. on the 9th the urine was clear and the fever rapidly abating. Quinin, gr. v, in solution was ordered for 10 a.m. and gr. x for 10 p.m. At 2 p.m. fever had disappeared.

Here quinin internally failed to control fever, which responded at once to it hypodermically. Icterus disappeared rapidly. The patient was up on the morning of the 10th for breakfast, smoked several cigarettes and went to bed at noon with pain in the chest. I was called and found what developed in a few hours into a violent pneumonia, from which he died on the 15th. There was no return of the hemoglobinuria.

may be increased. There are casts, principally dark granular ones, though hyaline casts may be found. Many of the casts are made up of hemoglobin. Rarely a few scattering blood-corpuscles are noted.

Hemoglobinuria occurs in the old residents, usually after the second or third year, rarely in new-comers, more often in males than in females. This is probably on account of the greater exposure of the male. Out of 16 cases seen by me, 13 were males and 3 females, the

not called until 8 a. m., at which time she passed the first black water. Calomel, strychnin, hot applications and mustard bath were employed. Urine cleared up perceptibly and symptoms subsided, but at midnight urine darkened again, and remained so the following day, though voided in large quantities. Icterus became marked. Vomiting was distressing, and restlessness pitiable; delirium came on at 5 p. m.; another chill occurred and urine became black; there were plasmodia present. I finally gave quinin, also normal salt solution by hypodermoclysis. It was too late to be of benefit. Nos. 12, 13, 14, 15 and 16 were given the same treatment plus quinin. All recovered nicely. Nos. 12 and 13 were the same person in two separate attacks. I now depend more on quinin. Nos. 12, 13, 15 and 16 took quinin in large doses before the hemoglobinuria came on. Larger and better cinchonism, however, proved to me that quinin is not such a destroyer of red cells, and the decided phagocytosis would appear as tolerable evidence that the movement of the white cells is not very unfavorably interfered with, but that it does rapidly destroy and banish from the circulation the malarial parasite, and thus closing out the hemoglobinemia and necessarily the hemoglobinuria. Of course the eliminants throw off the toxic environment, which contribute very considerably to the hemoglobinemia. Other agents are methylene blue, nutmeg and tannic acid. The first I have used in one case, but very little of it was retained; vomiting was excited every time it was given. I regard, though, methylene blue quite favorably in cachexia.

DISCUSSION ON PAPERS OF DRs. LAZEAR, WOLDERT, CRAIG, JONES AND BURNS.*

DR. WILLIAM KRAUSS, Memphis, Tenn.—I must say that the five-minute limit cripples me completely and it is impossible to say much or do justice to the discussion of all these papers. I had desired to discuss some of the earlier papers, but since they are mostly in line with my own findings, I will leave them to take issue with my friend Dr. Burns. I feel a sense of humiliation for the writers of my adopted country, except the Johns Hopkins School, when I read the allusions, and incorrect allusions at that, to this syndrome of malarial origin—I object to its being called a symptom. It is sincerely to be hoped that they will revise that part of their books in future editions. The fatal dictum "malaria ergo quinin" has sent countless hundreds to their graves. I have attempted to harmonize existing views, not having one of my own to defend, and think I have constructed a working hypothesis of the origin of the "disease," if you please. There is not the faintest analogy between this and the hemoglobinurias due to the ingestion of drugs in non-malarial subjects. Dr. Burns has given us its symptomatology. What are the principal known facts in regard to malarial methemoglobinuria? 1. Hemolysis can not be caused by adding quinin to the blood of a hemoglobinuric, *in vitro*. 2. Hemolysis never occurs in acute malaria. 3. Active infection by malarial organisms bears an indifferent ratio to the severity of the attacks; indeed, it may be absent in fatal cases. 4. Quinin may, in some cases, produce hemolysis in an individual to-day and not to-morrow; while in others the hemolysis is permanent, and if quinin is persisted in it will destroy the patient. 5. Hemolysis may be present in rare cases in the absence of a quinin history. 6. We know, as a positive fact, that in all cases where the plasmodia existed early in the attack, they rapidly disappear from the peripheral circulation under the influence of the hemoglobinuria; post-mortem, the parasites are always entirely absent. 7. Occasionally we find mild cases in which the plasmodia survive the attack. 8. The constant evidence

of the estivo as the only parasite. 9. The entire absence of any evidence of a specific malarial toxin.

Now, what do we find as the determining factors in hemoglobinuria? 1, persistent neglect of an old infection; 2, superimposition of an added acute infection; 3, some gross indigestion; 4, constipation and biliary stasis resulting in the resorption of bile; 5, change to a better climate, better location, better surroundings; 6, anti-malarial treatment. Here, then, we have two opposing factors producing similar results. Noeggerath's dipping experiments with Texas fever cattle had to be abandoned because a large percentage of these developed murrain with destruction of the animals. This is quite a parallel case. We must suppose then, that, after a while, in persons living in malarial climate a symbiosis is established, which is an exact balancing of two opposing factors to the extent of producing apparent health, a disturbance of which precipitates a paroxysm; if the potential is high, quinin or some other agent will produce a grave paroxysm; if low, it may not do much or any harm.

Bignami tries to make the point that probably hemoglobinuria is produced by the precipitation of the pigment in the epithelium of the convoluted tubules, the epithelium breaking down and causing a retention of hemolytic substances in the circulation. I have here some photo-micrographs apparently refuting this idea. They show absolutely no pigment in the epithelium of the convoluted tubules; it is in a state of cloudy swelling or even further degenerated; there is stasis in the vasa recta, the glomeruli and Bellini tubules are the seat of the pigment, which is in coarse particles; there is obstruction of the loops of Henle. In none of my preparations is there anything which can be regarded as even resembling a plasmodium.

Hemoglobinuria is probably an exaggeration of the tissue reaction which ordinarily is conservative and salutary. Proof is shown in the destruction of the parasites. All this is in accord with the clinical proof. I have seen 13 consecutive recoveries under the "eliminative" treatment; no such record can be shown under the quinin therapy. (Three more cases and no deaths at time of revision of this proof.)

Active malaria is not an essential factor. The plasmoidal effect of the hemolysis is greater than that of any amount of quinin. No death from the "disease" can be ascribed to the malaria *per se*. There is no logical indication for quinin except in the rare cases in which the parasites survive the attack. Quinin is dangerous during the attack, though it is the best prophylactic.

DR. T. J. HAPPEL, Trenton, Tenn.—I could not, even if I desired to, review the ground so thoroughly gone over; others are more competent to do so than I. As a general practitioner, living in a malarial section, I desire to state that we deal with malaria nine months out of each year. I shall not attempt to discuss any of the special papers, but I do want to emphasize what was pointed out by Dr. Jones, that too little attention is paid to the clinical history of the disease and we are attempting to learn too much from discussions on theory. We are gradually turning the study of disease over to the laboratories. We will soon have no real practitioners. Soon we will have men carrying away blood to the laboratory to ask the question: "What have we got?" I think we are going to extremes. We certainly have been able during the past years to diagnose malarial fever, typhoid fever, etc., and we are able to do so to-day without the microscope. There are far abler men in the profession than I who are prepared to state that the results of treatment were as good then as under the present advanced knowledge of the disease. If the gentlemen will come South at the invitation of Dr. Jones they will find a different type of mosquito, which does not convey the disease. In the South the poison hangs on every bush. Our children do not get malaria from mosquitoes, which bite them through almost the entire year.

DR. W. S. THAYER, Baltimore—Perhaps the most important point in Dr. Lazear's communication is the fact that he has brought before us easy, practical methods of making and applying Romanovsky's stain. This is a valuable clinical advance. All who use the microscope know how hard it often is

* The papers covered by this discussion, other than that of Dr. Burns, are that of Dr. Lazear, October 13, p. 917; Dr. Woldert, October 13, p. 933; Dr. Craig, November 3, p. 1139, and Dr. Jones, November 3, p. 1148.

to find small hyaline malarial parasites when but few are present. Proper investigation of the fresh blood specimen may, under these circumstances, require a great deal of time and patience, much more than is possible for the active practitioner to give. By these methods, however, it is not difficult to make a few dried cover-glass specimens at the time of the visit, and to stain them later. The results are so clear and sharply defined that one can readily detect parasites when only few are present.

I must confess that I am not satisfied with the existence of a distinct quotidian malarial parasite. It may be possible that in some instances the cycle of our estivo-autumnal parasite may be barely as short as twenty-four hours, but I do not believe that there is a distinct quotidian species. The view which we first held, based entirely on temperature charts, that paroxysms due to quotidian parasites were common with us, I have been compelled to abandon some years ago, and I am inclined to agree with Gautier and Ziemann that the estivo-autumnal parasite is one whose cycle lasts ordinarily about forty hours. In the recent publications of the Italian observers, they speak with considerable precaution with regard to the possibility of the existence of a distinct species of quotidian estivo-autumnal parasite. It seems to me that on careful analysis of these charts one observes that the paroxysms every third day begin at approximately the same hour, while those on alternate days vary slightly more. This is extremely suggestive as indicating a double infection with parasites, the cycle of which is of about forty-eight hours.

Our observations in Baltimore have led us to agree entirely with the views of Dr. Jones concerning the frequency of malarial nephritis in the negro. The vulnerability of the negro's kidneys, as well as of his lungs, appears to be especially marked. The frequency and high mortality of pneumonia in the colored race, as well as of nephritis, as compared with the white, is striking.

With regard to hemoglobinuria, I can not speak from experience. In Baltimore malarial hemoglobinuria does not occur. From a study of the literature there can be little doubt, however, that in those cases of hemoglobinuria where active malarial parasites are present, quinin does good. There is apparently also no doubt that in certain instances where the parasites are present at the onset, the mere occurrence of the paroxysm is sufficient to destroy nearly all, if not all, the organisms present. This is in all probability due to the fact that the infected corpuscles are especially vulnerable and thus prove subject to dissolution in an attack, the parasites, which are set free, being immediately destroyed. It has further been definitely shown that some attacks of hemoglobinuria occur after an acute malarial infection has entirely passed by, when no parasites are to be found in the blood.

There is no doubt that true quinin hemoglobinuria does occur, though the direct causal action of quinin is probably rarely observed. There is also some reason to believe that in individuals who have taken quinin for very long periods of time there develops sometimes a predisposition toward this manifestation. I should give quinin in any case of hemoglobinuria where active parasites were in the blood. I should abstain from giving it if they were not present.

DR. HENRY D. DIDAMA, SYRACUSE, N. Y.—In 1852 we had a swampy region in the neighborhood of a salt plant, and there was a good deal of ague; there were about 200 cases in one year. The treatment, at that time, was in giving calomel and jalap to get the liver in good order. I was a younger practitioner then than now, and I thought the complaint was the result of some poison. There was a quantity of mosquitoes, but I did not blame them. The ague is not there now, but the mosquitoes are there just the same.

DR. ALEX. A. WESTLEY, Chicago—In reference to the excellent paper given us by Dr. Jones, of Tennessee, in which he makes the positive statement that the negro does not have chronic malaria, I beg to disagree. It was my privilege, while in Cuba, to see over 1000 cases of malaria among the negro soldiers, and I have seen chronic malaria among them. There are now in Chicago some of these soldiers who have returned from Cuba and who are suffering with malarial

cachexia. Shortly before I left Chicago for this convention a former soldier came to me presenting a coated tongue and a cold, clammy skin, which had a peculiar ashen hue. He also complained of having had dysentery and an aching throughout his body and chilly sensations, which were sometimes followed by fever. I put him upon quinin and mineral acid and he improved. Further, I wish to state that while serving as surgeon in Cuba, not having any microscopic appliances in the hospital, I sent to the United States for cover-glasses, on which I made a number of blood smears, using every care in sterilization. These specimens were sent to Dr. A. J. Coey, of Chicago, who has made an especial study, both in Vienna and at Johns Hopkins, of the parasite of malaria. His report showed that the blood in many of these specimens contained crescent bodies, and evidences of malignant and chronic malaria. Thus it will be seen from the clinical picture given, and the scientific data here presented, that it is a mistake to say the negro does not have chronic malaria.

It seems to me that all subjects coming before this body should be considered of sufficient import to demand the most careful consideration of every phase thereof and to require the careful collection of all scientific data pertaining thereto before any generalizations are made, especially when those generalizations effect a whole people. I wish to enter my protest against medical men making positive statements without any, or at most, very little scientific data on which to base the same. In regard to the negro's susceptibility to kidney disease, I have only to say that in our command of over 2100 negroes we had over 1500 cases of malaria, which predisposes to kidney disease, but we had only one death directly traceable to the kidneys.

DR. N. S. DAVIS, JR., Chicago—I should like to ask Dr. Howard whether he has information about the migration of anopheles. The disease often disappears from localities and reappears in them many years later. For instance, in my boyhood days malaria was not uncommon in and about Chicago. During the first ten years of my practice there a case of ague was rarely seen, unless it was brought to the city from a considerable distance. However, when the lagoons were made in Jackson Park and the grounds were prepared for the World's Fair, and when excavation began and was in progress for the Chicago drainage canal, malaria appeared among the laborers in these localities and gradually spread, and still clings to neighboring sections of the city. The drainage of the land about Chicago undoubtedly caused the disease to disappear. What has caused it to reappear? Was it because the anopheles were given a suitable place in which to breed, or was it due to their migration, and if the latter, what laws govern their migration?

DR. L. O. HOWARD, U. S. Dept. of Agriculture—There are no evidences to show any migration to a distance.

DR. W. R. TAYLOR, Wheeling, W. Va.—There is nothing that will live eternally but truth. Upon this rock let us build. I should like to call attention to the fact that if malaria is due entirely to the bites of mosquitoes every man who goes to the Klondike would be killed in a month. There is no region on the earth where these pestiferous insects are more numerous nor their bites more venomous. Yet, malaria does not exist there. In our city of Wheeling, during the months of August and September, we sometimes have countless hosts of these insects, and plenty of the anopheles or dapple-winged variety. A large part of the city is built on an island, surrounded by the waters of the Ohio River. The island ground is low, and part of it swampy, yet malaria *de novo* is never seen here at the present time. After the war with Spain many soldiers came back from the South and from Cuba literally saturated with malaria, but they did not prove to be sources of infection for our citizens, although the mosquitoes were here busily engaged in carrying the infection to our unsuspecting and uninfected citizens. Wheeling Creek runs through the central part of that portion of the city which lies east of the Ohio River. In the summer months this creek is little more than an open, stinking sewer; a perfect paradise for mosquitoes, but we have absolutely no malaria. These facts may be multiplied and elaborated *ad infinitum*.

What inferences must we draw from these facts. Mosquitoes may carry the plasmodium malarie from the blood of a patient afflicted with malaria to one who is not, as flies may carry the tubercle bacilli from the sputum of a tuberculous patient to other persons and deposit it on or about them; they will not all become infected, only a very small percentage of them. Mosquitoes can not develop malaria de novo. Persons who are perfectly well may go into a malarial district in the early spring—before mosquitoes are hatched and developed—and work in the ground and contract malaria without ever seeing a mosquito. Foster defines malaria as "air tainted by deleterious emanations from animal or vegetable matter, especially noxious exhalations of marshy districts, capable of causing fever or other disease." This definition is in strict accord with all of our exact knowledge of malaria.

DR. O. T. OSBORNE, New Haven, Conn.—I should like to emphasize Dr. Davis' point. I have had somewhat the same experience in New Haven that he has had in Chicago. Fifteen years ago there were a great many cases of intermittent fever. From that time until five years ago we had very little. In the center of the city there was almost none. Then they began to put up a number of large buildings, dug cellars, put in electric cars, which went all over the city; the streets were much dug up. From that time typical intermittent fever reappeared. New Haven is accustomed to a few mosquitoes; we have very little trouble with them and seldom do we find it necessary to screen against them.

DR. R. C. NEWTON, Montclair, N. J.—I should like to ask if it is true, as has been frequently asserted, that malaria does not originate in localities which are over 700 feet above the sea-level. And if this popular belief is well founded, what shall we say about the presence of the anopheles? Is it found at an altitude of 700 feet or over above the sea-level?

DR. W. S. THAYER, Baltimore—With regard to the effect of the mosquito bite one should remember that it is not the number of mosquitoes which bite one, but the kind of mosquito, and the result depends entirely on whether or not it is infected. The great mass of mosquitoes all over the country are perfectly harmless, as far as malaria goes. There is only one genus of mosquito which is capable of transferring the disease and this genus inhabits those regions which we know as malarious. Members of this genus are, however, present in other regions which may not generally be known as malarious but which may be shown to be potentially so, as was the case in the epidemic which has recently been referred to, following the advent of Italian laborers. And in such districts when one looks carefully into the history of the region he will probably find that malaria has, at one time or another, existed. There is really no evidence to show that malaria can be acquired through the gastro-intestinal tract. There is simply no positive evidence that any epidemic of malaria is due to an infected water-supply.

DR. L. O. HOWARD, U. S. Department of Agriculture—In answer to the question asked regarding the occurrence of malarial mosquitoes at an altitude above 700 feet I would state that they have been observed at an elevation of 1000 feet and over.

DR. ALBERT WOLDERT, closing the discussion—Experiments have shown that the length of time the anopheles remains infected after it has bitten a case of malarial fever is about three weeks. After this length of time has elapsed it is believed the insect can not inoculate man with malarial fever.

Referring to the subject of malarial hemoglobinuria, in my opinion the etiology is not definitely known. Many cases of hematuria of doubtful origin have been spoken of as malarial hemoglobinuria. A distinction should be made between hemoglobinuria and hematuria by the use of the microscope. At one hospital I know of, over 2000 ounces of quinin had been given to patients in which the clinical diagnosis of malarial fever had been made, without producing hemoglobinuria. Of five cases of supposed malarial hemoglobinuria all took quinin and all recovered.

DR. WILLIAM BRITT, BURNS, Deckerville, Ark.—I came to this meeting to especially make a plea for harmony in the treat-

ment of hemoglobinuria. As my reports show—of course, 16 cases does not show a large clinical report—more than one-half the cases died under the treatment, without quinin. It is the custom for many physicians in the southern states to use no quinin in the treatment of hemoglobinuria. One year I was losing all my cases and I determined to try one case, and see if he would live if I used quinin. This patient had considerable jaundice and an enlarged spleen, a typical case, in short, wherein those, who fear quinin, would have withheld that agent. He had been given quinin sulphate in large doses by the mouth, and on the third day developed hemoglobinuria. How easy it would have been to have arrived at a quinin-hemoglobinuria. Quinin saved that man's life, I believe; I began at once, not to withdraw, but to get quinin into the circulation, giving 7½ grain doses every four hours of the hydrochlorate, intra-gluteally, and to my surprise he got well; moreover this same person was treated successfully with quinin in a second attack some months later. Ever since, I have treated every case with calomel, turpentin, hot applications and beef-juice I have also been using the normal salt solution, per rectum, which I find replenishes the blood and allays thirst. This mode of treatment, with quinin applied, in the past five cases has proved successful. I object to the term post-malaria in any form; I know of no post-malarial condition, except convalescence and sound health. I find estivo-autumnal parasites in all cases of hemoglobinuria, and knowing the great hemolysis wrought by these agents, I would doubt the wisdom of withholding the one agent which would eliminate the plasmodium from the blood. I no longer fear quinin in hemoglobinuria.

MASSAGE OF THE EYEBALL.

PRESENT STATUS AND VALUE, WITH THE CONSIDERATION OF WHAT DISEASES OF THE EYEBALL MAY BE FAVORABLY INFLUENCED BY THIS THERAPEUTIC MEASURE AND WHAT ARE THE BEST MEANS OF ITS APPLICATION.*

CASEY A. WOOD, M.D.
CHICAGO.

Massage is one of the oldest remedies known to ophthalmic surgery, and it may well be believed that a method of treatment not only in vogue thousands of years ago, but also adopted and retained by almost every school of medicine, must have special virtue.

Having used ocular massage extensively for many years, I gladly avail myself of this opportunity of exchanging with my colleagues opinions as to its efficacy.

First, I wish to speak particularly of the simple and not of the instrumental variety, such as the direct rubbing with pieces of cotton wool or some fabric mounted on a convenient shaft, the *tapotement* (or tetanization) of Maklakow, the use of sounds, with or without buttonheads, and other devices. In the main, indirect massage (Pagenstecher, Michel) with the pulp of the finger placed on the skin of the lids is to be preferred. Costomiris, formerly of Athens, who speaks enthusiastically of massage, believes that the best results are obtained by the direct rubbing of the finger tip or tips on the exposed cornea and conjunctiva. So far as the latter membrane is concerned, I believe direct massage is valuable, and in some instances decidedly preferable to the indirect method, but the stroking movements, with slight pressure on the exterior of the eyelids, are usually sufficiently efficacious, are certainly less difficult to carry out in practice, and are more readily borne by the majority of American patients.

It is necessary to say that the amount of force used, the length of each sitting, the frequency of the appli-

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cations, the strength and character of the remedial agent—if any—used with the rubbing, and the susceptibility of the patient, are prime factors in the successful employment of massage, and are quite as important as the selection of cases appropriate for this remedy. Let us consider these in the order stated.

In indirect massage the act should never of itself produce pain, and rarely more than a passing discomfort. I think little is to be gained by the employment of much force. If the lids are the parts to be treated, the patient should be told to look down in massaging the upper lid, and up in the case of the lower lid. In each instance, the other lid should be drawn away from the one undergoing massage. If the cornea is to receive attention, the patient should look straight forward. The duration of the séance must be varied according to circumstances; it should rarely exceed three or four minutes. The tip of the second finger I have found the best instrument for the application, as it can readily be used for all the movements of palpebral massage, circular, centrifugal, and centripetal. It is also well adapted to the to-and-fro pressure required to reach the conjunctival areas about the inner and outer canthi. Once daily to twice a week constitutes the range of frequency of these applications. It is better in most cases to perform a gentle, non-irritating massage of even ten minutes' duration daily than a rough, painful rubbing twice a week.

As to the strength and character of remedial adjuncts, and without discussing the action of massage, which forms no part of this paper, I have come to rely on variations of some half dozen remedies. When I desire to use massage for its own sake, as I usually do, I instill a drop or two of cod-liver or pure castor-oil, telling the patient to wink and move the globe about so as to thoroughly distribute the oil throughout the conjunctival sac before beginning massage. For the rest I greatly prefer oily solutions or mixtures to powders or collyria. When these oleaginous compounds are made perfectly smooth and of a consistency that permits of their ready distribution over the eyeball, it is surprising how little pain or discomfort is set up even by strong doses of such irritants as mercuric chlorid, silver nitrate, etc. This is probably due to the fact that massage has an anesthetic action, probably due to emptying the capillaries and lymph-vessels of their contents and to the continued pressure on the nerve endings.

Most observers find in mercurials of various strengths, combined with all sorts of oleaginous excipients, the most useful massage agents, and my experience coincides with theirs. I pass around for your inspection a brown ointment of this character that I have found very effective, and one that combines qualities of great value in ocular massage. It is nothing but the old citrine ointment—the ointment of the nitrate of mercury—made with brown cod-liver oil instead of lard-oil. This, after standing exposed, to get rid of irritating nitrous fumes, for a week or ten days to the air, but not to dust, may be further diluted with from 25 to 50 per cent. of cod-liver oil. It should be dropped from the end of a glass rod or silver probe into the lower sac. If the massage movements are begun at once, the smarting is very slight and transient, even when the stronger mixtures are employed. The subsequent action of the remedy can be modified as desired by the length of time, usually an hour, before it is washed off the eyelashes with warm water.

At the end of, or during the act, combinations of the remedy with the ocular secretions—especially mucus—

should be coaxed out of the sac by small "dabs" of damp cotton, or, if watery or glycerin mixtures or solutions be employed, by the irrigating stream, and the stroking movements resumed until nothing further comes away.

I wish to emphasize the contention that one rarely gains anything by inducing a marked hyperemia of the scleral or ciliary vessels by using force or by the employment of very irritating adjuncts in massage. A little smarting, that passes off in five minutes; a temporary congestion of the already visible vessels, and, perhaps, some foreign body sensations are all that are justifiable. I might generalize by saying that the patient, half an hour after the lid friction, should not experience any added discomfort. It is evidently impossible for me to even enumerate the various diseases of the lid proper, conjunctiva, lachrymal apparatus, cornea, and of the interior of the eye, in whose treatment massage has many warm friends. In a general way its most satisfactory employment will be found in chronic diseases of the eye borders and substance, in almost all those subacute and chronic infections of the conjunctivæ that one commonly includes in the title "conjunctivitis"—with or without an adjectival affix or prefix—in the second stage of acute inflammation of the conjunctiva, in most forms of ulcer of and deposit in the cornea, and it may be employed for the temporary relief of glaucoma and in some forms of retinal embolism. It is not indicated in the early stages of "acute conjunctivitis" and of "keratitis," in all forms of true trachoma, in spring catarrh—although Costomiris and others dissent from this opinion—in diseases of the iris, ciliary body, lens, choroid, vitreous, or optic nerve. Finally, while I am very skeptical of its efficacy in the absorption of the connective tissue that composes the mass of a true cicatrix, I am convinced that, in young subjects, especially, it does lessen the opacity following ulcer of the cornea. If applied early it promotes the removal of the surrounding infiltrate that would otherwise remain. In the same way it is valuable in the treatment of interstitial keratitis.

USE AND ABUSE OF POTASSIUM IODID IN OPHTHALMIC PRACTICE.*

ALBERT RUFUS BAKER, M.D.

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Iodid of potash was first used medicinally by veterinary surgeons for the removal of splints from horses. Its efficacy in removing these osseous growths suggested its use for the removal of tumors and exudates from man. Its value in the cure of many tertiary syphilitic lesions soon became apparent, and it is slowly but surely forcing the medical profession to acknowledge that its use is not restricted to syphilitic diseases.

Many years ago I became convinced of its value in the removal of goiter. I recall a case many years since that forcibly impressed on my mind the efficacy of iodid of potash in cases other than syphilitic ones. I was in attendance on a little girl with pneumonia, but resolution failed to become established. The lung remained solid several weeks. The child was slowly but surely dying. The father, a physician, as well as myself felt helpless, and we called in council an old prac-

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itioner, who prescribed immense doses, as we thought, of iodid of potassium. The rapid improvement was most marvelous. It was such observations as this that led me to gain greater confidence in the use of the drug in the removal of exudates than my previous studies had led me to believe possible. It was while the above case was still fresh in my mind that two patients came at the same time, each having received a blow on the eye, the anterior chamber filled with blood. I determined to try the use of iodid of potassium to absorb the blood-clot in one, and let the other go without specific treatment. The blood-clot disappeared in five days from the case in which the iodid was used. In the other, remains of the clot could still be seen at the end of two weeks. While it is true that a single observation of this kind can not have much scientific value, yet my experience covering a wide variety of similar cases has confirmed me in the opinion that iodid of potash is of value in removing not only hemorrhages, but exudates of almost every kind as well.

I seldom meet patients who can not take the iodid. Sometimes I have discovered that they could not take small doses of the drug without discomfort, but could take large ones quite well. That there may be no misunderstanding, I shall detail at some length the manner in which I usually prescribe the drug. In the vast majority of cases I combine it with bichlorid of mercury as in the following prescription:

R. Hg. chlor. cor.	gr. i
Potassium iodid	ʒi
Tr. cinch. comp.	ʒii
Aque, q. s. ad.	ʒiv

M. Sig. Teaspoonful three times daily in water after meals.

I use this as a menstruum for the administration of the larger doses, and give this prescription:

R. Potassium iodid	ʒi
Aque, q. s. ad.	ʒi

with instructions to add 5 drops to each spoonful of the first prescription, increasing 5 drops additional to every dose, thus giving 45 grains the first day, 60 grains the second, 75 grains the third, and thus rapidly increasing the dose up to 500 grains daily. I urge the patient to drink an abundance of water, to eat all the appetite craves, and make no restrictions as to the kind of food. I also insist on frequent hot baths, which I deem most important. I caution the patient not to take the medicine if a full meal has not been eaten, and on the first indication of intestinal disturbance stop the drug entirely for a day or two, or if needs be, until the appetite returns. Administered in this manner, it is rare indeed that I meet a patient who can not take from 100 to 300 grains daily. It is surprising sometimes what enormous doses can be taken without any apparent deleterious effects. I have notes of a patient in the City Hospital who had been there some months with a diagnosis of diabetes. When I entered on my service I examined his eyes and found he had a choked disc, and made a diagnosis of brain tumor, and expressed the opinion that the sugar in the urine was due to the irritation of the tumor, probably near the floor of the fourth ventricle. Iodid of potassium was administered until the dose was increased to 900 grains daily, with complete disappearance of the sugar in the urine, and although this was nearly ten years ago, the patient is still living and enjoying good health. These large doses can not be taken for a long time, but should be pushed to the point of tolerance and then stopped entirely for a few days or weeks, if not an urgent case; in the meantime I administer mercury, iron, arsenic, strychnia, or

other drugs, alone or in combination, as indicated, and then, if necessary, repeat the large doses of iodid as before. This way of administering iodid of potassium has proved most satisfactory in my practice, not only in syphilitic cases, but in many that were not diagnosed as such. In cases in which the patients object to the taste of the drug, I have been in the habit recently of prescribing it in carbonated water, which covers the taste completely and apparently relieves much of the tendency to irritation of the digestive apparatus. I do not wish to be understood as saying that I never give small doses of iodid; indeed, I believe there are cases in which most excellent results may be best secured by small doses continued for a longer time. But I wish to make a plea for larger doses in many non-syphilitic cases, and express the opinion that as a routine practice less harm may be done by large doses given for a brief period than by smaller ones for a longer time.

Of course, the most brilliant results will be attained in cases of choked disc due to syphilitic brain disease, but I have resorted to this treatment in cases of optic neuritis of almost every variety. The urine should be examined, and in the presence of albumin the drug should be used with great caution. I also learned from sad experience many years ago that, in degenerative disease of the optic nerve such as we have in posterior spinal sclerosis, the use of the iodids will do great harm and often hasten blindness. I do not hesitate to give large doses in cases of optic neuritis in meningitis, tubercular as well as other forms of the disease.

I have also had good results in neuritis following injuries of the head, either due to pressure from blood-clots or exostoses following fractures, or effusion from localized meningitis. I have also found the iodid useful in relieving the headaches in cases of brain tumor other than specific ones. Some years ago we had a boy in the Cleveland General Hospital who suffered most intensely from headaches. Opiates always aggravated the pain; almost the entire materia medica was exhausted without avail. It was found that 50 or 100 grains of potassium iodid, followed by a hot bath, would give him relief for a week or two, and sometimes longer. He died suddenly after a hypodermic of morphia given by a physician called in in an emergency. The autopsy revealed a large tubercular tumor of the cerebellum pressing up into the floor of the fourth ventricle, which was enormously dilated, holding a pint or more of fluid. The iodid undoubtedly relieved the pressure, while the opiates increased it, and thus aggravated the headache.

I am tempted to report at length exceedingly interesting cases in which the drug has proved of unusual value, like one I reported recently to a local medical society, of a patient who became totally blind subsequently to cauterization of the turbinated bodies for hypertrophic rhinitis. Rapidly increasing doses of iodid were prescribed until 450 grains were given daily. Perfect vision was quickly restored.

It was not the purpose of this paper to discuss such cases, but rather the ordinary ones that come to our consulting rooms frequently. I have already intimated that I believe the drug to have a specific influence in absorbing blood from the anterior chamber, and I also have faith in its efficacy in removing clots of blood as well as exudates from the vitreous, where, as we are well aware, absorption is a much slower process. In all cases of choroiditis with exudation into the vitreous, I give a relatively favorable prognosis, at least I have no hesitation in encouraging my patient to believe that

with vigorous medication we can clear up opacities of the vitreous, thereby improving vision. This improvement is not alone in syphilitic cases. In cases of progressive myopia in which there is not the slightest suspicion of syphilis, I have witnessed the most marked improvement. Indeed, there is no case of choroiditis in which I would not give the remedy a trial with the expectation of benefit. I have notes of an interesting case of a school teacher with a large subhyaloid hemorrhage, presenting a beautiful picture of a thin layer of bright-red blood covering a large portion of the fundus. Notwithstanding the presence of albumin in the urine, large doses of the iodid were given, with the gradual clearing up of the hemorrhage and restoration of perfect vision. This was five years ago, and the teacher is still at work and apparently in good health.

I have not found the iodids of benefit in secondary syphilitic iritis. These cases are best treated with mercurials. On the other hand, I have found the iodids of great service in the treatment of idiopathic or rheumatic iritis—those cases in which we have great pain running a chronic course, often relapsing; in which the impairment of vision is out of proportion to the cloudiness of the aqueous; in which the pupillary area may be quite free from exudates; in which the eye is tender to the touch; in other words, a cyclitis rather than an iritis, or at least in which the ciliary region is quite seriously involved, with exudation into the anterior part of the vitreous. These are the cases that try our skill, but which often yield to large doses of iodid of potash and hot water used as taught by our ex-chairman, Dr. L. Connor.

Serous iritis, the punctated keratitis of the older authors, is always benefited by the iodids. In these cases, however, I have been contented to use smaller doses. Interstitial keratitis is peculiarly a children's disease, and always runs a chronic course, which can be greatly shortened by the judicious use of iodid of potash. The latter can be much more safely and much more conveniently given in relatively large doses for a short time, alternating with mercury and general tonics, repeating the iodid from time to time as the general health of the child permits. Interstitial keratitis in adults in my experience always runs a much shorter course than in children. due, I believe, to the fact that we can safely give the iodid much more vigorously.

There are a large variety of cases of extraocular paralysis involving the third, fourth, sixth, and fifth nerves, undoubtedly many of them syphilitic, but often due to other causes. It has been my custom to prescribe iodid of potash in large doses without spending too much time in making inquiries as to the etiology, as I believe that prompt and heroic treatment at the beginning is essential to success in the management of these cases.

I must confess that the use of large doses of iodid of potash has been disappointing in the removal of post-operative exudates; for some reason I have not had the courage of my convictions, and in very few cases of this kind have I ventured to give large doses. So many of these patients are old, or feeble, or illy nourished, or have already run a painful debilitating course, I have not been inclined to push the iodid to the extent that I have done in other cases. I can not say the results in such cases have been encouraging.

CONCLUSIONS.

1. Iodid of potash should generally be administered in rapidly increasing doses until from 1 to 500 grains are given daily.

2. The drug should always be given after eating, and well diluted with water.

3. Frequent hot baths are essential to the best results in the use of the remedy.

4. Not infrequently large doses will be tolerated when smaller ones can not be well taken.

5. The use of the large dose is not limited to syphilitic cases.

6. Large doses are indicated in: optic neuritis; ocular paralysis; choroiditis; serous iritis and in relapsing iritis; cylitis and interstitial keratitis.

7. It is contraindicated in gray atrophy of optic nerve and in most cases of postneuritic atrophy.

8. Albumin in the urine, generally speaking, is a contraindication for large doses of iodid.

9. Young children do not take the iodid kindly and it should be administered cautiously.

10. The remedy is of doubtful value in early syphilitic iritis.

11. Large doses are of doubtful utility in the removal of post-operative exudates, but should be given further trial.

DISCUSSION ON PAPERS OF DRs. WOOD AND BAKER.

DR. J. L. THOMPSON, Indianapolis—I fully agree with Dr. Baker, though it is true I have not given the very large doses he uses, being rather afraid, but in the future I shall certainly try it. Occasionally we meet with cases in which more than four or five grains will produce the most terrible symptoms, in other words, there is an occasional idiosyncrasy. I recall a case of brain tumor in a little girl seen some fifteen years ago, with impaired vision, headache and choked disc, who after treatment by potassium iodid was able to attend school for two years subsequently. An autopsy made later showed sarcomatous tumor of the cerebellum.

Concerning the ointment which Dr. Wood recommends for use with massage I want to say that I accidentally stumbled on that mixture many years ago, in fact, before I went into the Civil War. Later, returning home, I found my friend, Dr. Williams, prescribing the same ointment, which he called the "brown citron ointment." The only objection to it is that ladies complain of its horrible odor. Concerning the use of massage in glaucoma, I have had several cases of hemorrhagic glaucoma in which I have used it, together with eserin and other remedies, of course. I think it would be well to give some of our patients an instrument like that suggested by Dr. Woods, because it gives them something that rattles. I wish I could give many of my patients some instrument that rattles or makes a noise while it is working.

DR. C. F. CLARK, Columbus—Since the Doctor calls for something that rattles, I have one to show him—presenting instrument. I have under my care a patient who consulted Dr. Ayres ten years ago and who has been a high myope since childhood. She has detachment of the retina, with complete loss of sight in one eye and partial detachment in the other. Her condition has improved greatly under potassium iodid. I only learned from her a few days ago that, before going to Dr. Ayres, she had presented to her this circular, which probably the older members of the profession are familiar with, concerning an instrument for reducing myopia. She had systematically produced massage with this rattling instrument for many years, and whenever she had to do some particular work she felt that she helped her eyes by pressing this on the lids. I have no doubt that with this instrument she succeeded in producing the detachment. I have tried it on my own eye and in one or two applications succeeded in making the eye ache for about two hours; I am myself myopic.

I believe in massage thoroughly for many diseases of the eye if properly applied, but it must be always guarded by the physician, and it would be a bad thing for the public to get the idea that by rubbing the eyes as the osteopaths do they could rub away disease.

DR. LEARTUS CONNOR, Detroit—There are two points I would like to speak of. I quite accept Dr. Wood's presenta-

tion on the subject of massage and I have found it extremely useful. The case related by Dr. Clark recalls to my mind the case of an old soldier who had lost one eye from myopia when the other was progressively failing. He went to Cincinnati to attend a grand army encampment, and while there a friend persuaded him to have one of these cups applied. It was applied once and he never saw afterward; from being a useful member of society he was converted into a blind man.

Respecting potassium iodid, I also favor large doses of it, but use it without bichlorid, and suspect that some of Dr. Baker's good results have been due to this attendant drug, which, however, is a different proposition. My method of using it is different from his, in that I usually prescribe it to be taken after meals in milk. I give it in drop solutions so that it may be increased by drop doses, each drop representing a grain. I was quite surprised to hear Dr. Baker say he found it intolerable to children, for in our Children's Hospital I have used it with great satisfaction, and they seem to take it better than adults.

I wish to say a word also in regard to subconjunctival injections to which Dr. Troncoso referred. In a number of these exudates the injections do assist materially in clearing of the cornea, but in other cases, no matter how many injections we have used, there has been only little benefit. As to the selection of cases in which subconjunctival injections would or would not be of benefit we have been unable to determine beforehand. It is necessary to try them, and if benefit results, very good; if not, we discontinue them. I would like to emphasize the remarkably quick relief from pain given in cases of iritis and cyclitis by these injections. I have seen many cases of these diseases in which the pain was excessive and in which no relief was obtained from other remedies, but they were promptly relieved by one or two injections of a few minims of normal saline solution.

DR. C. A. VEASEY, Philadelphia—I am quite sure that most of us who have had any experience with massage of the eye-ball will agree with almost all Dr. Wood has said in his excellent paper. It is perhaps a question not so much of the employment of massage but of the manner in which it shall be employed that raises points of difference. In the service of Dr. De Schweinitz, at the Jefferson Hospital, it has been our custom for years to use it to assist in the removal of exudates found in the layers of the cornea and especially in interstitial keratitis. Formerly it was our custom to apply the massage ourselves, but in a large clinic that proves to be impracticable. We then tried to teach the patients to use it, but quite recently we adopted something of an innovation by employing a trained masseuse. Certainly in the few opportunities we have had to make observations since starting this we have every reason to believe the results are better than those obtained by previous methods. The substance which we have mostly used has been the yellow oxid ointment. A small portion is placed in the conjunctival cul-de-sac, and the lids being closed a number of circular movements are made with the tip of a finger on the upper lid, and after a short time this is followed by radiating movements from the center toward the periphery, and the sitting ended with a few tappings.

DR. FRANK C. TODD, Minneapolis—I believe in the use of potassium iodid for eye diseases and in strong doses, but I have not been able to use it internally as strong as Dr. Baker recommends. I believe I have been able, however, to get it into the system in as great amount in another way. I have been in the habit of using inunctions of potassium iodid, just as it is customary to use mercury, and with very good results.

DR. G. C. SAVAGE, Nashville—There is one practical point I would like to mention concerning the administration of potassium iodid. I do not know where I got the idea, but, somewhere and somehow, I learned that jaborandi, in promoting the absorption of watery effusions in acute inflammatory processes, aids the potassium iodid in effecting this absorption of plastic effusion. I give the fluid extract of jaborandi in 15 to 25 drop doses at 9, 3 and 9 o'clock, and the iodid in increasing doses after each meal.

DR. J. A. LIPPINCOTT, Pittsburg—I have had some experience with subconjunctival injections of bichlorid and normal

salt solutions, and in some cases it is a method of treatment of undoubted value. The writer of the paper mentioned that Darier used acoin to obviate the pain. My patients complained very little if the eye was thoroughly cocaineated and if a small quantity of cocaine was added to the solution before injecting.

I have been using massage for many years in some affections of the eye, but recently more especially in glaucoma. There is no doubt in my mind that in massage of the eye-ball we have another means of prolonging vision in glaucoma, especially in the chronic inflammatory form where there is gradual tendency for the visual field to contract and blindness to ensue ultimately. I think massage in those cases does tend to relieve the pain, keep the eye-ball soft, and in conjunction with other measures to preserve the vision.

As to large doses of potassium iodid, I have used them, but not with as much enthusiasm as our friend Dr. Baker. I have seen others, however, use it in that way with benefit.

DR. G. A. ASCHMAN, Wheeling—There is one disease of the many that Dr. Baker mentioned in which I have had some particularly good results with potassium iodid, that is detachment of the retina. This is a disease so difficult to treat and so many things have been tried for it that I think potassium iodid, which does so much good in removing exudates, should be tried. I have given it after the method recommended by Dr. Connor. I have under my care at present a young girl of 18, whom I think Dr. Lippincott has seen, on these increasing doses. When first seen her vision was only the counting of fingers and the detachment covered one-fourth of the inferior quadrant of the eye, but it has now diminished two-thirds and her vision is 15/70. I would like to ask Dr. Baker whether he has tried the large doses of potassium iodid for this affection.

DR. URIBE TRONCOSO, Mexico—Dr. Veasey certainly stated the truth when he said that subconjunctival injections are of no great value in certain cases of interstitial keratitis, but there are some conditions in which the clearing of the cornea is marvelously assisted by this means. When I find that three or four injections do not bring success I think their use must be stopped. In regard to the pain produced by them I have not been so happy as Dr. Lippincott, for my injections have always been very painful, notwithstanding that care was taken that the needle should not penetrate Tenon's capsule, but only the conjunctiva. Darier proposed acoin, but, as I said in my paper, unfortunately I do not succeed in relieving the pain with it. Cocain can be added only to the cyanid of mercury because when added to the bichlorid it is decomposed and loses entirely its anesthetic properties. (Darier.) The action of the cocain is only temporary and a quarter or half an hour after the injection the pain begins, and lasts about two hours.

DR. CASEY A. WOOD, closing discussion—I would say that so far as my knowledge goes, I believe we are indebted to Dr. Moyer, professor of therapeutics in the University of Chicago, for the explanation of the different action of potassium iodid in large and small doses. When given in small doses and without a great deal of water it forms organic combinations in the stomach that produce irritation, but when given in large doses its action is mainly that of a diuretic, especially if given with a quantity of water. It is then carried off by the kidneys, as well as by the skin and mucous membrane. If this be true it explains why in large doses we get the benefits of the drug without its deleterious effects. I heard Professor Moyer recently say that he was in the habit of giving as much water as the patient could possibly drink and the larger the quantity taken the less frequently the disagreeable symptoms of iodism are present. In my experience that is true and I frequently give 400 or 500 grains a day.

I was very much interested in what Dr. Thompson said about the "brown" ointment. I have never laid any claim to originality in this matter, but I have not as yet discovered the inventor of what I consider a valuable addition to the ophthalmic armamentarium. I never advise patients to use massage at home, for I think it is possible for them to do harm with this and other agents employed with the massage.

Dr. A. R. BAKER, closing discussion—It was with a great deal of hesitation that I presented this paper, because I have been criticised by some of my medical friends at home for giving such large doses, and the sanction that has been given to the use of large doses of potassium iodid is very gratifying indeed. Such an excellent authority as Jonathan Hutchinson, I believe, says it is never necessary to give over 15 grains at a dose. I am very glad to hear Dr. Connor's favorable experience with young children. In the early part of my practice I thought I had injured some infants by the use of large doses, and though I was surprised recently in looking over my notes to see that I was giving such large doses to children with good results I felt that it was necessary to apologize for it in my paper.

In regard to Dr. Aschman's question concerning detachment of the retina, I would say that I have used it in a number of cases with doubtful benefit. In some cases where there was doubt of the diagnosis I have had improvements; it is certainly worthy of further trial in these cases.

ELECTRIC RECORDING PERIMETER.*

WILLIAM M. SWEET, M.D.

PHILADELPHIA

Of the many perimeters which have been devised for recording the field of vision, the instrument devised by Dr. Malcolm M. McHardy, of London, has met with the most favor. It is an excellent instrument, and whatever its defects, they are to be found in all similar forms of apparatus in which the test object is moved by a flexible cord. The instrument here shown was devised with a view of correcting the faults which experience shows exist in the ordinary form of perimeter. Apart from the use of small electric lamps for the fixation spot and for the test object, it differs in important details of construction from the usual form of perimeter. The arc which ordinarily carries the movable test object is replaced by a steel tube, at the end of which are cog-wheels for rotating a metal arm carrying a small electric lamp. Motion is transmitted to this arm by a shaft running through the center of the tube; the rotation of this shaft is communicated by suitable gearing to a slide carrying a steel point, as in the present form of perimeter, for making the record on the chart.

The electric lamp at the extremity of the rotating arm is designed for the test-object, two discs being provided in front of the lamp, one containing openings of various sizes, and the other holding circles of differently colored glass.

The usual form of chin-rest is employed, adjustable to various heights. The fixing point consists of a small mirror, which reflects the light from an electric lamp placed above. This permits the fixing point to be made of small size, so that the illuminated test-object may pass behind it, a matter of importance in the plotting of scotomata near the center of the field.

The record of the field is made in the usual manner by pressing the chart against a steel point. On the upright support of the perimeter is a steel pin, fitting into an opening in the arm of the chart-carrier. By this means the errors which often occur from sagging of the chart-carrier are avoided. The steel pin is adjustable to permit a heavy or light puncture on the recording chart.

The instrument is designed for a chart about six inches in diameter, experience proving that the small

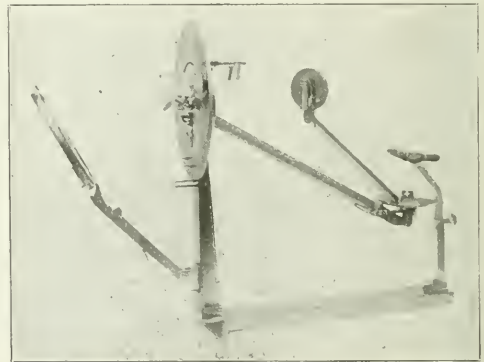
form of chart tends to confuse the details of the field, especially when it is desired to record the form and color-fields on the same sheet.

Since the illuminated object passes behind the fixing point, each meridian of the field may be measured through an arc of 180 degrees without rotating the main portion of the instrument.

An important feature of the instrument is the button on the base of the stand for extinguishing the light of the test-object. When the patient first recognizes the light as it enters the range of vision, the pressure of the finger on this button puts out the light of the test-object, and determines the correctness of the patient's first answer.

The electric lamp may be operated with small storage cells, or, if desired, by the ordinary direct or alternating commercial circuits. The three-cell dry battery employed for small electric lamps gives satisfactory illumination, and may be replaced at moderate cost.

The advantage of beveled gearing, with absence of lost motion, over flexible cords for operating the est-



Electric Recording Perimeter.

object, will be apparent, while the substitution of a noiseless moving light, of constant intensity of illumination, for the present traveler, carrying colored discs, whose brightness varies with the character of the daylight, insures visual fields which are uniform for purposes of comparison.

The perimeter is made by Queen & Co., of Philadelphia, who have admirably worked out the mechanical details necessary to assure an accurate instrument.

1205 Spruce Street.

DISCUSSION.

Dr. H. F. HANSELL, Philadelphia—The advantages that this perimeter has over those in use are its noiselessness, and facility for the accurate measurement of the limits of the field by eliminating the possibility of deception and imperfect observation on the part of the patient. Its single disadvantage is its expense.

Water Treatment of Catarrh of the Upper Air Passages.—According to Linkenheld's description of his hydropneumatic treatment of catarrh, published in the *Deu. Med. Ztg.* 45, the temperature and force of the stream are the chief factors in the cure and not the chemical composition of the fluid used. He irrigates the upper air passages with plain water at 28 C. in acute catarrh. In the hypertrophic variety he rinses alternately with water at 27 and 32 C. In atrophic catarrh he uses large amounts, 5 to 2 liters of water under considerable pressure, alternating 27 and 32 C. with 18 C.

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

GLIOMA OF THE RETINA.*

G. A. SULZER, M.D.
PORTSMOUTH, OHIO.

As glioma of the retina is not commonly met with, particularly in private practice, I venture to report the following case. More than a year ago, through the courtesy of Dr. P. J. Kline, of Portsmouth, Ohio, a 14-months-old girl was brought to me for treatment of the right eye. The parents stated that the eye did not seem natural in appearance at birth, though marked signs of disease did not present themselves until the fourth month, when a whitish reflex was visible through the pupil, and later the eye increased in size, became inflamed and painful. On examination, it was found to be considerably larger than its fellow, and the ocular and palpebral conjunctivæ were congested; a well-marked pericorneal zone was evident. The cornea was clear and measured 12 mm. in the vertical meridian, and 13 mm. in the horizontal. The pupil was 5 mm. in diameter, and fixed. The anterior chamber was very shallow and the iris a dark green, in decided contrast to the bright blue of the iris of the left eye. A whitish reflex could be seen through the pupil. The tension was very high, the eye almost stony hard and tender to the touch. With the ophthalmoscope a large, whitish mass was seen almost filling the vitreous chamber, the fundus reflex being invisible. The left eye was normal in appearance and vision good. Glioma retinae was diagnosed; enucleation was advised and adopted. The operation and convalescence were without incident. The ball was hardened in 1 to 8 formaldehyde solution, and at the end of a week was removed. An incision at the equator gave escape to a greenish viscid fluid; the anterior and posterior chambers emptying through an incision into the cornea, caused the iris to return to its natural blue color. The large, whitish tumor mass almost filled the vitreous cavity, apparently growing from the optic papilla, pressing forward the lens and iris and was slightly attached to the lens capsule. Section of tumor showed small spots of fatty degeneration and calcareous infiltration. The retrobulbar portion of the optic nerve appeared to be normal. The choroid and retina seemed disorganized, and the lens was peculiar in having a yellowish opaque nucleus about 3 mm. in diameter. The cortex was clear, but yellow.

Dr. David Riesman, of Philadelphia, to whom the specimen was sent for a pathologic report, stated that, because of fatty degeneration of the tumor mass, it was difficult to interpret it, finally concluding that it was a glioma. Further he says: "The glia cells are large, chiefly round, but occasionally slightly oval with deeply stained nuclei, which apparently have no protoplasmic ring. The cells are without processes. The tumor seems to have lifted the retina and lies between it and the choroid, separated in places from the latter by cells having spindle-shaped and oval nuclei and considerable intercellular substance, and placed angularly toward the choroid. Where the tumor nodules are very compact, the cells are distorted by mutual pressure and here and there among them are found large peculiar bodies, probably degenerated cells, which stain a pale blue. Much detached pigment lies near the choroid coat. The vitreous chamber is largely occupied by the new growth, the cells of which occur in small, scattered groups and vary considerably in

size. An extensive hemorrhage has filled the tumor with red blood-corpuscles, which are fairly preserved, and scattered among them are peculiar dumb-bell-shaped bodies of a brownish-black color, somewhat resembling diplococci, but representing probably some form of blood crystal. The retina is detached in places and thrown in folds."

Schob¹ in his excellent chapter on glioma, in the "System" of Norris and Oliver, defines glioma as a malignancy; intraocular growth. "Histologically a more or less circumscribed hyperplasia of the retinal neuroglia, most frequently arising from the inner granular layer, though it may spring from any of the layers having supporting fibers, except the layer of rods and cones." There are two forms, circumscribed and diffused, and according to the direction of growth, glioma endophytum, that form growing into the vitreous, and glioma exophytum, growing backward into the sub-retinal space. The etiology of glioma is as obscure as that of tumors generally. Fuchs⁴ refers to a "congenital morbid disposition." Schob¹ mentions the same feature and says: "No predisposition or other etiological factors are known, although a connection between trauma and glioma has often been maintained but never proved." As regards pathology, Schob¹ in quoting Greef, says: "From these investigations it would appear that gliomata practically consist of hyperplastic glia cells, the offshoots of which form a dense network of fibers, ganglion cells and nerve-fibers." For this he proposes the name of "neuroglioma ganglionare."

Fuchs⁵ quotes Virchow, thus: "Glioma develops ordinarily from the two granular layers of the retina, principally from the inner granular layer, and is composed of small cells and a very soft basement substance. The cells consist of a nucleus surrounded by a very scanty amount of protoplasm, which in many spots possesses minute processes. According to the varying character of these processes, the cells are classed partly as glia cells, partly as ganglion cells. Usually the tumor cells are aggregated in peculiar dense masses along wide blood-vessels, which thus get to have cloak-like envelopes, and the entire tumor consequently exhibits a tubular structure. In many cases there are also found long, cylindrical cells, which are undoubtedly to be regarded as constituent parts of the external layer of the retina or the neuro-epithelium of Schwabe. (Flexner, Wintersteiner.) These are arranged in groups, usually in such a way as to enclose a free cavity into which their extremities, representing outer members of the rods and cones, project. Hence, if we take these structures into account, it would seem more correct to give glioma the name of neuro-epithelioma of the retina."

Histologic sections of the tumor have been made, and I take pleasure in presenting them for your inspection. In this case two points are of especial interest: 1, there has been no return of the disease, though fourteen months have passed since the enucleation; 2, the family history is negative, the patient being the third of a family of three girls. Discussion of the case and on glioma retinae is solicited with the hope of refreshing our knowledge of the subject.

BIBLIOGRAPHY.

1. Norris and Oliver, vol. III, p. 552.
2. *Ibid.*, p. 557.
3. *Ibid.*, p. 573.
4. Textbook of Oph., p. 466.
5. *Ibid.*, p. 465.

* Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

DISCUSSION.

DR. G. E. DE SCHWEINITZ, Philadelphia—Dr. Sulzer's complete presentation of his case leaves little room for discussion, and I will therefore content myself with the exhibition of a drawing illustrating the structure of that type of glioma which receives the name *neuro-epithelioma*—a name which Wintersteiner believes should always be used in place of glioma. You observe the tubular structure and how the cells send processes through the walls of the tubules into their lumina. The elements here involved are analogous to the cone-nucleus, the *membrana limitans externa*, and the cone-body of the normal retina. The first paper calling attention to this conception of the ultimate structure of gliomas was written by Dr. Simon Flexner, now of the University of Pennsylvania.

DR. J. L. THOMPSON, Indianapolis—I simply want to speak of the results of these cases. A great many have stated that true glioma of the retina is always fatal. If you recall it, I reported some 17 cases three years ago and 4 out of those 17 are still living. In all of these cases the tumor was examined by Dr. Knapp, or Dr. Weeks or Dr. Wynn, all expert microscopists.

DR. J. M. BALL, St. Louis—I am under the impression that some cases have been reported as glioma of the retina where a careful microscopical examination would have shown the pseudo-glioma. I might report a case which a number of ophthalmologists considered to be true glioma, but which on examination proved to be a pseudo-glioma. A period of three years has now elapsed since the operation, but if that specimen had been badly treated or mislaid, or no microscopic examination made, it would have been considered a true glioma, the operation for which had been followed by no recurrence.

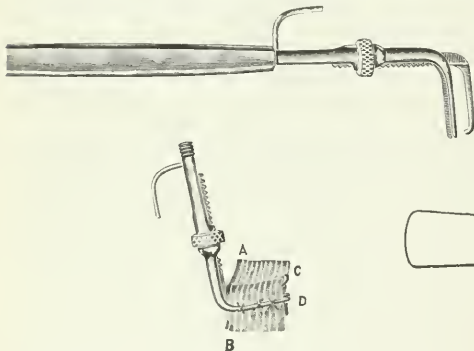
DR. SULZER—I have only to add that both Dr. Shumway and Dr. Flexner saw this specimen and agreed on the diagnosis.

A DOUBLE HOOK FOR USE IN ADVANCEMENT OPERATIONS.*

C. F. CLARK, M.D.

COLUMBUS, OHIO.

This instrument is intended to simplify the operation for advancement of the recti muscles and to make it



A and B is a strip of tape drawn up into a fold by the hook at C D, showing the points for the insertion of sutures at XXX.

possible to regulate with certainty the amount of shortening obtained. It consists of a small hook, the shank of which is embedded in the anterior surface of a larger one, and the arm of which passes between the blades of the forked arm of the larger one. By means of a milled screw and a ratchet the single hook may be projected beyond and between the blades of the double one, so as to take up a fold of the tendon and draw it up

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

between the blades to the desired height, when the sutures may be introduced and the superfluous fold cut off, if so desired. The instrument is made with a detachable handle, so that during the suturing the aid of an assistant may be dispensed with. I have found it operate most satisfactorily when the capsule of Tenon is included with the tendon of the muscle, as this gives greater holding power to the sutures.

I think the accompanying illustrations will make clear the character of the instrument.

AIDS IN THE MEASUREMENT OF REFRACTION.*

EDWARD JACKSON, A.M., M.D.

DENVER, COL.

The two instruments that I herewith present have proved of sufficient value, in facilitating the testing of the refraction of the eye, to justify me in calling the attention of the members of the Section to them. The first is

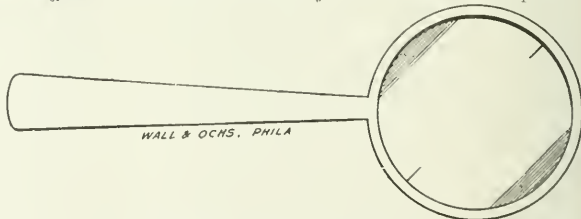
A TRIAL-FRAME FOR SKIASCOPY.

It is simply a light trial-frame, in each cell of which is fixed a metal disc, with a central opening large enough to allow the application of the shadow-test through it.

Upon the disc are enameled bands of black and white, each occupying an angle of 30 degrees of the disc. In the center of each band is marked a point, white in the black bands, and black in the white bands. This constitutes a graduation to 15 degrees spaces. The center of a white band marks 90 degrees, and the center of a black band, 180 degrees, of the usual graduation of the trial-frame. This arrangement affords a kind of graduation that can readily be seen with the light thrown on the eye while applying the test. It furnishes something with which one can easily compare the band of light in the pupil that indicates the directions of principal meridians of astigmatism. This frame has been made by H. C. Boden & Co., of Philadelphia.

CROSSED CYLINDERS.

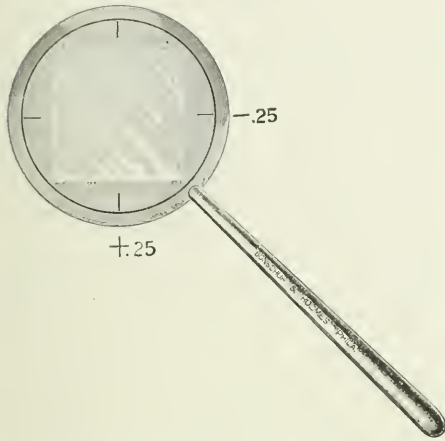
The recent publication by Dr. T. B. Schneideman, of an article urging the value of the crossed cylinder in testing refraction,¹ seems to have stimulated renewed interest in the subject; and two different opticians



have brought me these convenient arrangements for the use of the test. Each has the axis of the convex cylinder indicated in the usual way for showing the cylinder axis. The lens is mounted in a frame having a handle set at 45 degrees from the cylinder axis. Holding the lens before the eye, with this handle between the thumb and fingers, one can, by a very slight movement of rotation, instantly change the direction of the cylinder axis 90 degrees, thus reversing the cylindrical effect! The lens is used as a supplementary

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lens, held in front of the lenses already chosen, which are placed in the trial frame. By this reversal of the axis we alternately increase and diminish the cylindrical effect of the combination before the eye. The lens with the round handle is made by Messrs. Bousclur & Holmes, and the lens with the flat handle is made by Messrs. Wall & Ochs, all of Philadelphia. The one with the round handle (see illustration) is the more easily turned; while the one with the flat handle can be more



readily kept exactly perpendicular to the visual axis. Either will be found of great practical value in refraction work.

DISCUSSION.

DR. W. F. SOUTHARD, San Francisco—Five years ago I devised a method of transillumination for the ophthalmometer, which I believe was the first effort in this direction. I first used ground glass, and gave that up because there was not a good distribution of light, and then I began to use porcelain [exhibiting the instrument]; a 16-candle power, 110-volt lamp is used. I did not think that it was obligatory to have it patented, but that any instrument-maker could be privileged to make it without danger of prosecution and such difficulties as I have experienced. I have testimonials from several manufacturers to show that this instrument was the first of the kind that they saw. One of the gentlemen spoke yesterday of the blurred edges of the mires as they approach each other. That is true and always will be, because it is due to an optical defect. I pay no attention to that myself, knowing that it is an optical illusion, and when at the point of contact there will be a little whitening more than we see here. I have demonstrated this instrument before a number of medical societies, and I desire the privilege of having my claim of priority published now in the transactions.

DR. A. EDWARD DAVIS, New York City—I may say that there was a transilluminated mire in use several years ago. Javal himself had one, but it was not so perfect an illumination as this.

DR. MILES STANDISH, Boston—I want to illustrate a little scheme I have adopted on my ophthalmometer, which aids me greatly in judging the point of contact. I have painted in the center of the solid white portion of the first step a little spot 1 mm. square, so that when the mires approach you have a point still beyond the light diffusion, and by watching this point you can judge the point of contact very accurately. It can be very easily accomplished by pasting a little black square on the mire, and once having placed it there you will never take it off again.

SYMPTOMS AND DIAGNOSIS OF HYPERTROPHY OF THE PHARYNGEAL TONSIL.*

GEORGE MORGENTHAU, M. D.
CHICAGO.

Symptoms.—Hypertrophy of the pharyngeal tonsil is, in many cases, combined with enlargement of one or more other parts of Waldeyer's so-called lymphatic ring of the pharynx, and of the adenoid or lymphatic tissue found in all the mucous membranes. The symptoms produced by these abnormal conditions, while mainly traceable to the pharyngeal tonsil, may not be ascribed to it entirely, but must be considered in reference to a possible constitutional anomaly of which the adenoid vegetations are but a local manifestation. The most common of these is the excessive discharge which flows either into the nasopharynx or into the nose. It is of thick consistency, sometimes with a slight odor, and comes from Luschka's tonsil itself or from the nose. The tonsillar secretion in conjunction with the venous stasis, especially of the posterior ends of the lower turbinates, and the mechanical interference with drainage of the nasal chambers, by the enlarged tonsil, result in chronic rhinitis. This, in turn, is favored by various malformations found so often in patients with adenoid growths, be the relation causal or accidental. The growths being situated behind the choanae, inspiration may be performed, while in expiration the growths fall against the nose, acting as valves. "Blowing the nose," is, therefore, quite inefficient. They are but seldom large enough to obstruct more than the upper part of the choanae, so that the children can, although with some effort, breathe through the remaining lower part of the canal. But when this, too—as is most apt to be the case when the children are in a horizontal position—is either obstructed by the accumulating mucus or by the swelling of the posterior ends of the turbinates or even by the action of the erectile tissue in the tonsil, then they are forced to breathe through the mouth. Infants are sometimes unable to nurse at the breast. Bosworth states that acute rhinitis is comparatively rarely met with in a child. In most cases, when it has an apparent cold in the head, it is really suffering from a subacute inflammation of the pharyngeal tonsil. The nose is rendered still more inadequate for breathing by a condition to which Ingals drew attention, abnormal narrowness of the choanae—a factor which accounts for some disappointing results after the growths have been removed as thoroughly as possible. Nosebleed sets in often, from small capillaries in the anterior lower angle of the septum or in the tonsil. If the blood can not escape, small petechiae are to be seen in the submucous tissue, especially of the soft palate and the uvula, or in the tonsil itself. The discharge from the nose is apt to excite eczema at the introitus, thickening and roughness of the upper lip, etc., symptoms often attributed to scrofulosis. The chronic inflammatory condition of the nose is, in many cases, followed by impairment of smell and taste; frequently by conjunctivitis, occasionally by blepharitis, and even by keratitis. Or, as discharge gathers in the nasopharynx during the night, it may trickle into the stomach or be unconsciously swallowed, causing vomiting and gastric mischief, thus adding to the malnutrition of our little patients. The laryngeal and bronchial

*Read in a Symposium on Hypertrophy of the Pharyngeal Tonsil, before the Chicago Climatological and Laryngological Association, July 5, 1900.

symptoms, again, are either brought on by the descending mucus or by mouth-breathing. The most common symptoms are cough, hoarseness and false croup, and bronchitis and bronchopneumonia. While Bosworth states that, in laryngismus stridulus, there is acute swelling of the lymphoid tissue in the larynx proper, it does not seem unlikely that the mechanical irritation of the mucus might excite such attacks. Adenoid growths are often accompanied by nervous disorders. Caution is therefore necessary in drawing deductions from a comparison of the state of the patient before and after operation. The psychical effects of the operation itself might prove corrective of some of the nervous disturbances, or the greatly improved general condition of the patient after operation might be responsible for the beneficial change. In a word, the association of nervous predisposition and of lymphatic growths might be accidental, as the latter are of such common occurrence, especially in children. However, cures of asthma, chorea, even of epilepsy have been reported. Stammering and stuttering, not uncommonly met with in such cases, have been greatly benefited by the operation. Major ascribes enuresis nocturna to carbonic-acid gas poisoning from insufficient ventilation of the blood, the breathing being too superficial because of the stenosis. Of this, interrupted sleep and snoring are a further result. The best explanation is advanced by Fraenkel, that the base of the tongue falls backward on the epiglottis, thereby obstructing the larynx. The deformities of the chest are, according to some authors, caused by the necessity of breathing through the mouth, the respiration being superficial, with limited expansion of the chest. Fraenkel finds that in the chest, as in all stenoses of the upper air tract, the upper parts are emphysematous, the lower atelectatic. Trautmann and others speak of a paralytic form, predisposing the patient to tuberculosis. Talbot, however, considers the deformities of the chest—and of the face—not the result of adenoid growths, but, with them, signs of a general degeneration of the body combined with degeneracy of the mind. The children appear stunted in their physical growth, but it is common enough to see them increase in size and weight very soon after the operation. The peculiar facial appearance is produced by the broadening and flattening of the bridge and root of the nose, the narrowness of that organ, while the nasolabial folds are not well defined, the mouth is open, the eyes seem veiled. The dull expression is enhanced by the impairment of hearing so often present.

In marked cases, the jaw seems compressed from side to side; the hard palate is not flat but forms a high arch; the alveolar border is not rounded but comes to a point in front, is V-shaped; the teeth override each other; the upper incisors protrude from the mouth and beyond the lower incisors, which are usually normal; the teeth are more liable to diseases. Koerner distinguishes two forms according to the presence of adenoid growths before or after second dentition. In the first case, the palate is higher; in the second, the V-shape is characteristic, occurring only when there is nasal obstruction by adenoid growths. While the patient may appear to be stupid, he is not necessarily so. It is certain that such patients are often enough the brightest of children. They do, however, often complain of headaches and inability to concentrate the mind. Gaye has termed the latter aprosexia. Whatever theory may be based on the anatomical connection between the nasopharynx and the brain, the symptoms are greatly alleviated by the removal of the pharyngeal tonsil.

Scanes describes a distinct transverse vein across the root of the nose. Schmidt relates that, in two children with continued elevation of temperature, the removal of adenoid growths did away with the fever. The importance of such an observation must be acknowledged in its bearing on a doubtful case of tuberculosis, etc. Most characteristic is the "adenoid" speech. The whole nasal cavity being excluded as a resonator, the voice sounds dead, different from that state when the nose is closed in front, or when enunciation becomes indistinct from enlargement of the faucial tonsil. Certain consonants are mispronounced; m becomes b, and n becomes d, etc. Lately, it has been shown by actual count that the blood of children with adenoid growths is impoverished and that, soon after their removal, it quickly approaches the standard averaged from examinations in normal children.

Thost asserts that symmetrical swelling of the numerous small glands of the superficial cervical plexus, in the lower triangle of the neck, behind the sternocleidomastoid, is characteristic of Lusehka's tonsil.

Last, but not least, in this brief summary, are to be mentioned the effects of hypertrophy of the pharyngeal tonsil on the organ of hearing. While not as obvious and manifest as, for instance, the evils of mouth-breathing, there is hardly any condition which calls more imperatively for removal of the offending growths than the various affections of the ear whose cure is otherwise often impossible. Adenoid growths are the most prolific cause of certain diseases of the ear in childhood, excepting, perhaps, the infectious diseases. And these themselves seem to be less of a menace to that organ when the children are relieved of the growths. Simple, so-called, catarrhal otitis media, tubal stenosis, purulent otitis media, with its many sequelæ and complications, eczema of the external canal, etc., often owe their origin to inflammations which either start from the hypertrophied tonsil or are due to conditions dependent on its presence. Otology dates one of its greatest advances from the recognition of the supreme influence of nasopharyngeal and nasal diseases and abnormalities on the anatomically and physiologically intimately related hearing apparatus.

Diagnosis.—The combination of the characteristic facial appearance, of the manifold signs of nasal stenosis, of the voice—which, to be sure, is very similar in paralysis of the soft palate—combined with the aural symptoms, make the diagnosis possible almost at a glance. Sometimes the growths are abundant enough to hang below the soft palate and to become visible as soon as the tongue is depressed. The posterior wall of the pharynx may be studded with lymphoid follicles enlarged from the irritation of the secretion flowing from above. If the children be not too nervous or unwilling, they can be examined by posterior rhinoscopy. The growths can be divided into, practically, two varieties: Either there appears in the mirror a whitish, firm, semispherical cushion, resembling an enlarged faucial tonsil, lying between the openings of the Eustachian tubes, encroaching on the upper part of the septum; or real vegetations are seen, resembling stalactites, berries, etc., and filling the whole or parts of the nasopharynx, spreading from the choane into the tubes and far over the vault, the posterior wall of the pharynx, and sometimes the pharyngeal wall of the soft palate.

With anterior rhinoscopy, the growths may be distinguished as they are lifted by the soft palate in phonation, the light reflexes moving with them. They can also be felt with a probe introduced through the nose.

Oil sprayed with an atomizer into one nostril returns with almost undiminished volume through the other if it does not meet with an obstruction. Bosworth advises this method for confirming the diagnosis of adenoid growths. Palpation with the index finger introduced gently behind the soft palate is a quick and valuable way to examine the nasopharynx, even if it is not pleasant nor elegant.

The question when lymphatic glands are pathologically enlarged is usually answered without hesitation. As even the most superficial ones can not be felt through the skin when they are in normal condition, it seems reasonable to pronounce tonsillar tissue pathological when it is plainly visible on macroscopic examination.

The differential diagnosis should be quite clear in the vast majority of cases; as retropharyngeal neoplasms and nasal growths extending into the nasopharynx are exceedingly rare in patients between the ages of 5 and 15, when adenoid growths are most prevalent and troublesome. Palpation would, generally, when the patient is well anesthetized, enable one to decide between uncomplicated adenoid vegetations, on the one hand, and nasopharyngeal sarcoma, or fibrosarcoma, or unusual prominence of one of the retropharyngeal lymphatic glands, on the other. An appeal to the microscope might, however, be necessary if the tonsil should be invaded by malignant or tuberculous disease.

IODIN USED HYPODERMICALLY IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

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The action of iodine on the healthy body has been exhaustively studied; ideal conditions, we may say, were naturally created for such investigation. It seems that the water, soil and air, and consequently the flora of Geneva, Switzerland, are singularly free from iodine; the inhabitants of that region, therefore, constitute a virgin soil for the drug and display a remarkable susceptibility to its action.

Coindet, of Geneva, first described the physiologic effects of the drug; he was led to his studies on iodine while investigating the curative effects of sponge-preparations on goiter—bronchocoele—which occurs with such frequency in Geneva; he suspected that iodine was the active remedial principle in the sponge and the other marine products that had for generations been successfully employed for the cure of this affliction. Rilliet, also of Geneva, continued these investigations and in a remarkable "Memoir" presented to the French Academy of Medicine, in 1860, first described iodism and introduced the drug into practice. Trousseau reports on this "Memoir" in the 25th Bulletin of the French Academy. From the reports of these two investigators, that have since been repeatedly corroborated and amplified by reliable authorities—Binz, Niemeyer, Kaemmerer, Séé, Stillé—we glean the following information in regard to the pathogenesis of iodine.

Iodine is peculiarly a drug against which different subjects show marked idiosyncrasies; some people can take large doses with impunity, others are speedily and violently affected by almost incredibly small doses. Thus Trousseau reports that the Geneva goiters are cured with doses of iodide of potash of less than a

milligram, the sponge preparations necessarily contain most minute quantities; in certain sensitive subjects, Rilliet reports "grave accidents" from using quantities of table-salt that contained one part of iodine to 10,000 parts of the salt. He even saw iodism develop in these people from a sojourn at the seashore where, it is estimated, they inhaled from a fiftieth to a tenth of a milligram a day. Cod-liver oil contains about one part of iodine to 40,000 parts of oil, and it is not impossible that the curative effects that this marine product exercises on certain "strumous" diseases and the benefits that are claimed for it in tuberculosis may be attributed to the presence of even so minute a quantity of iodine.

The chief symptoms observed are emaciation, usually accompanied by profuse sweats, some pyrexia and an accelerated pulse; a peculiar psychical depression develops a form of hypochondriasis, "anxietas."

A large field of action is the mucous lining of the respiratory tract; when the system becomes saturated with iodine, almost any of the manifestations of inflammation of these tissues may supervene, coryza, angina, laryngitis "with hoarseness, aphonia and chronic inflammation, even simulating laryngeal phthisis;" the lungs show "congestive oppression, and hemoptysis may occur;" Zeiss¹ reports an "abundant serosity" in the lungs of dogs that had been subjected to subcutaneous injections of iodine and an iodide in solution. The serous membranes, too, become affected and pleuritis has been observed. These effects on the respiratory passages, it must clearly be understood, are remote effects of the drug and follow the administration of iodine wherever in the body it may have been introduced; they must not be confounded with its local irritative action following inhalation or topical application.

The lacteals and the lymphatic system are probably the main sphere of action; iodine acts as an irritant, and possibly this explains the emaciation, inasmuch as the chyle is absorbed more slowly, is insufficiently elaborated by the mesenteric glands, and the absorption of fats is, as a consequence, reduced. Hence, probably, too, the profound remedial action of iodine on bronchocoele, lymphatitis—scrofulosis, strumous diathesis—and tabes mesenterica, in all of which afflictions the lymphatic and lacteal systems are inclined to hyperplasia, with resulting sluggish function, etc.

If we study the symptomatology of incipient tuberculosis we find that essentially the same tissues are stimulated to a reactive display of energy by the tubercle virus as by iodine. Again, we must carefully exclude the local, mechanical, and destructive action of the living parasite, and try to draw into the circle of our considerations only the remote effects that are exercised by the products of microbial life near the focus of infection and in distant parts of the body.

Locally, we have that "liquefaction of tissue" that is so commonly attributed to the action of iodine; remotely, the specific selective affinity for the respiratory mucosa, the serous membranes, the lympho-lacteal system; we have the emaciation accompanied by pyrexia, tachycardia and sweats; probably the initial psychosis so often observed is the same.

In the light of our theoretic beliefs the administration of iodine should act curatively in pulmonary tuberculosis; the virus of tuberculosis, entering the blood at first in minute quantities, produces certain slight reactive phenomena from the

1. La Clinique, Feb., 1900.

cells that it is selectively attracted to; this reaction may or may not become subjectively and objectively perceptible; that will depend on its intensity, the character of the reactive symptoms and our facilities for recognizing these symptoms with the rather crude clinical means at our disposal and the uncertain evidence of our senses. If the stimulation and the resulting reaction are strong enough, then the *vis medicatrix* can protect the organism unaided; if it is not sufficiently powerful then the organism is in danger, and it is here that a substance that is capable of irritating the same cells that are reacting to the tubercle virus can produce an increased reaction and aid nature.

Finally, if a carefully graded and sufficiently small dose of iodine will exercise a curative effect in tuberculosis, then a large dose should aggravate by overstimulating and consequently exhausting the very cells that are by their reaction counteracting the toxin invasion. Clinical experience bears this out. Knopf speaks of the "congestive and softening" action of the drug in incipient and latent tuberculosis, and condemns the practice of administering iodids for diagnostic purposes in such cases: it increases bronchial secretion and generally accentuates the physical signs. Hughes speaks of "the occasional development of phthisis pulmonalis in iodized patients in whom apparently no previous tendency thereto had existed."

Accurate dosage is essential to the success of the plan of treatment that is being advocated; too large doses of iodine will certainly aggravate, too small doses will be inefficient. A variety of plans were tried to secure accurate dosage of iodine. At first, the administration of iodid of potash by mouth was considered; it was expected that, according to the researches of Binz, the alkaline iodid, when it reached the tissues, would in the presence of protoplasm and CO_2 be decomposed and free iodine be liberated; this actually occurs, but only a small portion of the iodid of potassium is dissociated in this way and a large proportion is voided in the urine and wasted. On the other hand, Sée calls attention to the fact that iodine, when given by mouth, necessarily unites with the sodium in the stomach contents and is consequently absorbed as alkaline iodid; this entering the tissues is again partly decomposed and partly wasted: accurate dosage of iodine by mouth, either as iodine or in the form of its alkaline salts, is, therefore, impossible.

Administration by inunction in an oily menstruum was considered; euprophen and the other non-irritating iodine compounds recently brought before the profession lend themselves very readily to such use, but accurate or even approximately accurate dosage is, of course, impractical. Hypodermic administration of iodine seemed the only reliable plan, and here the irritative properties of the drug seemed to prohibit its use; at this juncture our attention was called to a paper by Klingmueller,² in which he reports the results of his investigations with an iodine preparation called iodipin, which is an iodine addition product of sesame oil, a yellow fluid of oleaginous taste, 10 per cent. iodine. Klingmueller reports as follows: "It was first found by experiments on animals that the drug employed hypodermically was not toxic; thirty-six patients were treated and received 220 injections of a 10 per cent. preparation. No unpleasant effects were observed even when 20 c.c., the equivalent of 30 grains of iodine, were injected daily. . . . Subsequently additional injections of a 25 per cent. preparation were made with

equally satisfactory results. Not only was the iodine deposited in the subcutaneous tissues slowly absorbed and distributed, but all of it was necessarily taken up and rendered active. Iodine appeared in the urine in from three to five days after the treatment was begun and its excretion continued for several weeks, while in the other preparations the iodine appears earlier and the period of elimination is much shorter. . . . The subcutaneous method of injection of iodipin has the further advantage of being painless, convenient and cheap. . . . The specific action of iodine was manifested after subcutaneous injections of iodine in the same degree as when other iodine preparations, and especially iodipin, were injected by mouth."

Before attempting the hypodermic administration of iodipin in human subjects, the advisability of preliminary animal experiments was considered; however, it is well-nigh impossible to experimentally simulate tubercular invasion as it actually occurs; instead of gradually gaining a foothold in some weakened spot of a bronchus or bronchiolus, the bacillus in laboratory tuberculosis is injected in enormous quantities directly into vulnerable tissues; its virulence is great; the animal's natural means of defense are speedily overcome and it succumbs in every instance. Furthermore, we know that iodipin injected into a non-tubercular subject can do no harm and that, if the dose be carefully regulated, only beneficial effects can be expected in a tubercular case. Animal experiments were, therefore, waived as unnecessary and the administration of iodipin tried directly on patients in whom the diagnosis of tuberculosis of the lungs had been positively made.

Iodipin was employed in the form of the 10 per cent. preparation. The injections were made into the subcutaneous tissues between the skin and the muscle, and preferably in the gluteal and interseapular regions. No discomfort of any kind was ever caused, no inflammatory reaction observed at the site of the injections, though some patients received daily injections for a period of three or four months.

Beginning with one drop of iodipin, which, to give the necessary bulk for hypodermic administration, was dissolved in half a dram or so of sterilized oil, the injections were gradually increased, one drop being added to the dose each day. The dosage was regulated by the symptoms; as soon as an improvement became apparent, the dose exhibited at the time was continued for a period of thirty to sixty days. Much will depend on the individual idiosyncrasies of the patient and the stage of the disease. In some cases the quantity that acted beneficially for a time seemed to grow insufficient and the dose was again increased drop by drop: more than 60 minims a day have so far never been given. Bad effects from this mode of administration were never observed. As 100 drops of the 10 per cent. iodipin weigh 2.5 gr., and consequently represent 0.25 gr. of iodine, each drop of iodipin administered represents only 0.0025 gr. of iodine, or about 0.04 grains.

The object of giving the drug in gradually increasing doses is apparent from our theoretic postulates; it is twofold: 1, to avoid the exhibition of too large a dose, the aggravating effects of which are recognized; 2, in order to create a full artificial immunity against the drug; by employing this plan much larger doses can be administered finally with impunity and more decided reactive effects produced in the end.

The results obtained so far by this plan of treatment have been uniformly good; in a few cases amelioration of symptoms was marked from the beginning: appe-

tite improved, the cough, the night sweats grew less severe, the patients gained in weight and improved in spirits. The physical signs were modified and seemed to show that the process was at least being held in check and rendered latent; in 2 out of my 27 cases a recurrence of symptoms occurred at the expiration of three and five months, respectively; these patients underwent a second course of treatment with good result. It is altogether too early to make any statements in regard to a cure.

Iodipin injections were tried only on carefully selected cases. Where great destruction of lung tissue had occurred, when the patients were devitalized by long-lasting mixed infection, in other words, in the so-called tertiary stage of the disease, the treatment was not instituted.

Twenty-seven cases have so far been treated with good results; 19 were cases of incipient tuberculosis with only circumscribed areas of infection in one or the other of both apices; in the other 8, larger areas in one or both lungs were involved; in 7 of the 27 cases, streptococcus infection co-existed; the remaining 20 were simple infections. Detailed reports of my cases are reserved for future publication, when more clinical material shall have been adduced and the evidence in support of our theories and our practice shall have grown more numerous and more positive.

The results obtained so far are not conclusive; they are only suggestive, and final judgment on the efficacy of this method of treatment must be suspended. The results, it is true, appear to be sufficiently striking to warrant an optimistic view. The number of cases treated, however, is small and the subjects were carefully selected; in addition to the iodipin injections the patients enjoyed the benefits of all the hygienic and dietetic measures suitable to each case and the numerous advantages incident to outdoor life in the warm and equable climate of Southern California.

Notwithstanding all this, it seems more than coincidence that of the 27 cases on record all improved under iodipin injections; if nothing else, these findings should encourage to further investigation and the collation of further clinical evidence.

In conclusion, we make an earnest plea for the early recognition of pulmonary tuberculosis; the sooner the disease is recognized and treatment begun, the better the prognosis. Our clinical experience in the past leads us to join the ranks of those who consider pulmonary tuberculosis, in its incipiency and before it has become a mixed infection, one of the most easily curable of bacterial diseases.

HERNIA OR DIVERTICULUM OF THE CHORION.

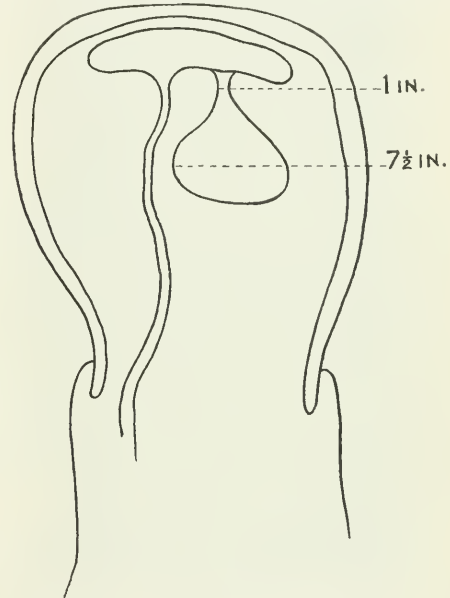
L. H. LAIDLLEY, M.D.

ST. LOUIS.

Cysts of the placenta have been reported by Millet and others, supposed to have developed from the exudation of blood forming a clot separating the chorion, usually of small size, and in some cases more than one is noted. Ercolani reported two cases; in one the entire fetal surface of the placenta was sown with round tumors covered by chorion—the largest being about the size of a cherry. Some have been opened and the chorionic wall torn, showing a solid material filling the depth of the cyst; others were more solid, and were filled with coagulated fibrin, in which rounded masses of granular hematoin could be seen.

Ercolani proved that the interior wall was formed by the chorion, which covered the whole bloody mass, of which half projected above the placental surface, while half dipped into the placental tissue, and lay in immediate contact with the effused blood. The term cyst is therefore inexact. At the placental depth of the tumors, the villosities, more fibrinous than usual, formed a compact layer, certain spots in which turned out to be cells of the serotina. Small irregular calcareous concretions were scattered through the mass.

Bustamente describes a kind of cyst which is sometimes found on the fetal surface of the placenta, of a regularly rounded or elongated shape and varying in size from $\frac{2}{5}$ of an inch to 2 or $2\frac{2}{5}$ inches. They are placed below the chorion and amnion, which form their superficial fetal boundary, being limited below by



Schematic diagram of Hernia or Diverticulum of the Chorion.

the placental tissue itself. The contents of these cysts were solid and liquid.

A. Daugan reports a case of an oval tumor $4\frac{2}{5}$ inches long by $3\frac{1}{5}$ inches broad and covered by the membranes, which are partly detached from its surface. Several large venous and arterial branches of the umbilical vessels run over its surface and penetrate its substance to the center. Divided longitudinally, the tumor appears to be composed of intimately adherent lobes, some being of a dead-white and others of a pale or deep-rose tint. Its tissue is homogeneous.

The case which I present has the following history: Mrs. I., age 32, was confined at the seventh month, being her second pregnancy, on August 5. She was in labor about six hours. All that time the os was fully dilated, without any pain, until a few minutes before her delivery, which was normal; twenty minutes afterward a tumor-like body 7 inches in diameter was expelled, proving to be a sac containing an amniotic fluid, with coagulated blood. It was attached to the placental covering, 1 inch to the left of the funis, making a pedicle $\frac{1}{2}$ inch in diameter, made up of chorionic

blood-vessels and connective tissue. The placenta was detached forcibly, in order to preserve the sac and its contents. A microscopic examination of the cyst-wall shows it to contain the same anatomical structures as the chorion, fed by the same blood-vessels, producing a diverticulum, or hernia of the chorion; the fetal side presenting the chorion, the inside the amnion.

The literature does not present a similar instance of this form of tumor. As to the cause of its development, I offer the following theory: Early in the pregnancy there was, because of a relaxed state of the wall of the chorion, a portion of it so twisted as to form a new chamber, receiving its blood from the usual source; its cavity was supplied by the normal amniotic fluid, and because of the partial interference of the blood-vessels an effusion into the sac.

TUBERCULOSIS OF THE TESTICLE.

WITH SPECIAL CONSIDERATION OF ITS CONSERVATIVE TREATMENT.

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(Continued from p. 1191.)

Association of Tuberculosis of the Testicle with Tubercular Lesions Elsewhere in the Body.—As stated above, in from 73 to 75 per cent. of persons dying from all causes, mediastinal glandular tuberculosis is present, and this in the majority of cases is probably the atrium of infection in the cases of testicular disease. The latter is not usually associated with pulmonary tuberculosis, though Reclus observed that 50 per cent. presented lung findings, and 2.5 per cent. of the pulmonary cases over 15 years of age suffered also from localization in the testicle. In his analysis of 500 cases of phthisis, 64 had involvement of the genito-urinary tract, 45 of the genital tract, and in 19 the testicles alone were affected. Simonds, from his post-mortem experience, found the genital organs involved in 2 per cent. of all tubercular children.

Tuberculosis of the lymphatic glands and bones is not often accompanied by disease of the genital organs.

In children, tuberculosis of the peritoneum sometimes coexists with disease in the testicles. Reclus thinks there is, in these cases, a communication between the cavity of the tunica vaginalis and the peritoneal cavity, the processus vaginalis.

Tillmans states that tuberculosis of the testicle almost always develops in persons already tuberculous, but this is not borne out by the experience of most surgeons.

In the majority of our cases the disease, so far as could be determined by physical examination and clinical history, was primary in the epididymis.

As a Part of a General Miliary Tuberculosis.—This is of but little interest to us in the consideration of this subject, because when it is present, it is overshadowed by the manifestations of the disease in other parts. Koenig states that the testicles are rarely affected in general miliary tuberculosis. When the involvement does occur, both testicles and both epididymi are affected simultaneously. Hutinell and Deschamps state that tuberculosis of the testes in children is seldom primary, but usually a part of a general infection.

Occurrence of the Disease in Misplaced and Inverted Testicles.—No authentic case of tubercular disease affecting an undescended testicle is on record, although several cases supposed to be such have been reported, one by G. Fischer, in 1861, and another by F. Roberts.

The details of the cases in these reports are indefinite, so that it is very doubtful if they were really cases of tuberculosis. No satisfactory explanation of the apparent immunity possessed by these misplaced organs has been offered. In a case reported by Rushton Parker, of general tuberculosis, the left testicle was absent, and the left seminal vesicle free from disease, while the right testicle was present and the right vesicle involved.

Inversio-testis was noted by Koenig five times in his cases, and it is thought by him to be a predisposing cause. Case No. 13 of our series presents this anomaly in the testicle first attacked.

The right testicle is attacked first in the majority of cases. Rintelen (quoted by Senn) observed in 15 cases that the right organ was affected first in 10, and the left in 5. In 10 of our cases, in which an accurate history of the onset could be obtained, the right was involved first in 8, and the left in 2. Whichever organ is primarily attacked, it is usually only a question of time before the other becomes similarly diseased, this extension being due, in all probability, to transmission of the infectious material along the vas of the affected side to the prostatic urethra and down the opposite vas to the epididymis on the other side. Jullien states that in children the left testis is commonly affected first.

Pathology.—There has been and still is a marked diversity of opinion as to the location of the primary focus in the testis, and its method of extension subsequently, and a still greater divergence as to the relation which the testicular disease bears to tuberculosis of other portions of the genito-urinary tract, or of more distant portions of the body.

The epididymis is, in a very large percentage of the cases, first attacked. Cases have been reported (Reclus) in which the disease began in the testicle proper, but they are so very rare that practically they may be excluded. Gilbert Barling, M.B., reports a case of acute tubercular disease of the bodies of both testicles. In this case castration was performed, and caseous areas and tubercle bacilli were found in the bodies of the testicles, the epididymi not being involved. There was, however, a suspicion of phthisis in the right apex.

Most authors hold that in the majority of cases the globus major is first attacked, the infection spreading from there to the body and globus minor, and finally to the testicle proper. From our own observations, however, we would say that in adult cases the globus minor is most frequently primarily attacked, the body, globus major, and mediastinum testis becoming affected secondarily by continuity of tissue, or by extension along the surfaces of the seminal ducts. In children the primary nodule has usually been in the globus major.

The morbid anatomy of a testicle, the seat of tubercular disease, varies greatly, depending on the stage to which the process has advanced, the anatomical distribution of the lesion, and the presence or absence of secondary infection. We will not consider here the testicular affection which is a part of a general miliary tuberculosis. In the majority of the cases the epididymis is alone involved, and presents in the early stages one or more small nodules, situated in the globus minor or major. Later other nodules form in different parts, which enlarge and coalesce, converting the epididymis into a hard, irregularly shaped mass, which, at a still later period, after caseation and softening have taken place, may be soft and fluctuating. Section of the epididymis in the early stage shows the nodules to be composed of a homogeneous material, which has

largely taken the place of normal tissue, the latter being compressed and infiltrated with inflammatory products. The capsule of the epididymis is greatly thickened, and the vas, near its attachment to the globus minor, may be thickened and nodular, due to the infiltration of the tissues surrounding it, or to an involvement of its walls proper. Later the small nodules have fused with one another to form larger ones, the homogeneous material may be liquefied so as to resemble pus. Fibrous tissue may have been formed around some of the softened areas, and between them islands of normal or altered tubular tissue may be seen. The capsule now presents caseating areas, and the cellular tissues of the serotum in its neighborhood may be edematous, infiltrated and adherent to it and the skin. When secondary infection has taken place, and frequently without it, the pus may have burrowed toward the skin, the abscess cavity ruptured, and a discharging sinus surrounded by thick fibrous walls formed. The fibrous capsule which surrounds the caseous areas may become infiltrated with lime salts, and in this way a thick shell of calcareous material, surrounding it or perhaps the entire epididymis, is formed. This was

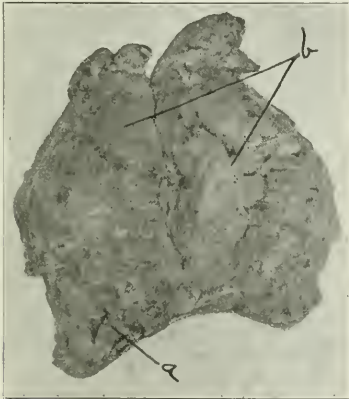


Fig. 5.—Showing involvement of testicle proper and epididymis, the former by extension from latter. a. Globus Major. b. Testicle proper.

beautifully illustrated in a case recently reported by Dr. H. G. Wells. In other cases the disease is not limited to the epididymis, but has also involved the testicle proper by continuity of tissue. (See Fig. No. 5) In these the epididymis presents the appearances described above, and scattered through the testicle proper are numerous small tubercular nodules in all stages of development. These nodules are most abundant at the periphery of the organ, where they are very small, and on section present the homogeneous appearance characteristic of young tubercles. In the mediastinum testis they are apt to be larger and caseous, showing that this was the part first affected by extension from the epididymis. The distributions of the lesions in the testicle proper indicate that the extension took place along the seminiferous tubules. Later, in the course of the disease, the nodules here, as in the epididymis, coalesce to form larger ones, these caseating, becoming encapsulated, or frequently breaking externally. Calcareous deposit may take place either in the fibrous capsule or throughout the broken-down nodules. The

glandular portion is wholly or in part destroyed. The tunica vaginalis usually presents evidences of chronic inflammation, thickening and adhesions between the visceral and parietal layers, or, in some cases tubercular lesions. This involvement of the tunica vaginalis by the tubercular process is well illustrated in Fig. 6, which is a photograph of a testicle removed by Dr. Oswald. In this case the entire testicle had to be removed on account of the extensive involvement. An effusion into the cavity of the tunica vaginalis is present in most cases, but is usually small in amount.



Fig. 6.—Tuberculosis of Tunica Vaginalis. a. Tubercular areas. b. Epididymis. c. Healthy Tunica Vaginalis.

Spermatic Cord.—This is affected in a considerable proportion of the cases, but usually not throughout its entire length. The parts most apt to be involved are either or both of the extremities, the intermediate portion remaining free. In some cases, however, the entire vas is thickened and nodular (Scnn).

The tubercular deposits in the cord are usually situated in the neighborhood of the vas, the infection having taken place by extension along the surface of its mucous membrane from the infected epididymis. All stages of development of the tubercular lesions are found here as in the epididymis, but in most cases have not advanced to the same stage. The mucous lining of the vas is greatly thickened, the outer layers of the wall being affected to a lesser degree. The connective tissue surrounding it may also present nodules and caseous areas, but much of the thickening is due to edema and inflammatory exudate.

Vesiculae Seminales.—The vesiculae seminales come next to the vas, as regards their frequency of secondary involvement. While usually these organs are involved

only after the vas has become more or less extensively diseased, this is not always the case. The process in them may be far advanced without the vas being affected at all, or the latter may present lesions which have evidently developed at a later period than those in the vesicles. Later abscess may form and the pus be discharged through the bladder or rectum, or externally through the perineum.

The Prostate.—This organ follows the vesiculæ seminales in order of frequency of involvement, though some observers (Koehler) state that it is affected much oftener than is commonly supposed, the disease in it being overlooked on account of the absence of symptoms and physical signs in the early stages. The process here is the same as in other parts, the deposits going on to caseation and supuration, and later rupturing into the rectum, urethra or externally. In most cases the prostatic lesions are in an earlier stage of development than those in the epididymis. The prostate and seminal vesicles may be affected unilaterally, and when this is the case, the side presenting the lesion usually corresponds to that of the diseased epididymis. It is more common, however, for the entire prostate or both vesicles to be affected.

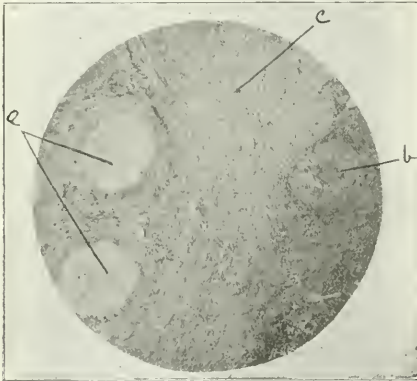


Fig. 7.—a. Cross sections of tube of epididymis. b. Tubercle with giant cell. c. Old fibrous tissue. From Case 11.

Microscopic Appearances.—The series of pathologic changes which follow the lodgement of the bacilli in the tissues is the same as in tuberculous lesions elsewhere in the body, modified somewhat by the anatomical structure of the organ. The bacilli, having gained access to the circulation by one of the channels mentioned above, lodge in the walls of the smaller blood-vessels of the epididymis and there produce their characteristic reaction. (Nepveau.) As to the exact situation of the starting-point of the process, there is great difference of opinion, Malassez and Reclus locating it in the walls of the seminal tubules; Virchow, Tizzoni, and Gaule, in the intertubular connective tissue; while Langhans, Curling, Koehler, and others believe it to be in the interior of the tubules themselves. Hutinel and Deschamps found the primary focus in the perivascular spaces in the cases examined by them. As in the majority of cases, the infection probably takes place through the blood-current, it seems reasonable to suppose that the primary lodgment of the bacilli is in the intertubular connective tissue of the epididymis, and this view is certainly supported by studies of tuberculosis in other organs.

The specific irritation set up by the bacilli and their products causes, first, an increased vascularity of the part, and then proliferation of the fixed-tissue cells, and emigration of leucocytes from the capillaries. In this way nodules of the so-called tubercle tissue are produced between the coils of the tube of the epididymis (Fig. 7), widely separating them from each other and encroaching upon their lumina. This tubercle tissue consists essentially of: 1, epithelioid cells, derived from the fixed tissue cells, connective tissue and endothelium of the blood-vessels and lymph-spaces; 2, the reticulum, in the meshes of which the epithelioid cells lie. This reticulum may be derived from the newly proliferated endothelial cells, or it may be the remains of the tissues which previously existed. Later, in addition to the tubercle tissue, the leucocytes, which at first were present in small numbers, become more numerous, especially at the periphery of the nodule. (Fig. 8.) It is in this so-called round-celled infiltration that we find the plasma cells, sometimes in great numbers and usually arranged in groups. These, according to different authors, may be derived either from the lymphocytes of the blood, or from the connective-tissue cells. Their function at present is doubt-

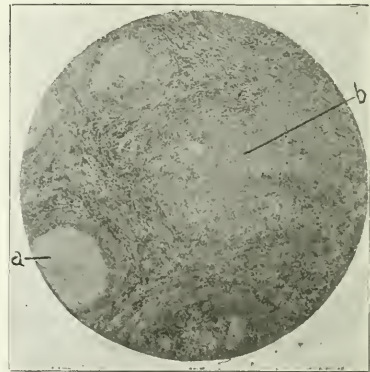


Fig. 8.—Showing young tubercle between coils of tube of epididymis. a. Tube of epididymis. b. Tubercle. From Case 11.

ful, some claiming that they possess phagocytic properties; others that they have no such function, and are destined to become converted into fibrous connective tissue. Scattered through the tissue, usually occurring singly rather than in groups, are found the mast cells of Ehrlich, which are also of doubtful origin and function. The epithelioid cells may be mononuclear or polynuclear, giant cells (Fig. 9), which latter are formed by the proliferation of the nucleus of the cell without division of the cell body, and are usually found in the center of the tubercle, surrounded by the mononuclear epithelioid cells.

When the individual tubercles have attained a certain size, caseous degeneration sets in, due both to the action of the toxin and to the gradual shutting off of the blood-supply, and it is at this point that the process may be arrested by encapsulation, or that secondary infection, with destruction of a part or whole of the organ, may occur. If encapsulation takes place, the connective-tissue cells which have proliferated at the periphery of the tubercle, or tubercles, gradually contract and become converted into a dense fibrous tissue, in this way causing

an arrest of the process, the nodules remaining for an indefinite period of time.

During the progress of the changes described above, the coils of the tube of the epididymis are encroached upon and present a variety of changes. The epithelium may have entirely desquamated at the site of involvement, the cells lying loose in the lumen, which may be greatly dilated and contain pus-cells and granular debris, the remains of degenerated cells and spermatozoa. In other sections the lumen is filled with caseous material, which has probably come from the tubercles in the walls, rather than from the interior of the tube primarily. The duct may present in certain parts great dilatation and be filled with purulent material and spermatozoa. In these latter the epithelium may be intact or desquamated in parts.

Tubercle bacilli can usually be demonstrated in the sections, especially where the process is in the early stages. Later, after caseation has taken place, they may be so few in number as to escape observation, even on careful examination.

Reclus has described a rare pathologic condition in tuberculosis of the testicle, in which, instead of the



Fig. 9.—Giant cell in center of Tubercle. From Case 11.

changes described above, the epididymis presents a reticular arrangement, the alveoli of which are filled with pus.

Symptoms.—These differ materially, as in tuberculosis of other organs, varying with the rapidity of advancement of the process, the presence or absence of mixed infection, and again as the disease is primary or secondary in the testicle.

The symptoms of onset vary greatly at the different periods of life. In infants and young children the parents' attention is usually first called to the presence of a small nodule in the epididymis, the child having manifested no other symptoms, except perhaps slight tenderness in this region.

In adults the initial symptoms may be sudden or gradual in their onset, the latter being much the more common of the two. When associated with mixed infection, the onset is stormy, and there are all the manifestations of an acute epididymitis, resembling the gonorrhoeal form. (Case 10.) Abscess formation may be rapid, and the pus find its way to the surface in a short time, leaving a sinus that heals slowly. Instead of breaking externally, the burrowing may be in the direction of the testis proper, and a portion or all of this organ be destroyed. Rupture into the cavity of

the tunica vaginalis must be extremely rare, if it ever occurs.

When unassociated with mixed infection, the onset is slower, and many of the patients come to the physician for the first time because of the nodule which they have accidentally discovered in the epididymis. They are usually unable to say how long it has been there, but in some instances date its development from a slight injury or a gonorrhoeal epididymitis. The nodule or nodules are at first painless and only slightly tender on compression; but usually after a short time the patient experiences a dull, aching pain in the testicle, brought on or aggravated by exercise. This pain may be referred to the testicle or upward along the spermatic cord, sometimes even extending into the ilio-lumbar region of the same side. It is rarely severe, and may be entirely absent when the patient is at rest.

A urethral discharge, usually whitish and mucoid in character, has been noted in a considerable proportion of the cases, usually quite early in the course of the disease. Instead of being white, it may be purulent or

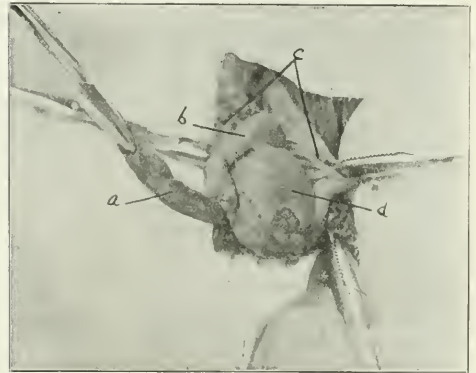


Fig. 10.—Globus Minor and body of epididymis dissected from testicle proper. a. Globus Minor and body. b. Globus Major. c. Reflected tunica Vaginalis. d. Testicle proper.

even bloody. Various theories have been advanced as to the origin of this discharge, some claiming that it is due to tuberculosis of the prostate, vesiculæ seminales, or the prostatic urethra, while others believe it is caused by a catarrhal condition of the posterior urethra and seminal vesicles. The latter is probably the true explanation, as it disappears after castration or epididymectomy. Symptoms of vesical irritation are present in the great majority of cases without mixed infection, and in some they are the first to attract the patient's attention. At first, there may be slightly increased frequency of urination, with perhaps a little burning during the act, referred to the base of the bladder. As the case progresses, the irritability becomes more marked until the patient is unable to retain his urine more than fifteen or twenty minutes at a time, involuntary passage taking place if he attempts to do so. Later, also, tenesmus develops, and may become very severe. The fact that vesical symptoms are usually absent in the cases with secondary infection is to be explained, in all probability, by the edema and swelling of the vas, which does not permit the irritating material to pass through it to the vesiculæ seminales.

(To be continued.)

BUBONIC PLAGUE IN SAN FRANCISCO.

FURTHER CASE REPORTS.

CASE 19.—Moon Li Chee Yung, age 30, mongolian female, resided at 802 Dupont, died October 31. A bubo was found in the left femoral region. An incision showed a necrotic lymph-node about the size of a walnut, the surrounding tissue being infiltrated with a bloody fluid. Smears from the gland substance showed plague bacillus. The diagnosis was confirmed by inoculating a guinea-pig, from which pure cultures of the germ were obtained. Pure cultures were also obtained direct from the gland.

A Chinese school-teacher died in these same rooms on September 12, of this year, supposedly of pneumonia. She was taken sick suddenly, had a severe chill, high fever, and died in four or five days.

CASE 20.—Yung Wah Noui, a mongolian female, age 9, resided and died at 802 Dupont, a daughter of the preceding case, and died twenty-four hours after her mother, after displaying similar symptoms. The autopsy was held twenty-four hours after death. Decomposition was well advanced; there was no enlargement of the superficial lymph-nodes. Smears of sputum stained showed the presence of a bipolar staining bacillus. The entire left and the lower lobe of the right lung involved in a bronchopneumonia. The pericardium contained a bloody fluid, the heart muscle was soft and the ventricles filled with blood-clots. The spleen was enlarged, very soft, and its structure partially broken down. The peritoneum over the small intestines was congested. There were submucous hemorrhages throughout the small intestines. The vessels of the mesentery were injected. The mesenteric lymph-nodes were soft and very dark in color. No ulceration in the intestines. Smears of the spleen, lung, and mesenteric glands show the plague bacillus. A guinea-pig was inoculated and died four days after displaying typical plague lesions.

CASE 21.—A female nurse, 28 years of age, entered a hospital in this city on October 31, 1900, with a history of exposure to diphtheria, having nursed a case from 7 p. m. October 21 till 1 a. m. October 22. This case, Samuel Fluth, aged 19, said to have come from San Jose, had been treated for typhoid fever by his physician for about a week, when, after a consultation with another physician a diagnosis of nasal diphtheria was made, and a death certificate to that effect sent to the health office on the death of the man, which occurred six hours later. The girl complained of severe pains all over the body, especially in the abdomen. Temperature 40 C., pulse 104, respirations 33. There were no throat symptoms at any time. An injection, supposedly diphtheria antitoxin, had been administered in the left forearm by Dr. E. R. Wisner. The patient refused to say where she had been in the interval after leaving her last patient before entering the hospital.

The case was immediately placed in the contagious building. The following day, the pain continued, accompanied by tympanites, and turpentin stupes were applied. Toward evening the condition was improved, the temperature falling to 37.4, and abdominal pain and tympanites lessening. A cellulitis was now seen developing on the inner side of the left arm near the axilla, but no swelling of the axillary glands. The following day, November 2, the arm became very painful and the temperature rose to 38.5 at 7 p. m. At 2 a. m. November 3, there was some weakening of the pulse, and stimulants were given, and the condition improved. At 3.30 a. m. she passed urine containing blood, and spat blood-tinged mucus. Hemorrhagic petechiæ appeared around elbows and ankles, temperature dropped to 36.6, pulse grew weaker, and death occurred at 4 a. m.

Autopsy Report: External appearance: Subject a well-developed young female. Rigor mortis marked. Cadaveric lividity on dependent aspect, especially marked about head and neck. Purplish red spots, not raised from the surface, about both ankles, both knees and both elbows. Inguinal glands slightly, but not markedly enlarged. Axillary and cervical glands not enlarged. No noticeable change in left forearm where antitoxin was injected.

Abdominal inspection: Muscles and subcutaneous tissues firm, well developed. Peritoneum markedly injected over on

tire extent, especially about cecum. About three ounces of free, non-clotted blood at bottom of pelvis. Stomach considerably dilated and displaced downward, lower border $2\frac{1}{2}$ inches below umbilicus. Other organs in normal positions. A few enlarged glands in mesentery, size of a bean. Appendix free from adhesions.

Thorax Inspection: Pericardium filled with straw-colored fluid. Lungs free. No fluid in pleural cavities.

Examination of organs: Spleen was enlarged, deep purple color, extremely soft and friable; on section minute glistening points, size of pin-points, scattered throughout—cultures and cover slips taken. Stomach was dilated and displaced downward; contained yellowish curdy fluid; mucosa covered with purplish spots size of a pea. Left kidney was about normal size; capsules strip readily; on section considerable fluid-blood oozes from surface; cortex injected; substance soft—cultures and covers taken. Right kidney was similar. Liver was normal size, fatty. Gall-bladder's peritoneal surface covered with purplish blotches, irregular in shape—subperitoneal hemorrhages. Small intestine had scattered throughout its length, small whitish-gray elevations similar to tubercles; here and there are purple spots—submucous hemorrhages—most marked and in greater number in the lymphoid follicles. Large intestine: The caecum is thickened, grayish color; its surface covered with innumerable whitish-gray elevations similar to those in small intestines, but more numerous; besides these are submucous ecchymotic spots. Appendix was free from adhesions; vessels injected; submucous coat infiltrated with blood. Mesenteric glands showed a chain of five enlarged to size of a bean, soft; no hemorrhages inside—cultures taken. Fallopian tubes were congested and purplish in color; these extend over posterior surface of uterus. Left ovary contains a Graafian follicle on point of rupture. Uterus, normal size. Either cornu contains a soft reddish material—cultures taken. Heart enlarged, muscle rather soft; right auricle greatly dilated, filled with clotted blood; all the cavities are filled with soft red clots; mitral valve thickened; aorta contracted; aortic valve slightly thickened and opaque; tricuspid and pulmonary valves normal; the endocardium of right auricle is dull, lusterless, and has a pinkish-red color, looks as if covered with a red scum, this appearance noted in all the cavities, not so marked as in right auricle—cultures and slides taken. At root of left lung about a half-dozen whitish spots size of grain of sand, look similar to tubercles; lungs otherwise normal.

Pathological Diagnosis: Septicemia, with tendency toward minute hemorrhages in tissues; cause probably *B. pestis*. Septic spleen, fatty liver, gastroptosis and submucous hemorrhages in stomach, septic enteritis and colitis, acute septic nephritis, hypertrophy of heart, chronic mitral—thickening—regurgitation, hemorrhagic necrosis of endocardium.

Bacteriologic Examination: The blood was found full of plague bacilli. There were enormous numbers of them in the spleen; they were obtained in pure culture from the spleen. Guinea-pigs inoculated with spleen tissue died within thirty-six hours of typical plague septicemia. The spleen and peritoneal cavity contained an exudate full of the bacilli. The body of Samuel Fluth, the young man attended by this nurse, was exhumed and examined by the city bacteriologist, Dr. Kellogg. The body was found very much swollen, indicating rapid decomposition; pieces of tissue were taken for examination.

Post Operative Irrigation of the Bladder.—By continuous irrigation after suprapubic cystotomy, danger of infection and infiltration of urine is obviated. The wound heals by first intention and if the bladder is painful, the hypersensitiveness is diminished. Dandoy related at the International Medical Congress that the recovery was surprisingly rapid in the two cases he described. The wound was sutured except where a Guyon-Perries tube was inserted, bringing the water from a reservoir above, the flow regulated by stopcocks. A Nelaton with irrigator was introduced into the bladder through the urethra, and the irrigation continued for four to six days.

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MEDICAL LIBRARIES IN SMALLER CITIES.

Excellent public libraries are springing up in our thriving smaller cities of 20,000 to 50,000 and more inhabitants. These libraries are partly the result of endowment by wealthy and public-spirited persons, partly of wise appropriations by the municipality. And smaller libraries are being established quite generally in cities of less size as well as in villages. While the larger centers are rapidly acquiring good medical libraries, thanks largely to concerted action by interested persons in the medical profession, little or nothing has been done as yet toward securing library facilities of a medical character for smaller cities and the territory naturally tributary to them. There is unquestionably good room here for undertakings of this kind. There is no need for argument in favor of the value of medical libraries within the convenient reach of physicians, whether in the city or in the country. One of the reasons for the reluctance of the young physician to leave the larger cities is the absence elsewhere of medical libraries.

The renewed activity of the smaller local societies and the tendency to make them the basis of larger associations, all modeled according to a more or less common plan, speak well for the truly professional spirit of our medical men. Medical libraries would strengthen the solidarity of the profession wherever they may be established. By a system of loaning out books and journals they could be made of great service to the country practitioner and the physician in the smaller cities and villages. Local societies might well canvass this matter. The local situation may determine different modes of action. By means of a small annual income, judiciously expended, a few years would lead to useful collections of medical literature, sure to receive substantial accretions from private libraries from time to time and from exchanges with other libraries.

Perhaps the question of housing, in a proper manner, libraries of this kind may be a difficult one to meet. When larger public libraries already exist, it may be that these could be induced to set aside the necessary space for the books and journals. These public libraries not infrequently occupy pretentious buildings. In other cases local hospitals might furnish the necessary rooms; and then again, suitable space may be rented at a comparatively insignificant figure. The matter is largely one of enterprise. Energetic action on the

part of a few men in a district would surely carry the matter to a successful issue. It should always be borne in mind that a library to be successful must be more than a collection of old and discarded text-books. These have their place, but it is not an important one. A successful library must contain indexes, dictionaries, encyclopedias, and, especially, living medical literature, that is, journals and current publications. Private libraries, in the great majority of cases even, only partly fill the needs of the owner, and the expense and difficulties of maintenance absolutely preclude their ever supplanting the need of public libraries. The right use of medical literature is acquired slowly. Its preservation in accessible form is a prerequisite for its proper appreciation and the unfolding of greatest usefulness. Local medical libraries tend to broaden the views and to increase the scholarship of their supporters.

THE DIAGNOSTIC SIGNIFICANCE OF BENGE-JONES
ALBUMOSURIA.

In the middle of the present century, Bence-Jones described a peculiar reaction of the urine, namely, the occurrence of turbidity on heating, or of a precipitate on addition of nitric acid, but clearing up on further heating and recurring on cooling. The substance on which this reaction depends was further found to be precipitable by alcohol, the precipitate being soluble in water. The body was recognized to be an albuminoid substance, but only many years later was it shown by Kühne to be an albumose, differing in its relations, however, from other albumoses. Since then not many cases have been placed on record in which the urine is reported to have this reaction present. The first two were considered to be instances of osteomalacia, and almost all of the others have been attended with disease of the bone-marrow for which the designation "multiple myelomata" has been proposed. The symptoms present in these cases were in part referable to the osseous system and in part anemic in character. The former include severe pain in the nape of the neck, the shoulder, the chest and the back, rarely in the upper extremities, usually occurring in paroxysms without appreciable cause, but aggravated by movement. The cervical or dorsal spine, as well as one or more of the ribs, were at the same time tender, and in some instances the seat of circumscribed prominences. In most cases, deformities of the cervical and dorsal spine and of the thorax developed in the course of time, resulting in marked kyphosis, and protrusion of the sternum, in consequence of angulation of the ribs, as a result of spontaneous fracture. Sometimes profound nervous disturbances occurred—radiating neuralgiform pain, visceral pain, bulbar symptoms, and typical symptoms of compression of the spinal cord. Death resulted from these complications or from progressive cachexia or intercurrent disease. Although multiple myelomata have been present in almost all of the cases in which

albumosuria has been observed, all cases of multiple myelomata have not been attended with albumosuria.

That other diseases of the bone-marrow, however, may be associated with albumosuria is demonstrated by a case of lymphatic leukemia reported by Askanazy.¹ The patient was a man 51 years old, who, a year before coming under observation, began to complain of undue readiness of fatigue. In the course of six months progressive enlargement of the cervical lymph-glands took place. Following convalescence from an attack of pneumonia at a later date the legs became swollen and an abdominal tumor made its appearance. The patient was pallid and cyanotic. The cervical and axillary lymphatic glands were moderately enlarged, and the chest was the seat of numerous small, subcutaneous enlargements. The abdomen contained a glandular tumor as large as a man's head, and smaller nodules were palpable in the rectovesical space. The bones exhibited no alteration. The blood presented changes characteristic of lymphatic leukemia. The urine contained albumose in abundance. Deaths resulted from pulmonary edema, and post-mortem examination confirmed the clinical diagnosis. A study was made to determine whether the substance found in the urine was present also in the bone-marrow, the tumor-masses, the blood, the pericardial fluid and the pleuritic exudate, with the result that albumose was detected only in the bone-marrow.

Examination of the urine in another case of lymphatic leukemia failed to disclose the presence of albumose. The opinion is expressed that Bence-Jones albumosuria is a manifestation of disease of the bone-marrow and generally multiple myelomata, although exceptionally it may result from the presence of other diffuse, lymphoid alterations in the bone-marrow, such as are observed in cases of lymphemia.

CEREBRAL ABSCESS FOLLOWING TYPHOID FEVER.

Pyogenic micro-organisms may gain access to the brain and give rise to the formation of an abscess through direct injury or through metastasis from a primary focus of suppuration, contiguous or remote. The most common single etiologic factor is disease of the middle ear, while the disorder is rarely a complication of the infectious diseases. A case in which an abscess of the brain developed in the sequence of an attack of typhoid fever, and giving rise to symptoms of focal epilepsy, with successful operation and discovery of staphylococci in the pus, is reported by A. C. Brown.¹ The nervous symptoms made their appearance during convalescence from the fever, and infection is thought to have taken place from the intestinal tract through the medium of the ulceration of the bowel. There was no history of injury and no evidence of middle-ear disease, or of any other suppurative process. The patient was a girl 19 years old, and the first manifestation consisted

in twitching of the left side of the face, the left arm, and the left leg, followed by paresis. Later, headache and vomiting set in. On one occasion the patient became conscious of noises in the right ear, numbness of the left hand and a sensation as if the left hand and arm were being gripped, passing gradually up the arm to the left side of the face and head. The left hand then began to shake. The painful gripping sensation in the hand and arm gradually passed off, but the left leg began to shake violently and the shaking in the left leg passed up the arm. In a short while the left leg was found heavy and powerless. Loss of consciousness supervened and persisted for ten minutes. When consciousness returned the head was drawn to one side and the eyes rolled. For a few minutes the patient was unable to speak. There was a mist before her eyes and her head ached badly. For two hours she felt unable to move, as the left arm and leg were still heavy and powerless. On getting up there was a tendency to fall to the left, and a limp that had been present in the left leg since the attack of typhoid fever, was distinctly more pronounced. The patient grew gradually worse and at a later date an early stage of optic neuritis was discovered. Headache persisted and the twitching and weakness of the muscles of the left side of the body increased. The knee-jerk, elbow-jerk and the supinator-jerk on the left became exaggerated, and ankle-clonus could occasionally be elicited.

In the diagnosis, hysteria, tuberculosis and syphilis were excluded, and the conditions were thought to be due to a rapidly growing glioma, though the possibility of abscess was considered. Operation was undertaken, with the result of finding an abscess in the right motor region, involving the ascending parietal and ascending frontal convolutions. The pus, in which bacteriologic examination disclosed the presence of the staphylococcus pyogenes aureus, was evacuated and drainage provided for. The further course of the case was noteworthy only for the marked improvement that took place, the patient recovering entirely the use of her leg and to a great degree also that of her arm.

Suppuration is not an uncommon complication of typhoid fever, the typhoid bacillus being sometimes found in the lesions; but abscess of the brain is rare. Indeed, Brown believed that his case is the first that has been reported in the sequence of an attack of typhoid fever, but Keen² refers to three cases recorded in the literature, without bacteriological findings, however.

THE VITA PROPRIA OF HUMAN CELLS.

The vitality which is characteristic of and belongs to the individual cell—the vita propria of the cell of Virchow—has received comparatively little study. Grawitz claims to have observed that the corneal corpuscles withstand drying as long as eleven days, but the correctness of his observations has been questioned.

1. Deutsches Archiv f. Klin. Med., lxxviii, 1 u. 2, 11, p. 34.
1. Edin. Med. Jour., September, 1900, p. 228.

2. "Surgical Complications and Sequels of Typhoid Fever," Phila., 1898, W. B. Saunders.

Busse states that ciliated epithelium in the covering of nasal polypi may maintain the motion of their cilia for eighteen days after separation from the matrix. Spermatozoa are said by Schade to manifest evidences of vitality for a considerable time after the death of the body as a whole and after having been expelled from the living organism. This persistence of the life of spermatozoa is of medicolegal interest. Living spermatozoa have been demonstrated in the rectum of a boy eight days after death at the hands of a pervert, the body lying in water at a temperature of about 0 C. Ljunggren's study of the power of epithelial cells to live outside the body are of great interest, and recently Grohe¹ has studied the *vita propria* of the cells of the periosteum of rabbits. The pieces taken from the tibia and the radius were kept at a temperature between zero and 4 C., because at low temperature the vitality of various cells has been found to persist longer. At various intervals the pieces were transplanted into the muscles of the arm and thigh of animals of the same species. Without going into details, suffice it to say that the cells in the inner layer of the periosteum in numerous instances were found to retain their osteoblastic powers for from forty-eight to one hundred hours after removal from the body, producing, when implanted, osteoblasts which formed islands of cartilage and osteoid tissue. In twelve days, a piece of periosteum, kept one hundred hours, formed a mass as large as a hazel-nut composed of hyaline cartilage and osteoid tissue.

Morpurgo² calls attention to the almost forgotten observations of Mantegazza on the survival of periosteum and of human and of frog spermatozoa, and of those of Bizzozero on the *vita propria* of ciliated epithelium, bone-marrow cells and smooth-muscle fibers. Morpurgo himself demonstrated that the cells of the periosteum of chickens may retain their vitality outside of the body for one hundred and ninety-two hours, when kept at 3 to 6 C., and for one hundred hours when kept at 40 to 41 C.; at the end of these periods bone was produced by implantation. The favorable action of cold is ascribed to its restraining influence on vital processes in consequence of which the reserve food lasts longer.

Wentscher³ shows that the epithelial cells of the skin possess a greater surviving power than indicated by Ljunggren's experiments, in which an attempt was made to nourish the cells by preserving them in serum. Wentscher employed Thiersch grafts, taken from the outer aspect of the thigh and kept in sterile salt solution or in cotton in an empty bottle; the latter method gave best results. He obtained positive evidences of life, in the form of mitoses in the cells of pieces thus preserved and grafted on erural ulcers, in the case of the wet specimens after ten days, and in the case of the dry, after twenty-two days. The pieces kept dry became

hard and it was necessary to soften them before grafting; on softening, the epidermis was permeated by fluid and expanded again. In the successful experiments—twenty-one in sixty—there was a permanent return, or revivescence, of all vital characteristics, and the subsequent events were the same as in transplantation of fresh pieces.

Cardile found that leucocytes kept in bouillon under favorable circumstances remained alive for seven days outside the body.

These illustrations of the *vita propria* of the cells indicate that Grawitz is not so far from the truth when he says: "Perhaps weeks may pass before the life in the last cell ceases."

THE MOSQUITO AND YELLOW FEVER.

The evidence adduced by Drs. Reed, Carroll, and Agramonte that the mosquito is the carrier of the infection of yellow fever, has called out other evidence or suggestions. The freedom of the Southern piney woods region from yellow fever has been noticed before. It is said that the disease never spreads there, and the fact was generally attributed to some peculiar influence of the pines. Now it is claimed that the absence of the mosquitoes in the pine woods may account for the freedom from the disease, previously credited to some medical virtue of the trees. Another thing noticed in the South as corroborative of the mosquito theory, is that, while the yellow-fever infection seems sometimes to survive a cold winter, it disappears after a slight frost, which also makes an end of the mosquito. These are not yet scientifically demonstrated facts, but they may be worth looking into and verifying if possible. There is ample room for further study as to the nature and etiology of yellow fever, and every little helps.

LAY USE OF THE CLINICAL THERMOMETER.

An enterprising firm which manufactures clinical thermometers, is advertising its instruments to the general public in some of the magazines. There does not seem to be any reason for an objection from the medical profession to this procedure. On the contrary, it is probable that the intelligent use of the clinical thermometer by the laity may be the means of enabling the family physician to see many cases of illness at an earlier period than would otherwise be the case; and it would often obviate the necessity of responding in person to a night call, as the record of the clinical thermometer transmitted by telephone would usually enable the physician to properly estimate the immediate gravity of the case. The advertisement referred to advises people to regularly take the temperature of themselves and children, which is neither advisable nor practicable. A reading taken when there is any feeling of malaise, might be of assistance to the physician in enabling him to see the case in the primary stages of disease and in aiding him to arrive at an early diagnosis. On the whole, it would seem to be advisable for physicians to encourage the intelligent use of the clinical thermometer.

1. Virchow's Archiv, 1899, civ, 428.

2. *Ibid.*, 1899, civii, 170.

3. Ziegler's Beiträge, 1898, xxiv, 101.

THE ACTION OF COLD AND HEAT ON THE INTESTINES.

Observant individuals have long noted that, after having taken a purgative, exposure of the surface of the abdomen to cold, as a draught of cold air, is very likely to produce a colicky pain. Conversely, many people, who on slight cause suffer from acute diarrhea and cramps, have found that protecting the abdomen very carefully from damp and cold is effective in reducing the frequency of attacks. People living in the tropics, where diarrhea and dysentery are always at hand, have learned to wear a woolen binder about the abdomen, as it has been found to very materially reduce the danger of contracting these diseases. No true has this been found that the British army furnishes its troops serving in the tropics with flannel binders, and our own troops when going to Cuba were in part so supplied, but had not the necessary experience to ensure their intelligent use. There seems to be a definite relationship between exposure of the surface of the abdomen to cold and damp, and the production of diarrhea, either mild or severe. The relief afforded by the application of external heat in intestinal colic is well known.

ORIGIN OF LEPROSY IN HAWAII.

The introduction of leprosy in Hawaii, from recent statements, seems to have been under the special protection of the native royalty and aristocracy. It first appeared in the person of a chief Kakaunohi, who had been to China, and from him was transmitted to another Naea, who was closely related to the reigning family. From the latter it quickly spread to his tenants and retainers, and for a considerable time was known among the natives as the "ma'i alli," or the chief's, or royal, disease. The missionary physicians soon learned to recognize it and one of them, Dr. Dwight Baldwin, it is said, made a report on it, stating the facts of its origin, etc., and filed it with the minister of the interior, but it was held from publication, doubtless on account of the connection of royalty with the introduction of the disease. So long as the Hawaiian monarchy existed, segregation of lepers, though legally demanded, was very imperfectly carried out, owing, it is said, to the interference in high places. Since the overthrow of the monarchy, however, the measures have been more effective and the seeing of lepers on the streets, which was formerly an occasional event, is no longer possible. The isolation law is an unpopular one with the native Hawaiians, who possibly regret the passing of the old régime on that account as much as on many others. These data are obtained from the Honolulu *Commercial Advertiser*, whose authority for the main facts is the Rev. Sereno Bishop, who was one of the earliest to recognize the affection on the islands. We have not seen this bit of medical history narrated elsewhere.

SCHOOL INSPECTION IN CITIES.

The advantages of the Chicago school inspection were set forth in a communication made October 30 to the Board of Education by Dr. A. R. Reynolds, health commissioner. Since the beginning of the year over 75,000 children have been detained by school principals for medical inspection, and of these 4539 were temporarily excluded from school on account of danger

of contagion, and in 711 a bacteriologic examination was made to confirm the inspector's diagnosis. The results of this care are a very notable decrease in the mortality from those disorders that are especially fatal to children, such as diphtheria and scarlet fever. The average mortality from diphtheria for the ten years, 1890 till 1899 inclusive, during the month of September has been 85.5, or about 4.5 per cent. of the total deaths. For October the like figures are 127.9 and nearly 7 per cent. Prior to 1890 the figures are still higher for years in which accurate statements are available. During the past two months, September and October, 1900, there were 42 and 77 deaths respectively from this cause, certainly a notable reduction. Similar results could be cited as regards scarlet fever, and for other months. It is hardly necessary, however, to demonstrate the value of school inspection by object-lessons such as these, though they are impressive to the laity. The dangers of contagious disorders in schools are sufficiently obvious, however much they have been ignored in times past. One of the advantages of the inspection will be the impression it makes on the teachers themselves, and the reinforcing their feelings of responsibility in regard to these matters. Too many of them have heretofore had no idea whatever of the risks to health and life that a little inattention on their part may involve. The mere fact of arousing them to observe morbid symptoms must be one of the greatest value as regards the health of the school children and the community, and, with an intelligent inspection added, goes far to insure against serious results from school epidemics of contagious diseases. The value of the human life saved, to say nothing of the suffering, bereavements, and disease prevented, infinitely outweighs the comparatively trifling cost. Municipal authorities who wilfully neglect this precautionary measure on economic grounds may have human lives charged up against their account.

A NORTH-AMERICAN MEDICAL ASSOCIATION.

The *Dominion Medical Monthly* editorially comments on the suggestion of the *New York Medical Journal*¹ that Canadian physicians be admitted to membership in the AMERICAN MEDICAL ASSOCIATION. The proposition appears to strike our Canadian confrère favorably. It enumerates some of the advantages that would thus ensue to Canadian practitioners; the closer associations with the great body of medical men on this continent and the advantages of THE JOURNAL to Canadian physicians are specially noticed. There is no question that there are many reasons why it would be advantageous to both Canadians and Americans to come together on common ground in medical matters, and membership in the AMERICAN MEDICAL ASSOCIATION would be the most available means to this end. There is only one possible objection, and that would not affect the scientific side of the question. The AMERICAN MEDICAL ASSOCIATION has often to deal with matters exclusively American, questions of legislation, etc., and it would be manifestly improper to have those not directly interested have a voice in the decision. This, however, would not affect general, non-

1. See THE JOURNAL, July 21, p. 181.

voting membership, with all the scientific and social privileges, provided there was a way by which this could be legalized. At present, Canadian physicians can become members only through membership in an affiliated organization. If there could be a rule adopted whereby membership in the Canadian Medical Association, or affiliated bodies, would qualify for non-voting associate membership or something of the kind, in the AMERICAN MEDICAL ASSOCIATION, and vice versa, it might work to the mutual advantage of both bodies. From the scientific viewpoint, Canadian physicians should be more nearly affiliated with their fellow members of their profession in this country than with any others, and scarcely anything would be more effective in bringing them together than such an arrangement as proposed above. The suggestion is, in any case, deserving of thought.

PARESIS AMONG THE JEWS.

In the London *Lancet* of October 27, there is an interesting editorial analysis of an article by Beadles, of Colney Hatch Asylum,¹ on insanity among the Jews. One of the most interesting observations made by this author is that of the great preponderance of parietic dementia in this race. Thus he found that 21 per cent. of all male Jews admitted in the London County asylums were parietics, while the proportion in the average asylum population of England is, according to the most recent report of the Commission in Lunacy (1899), only 13 per cent. In female Jews the ratio is not above that of insane females generally, and we find, therefore, that paresis is 60 per cent. more frequent among Jewish men than among other male patients of English asylums. The predominant cause, or at least antecedent, of paresis is syphilis, and this fact is therefore of the most interest, since it is often claimed that specific disease is rare among Israelites. It is a well-known and, we believe, generally admitted fact that the Jewish race is neurotic to a greater degree than others, but their greater liability to paresis has not been before brought prominently into the light. It is possible that the reason is not so far to seek as might at first appear. Syphilis by itself is not necessarily a cause of paresis, the added factors of excesses, and especially of mental stress, are probably required. The dominating idea in the average city Jew, even more than the non-Jew, is business, and they are particularly liable to this chief exciting cause. Many of them are speculators and therefore especially under the strain of mental anxiety in the vicissitudes of business. Syphilis may be rarer in Jews than in others, but they are nevertheless its victims to a certain extent, and Beadles finds sexual excesses playing a large part in the alleged causes of insanity among them. Many of the Jews of this country, and Great Britain also, come from parts of Europe where syphilis is far more common than here, in certain parts of Russia, for example, where it is said to be endemic in the lower grades of the population. All these considerations are to be taken into account and may serve to render more intelligible the fact announced by Beadles. It would be of interest to have results of similar studies in the asylum population of other sections, the metropolitan asylums of this country for example.

THE PLAGUE IN SAN FRANCISCO.

In the latest "Public Health Notes," of the Marine-Hospital Department, Surgeon Kinyoun reports three cases of the plague occurring among the Chinese in San Francisco during the month of October, and expresses his opinion that the area of infection is growing wider and that conditions favor its further outbreak. His report is dated October 29, and, as will be seen elsewhere in this issue, our correspondent has sent in details of three more deaths which occurred October 31 and November 1; one of them was a white woman, a professional nurse, who had been attending a fatal case reported as "nasal diphtheria." This case is being investigated and may possibly furnish further revelations. There does appear, therefore, to be some ground for apprehension of further trouble and need of more energetic measures on the part of the local authorities than have been attempted heretofore. The existence of the Chinese quarter in the business center of San Francisco is a peril to health at any time, and all the more when it includes active plague-foci, which there is too much reason to fear is now the case. There is no city in Europe or America that has met the peril of the plague in the way San Francisco has done, and this is not said in commendation of her course. It may be, as some French alarmists have said, that there have been concealed outbreaks in some southern European ports, but there is no place where the press and public have so persistently fought the necessary sanitary measures in their desire to prove that the plague did not exist among them. It would be a business misfortune to be quarantined against, but it is taking serious chances to ignore a possible danger in the hope that it may pass off without actually developing to any great extent. If the plague should become a little more an undeniable reality than it is at present, the residents and business men of San Francisco, and possibly others, may have ample reason to regret the course that has been thus far followed. The methods of the ostrich are not always the best; and certainly not the most courageous in meeting such a danger as the bubonic plague.

THE SLEEPING SICKNESS.

This disease is confined to the tropical part of West Africa. Within the last few years three cases have been brought to England for the purpose of study, the results of which have been made public recently by Manson, Mott, and Mackenzie.¹ It is a chronic disease, which when introduced into a village may persist for years and cause serious loss of life. The leading clinical characteristic of sleeping sickness is physical and mental lethargy, which begins almost imperceptibly. In the fully-developed disease the patient is almost always asleep; muscular tremor and an itching papular eruption are quite constant. The deepening lethargy and muscular weakness finally render the patient bed-ridden; death occurs after much wasting, either in an epileptiform seizure or from some intercurrent disease-infection, bedsores, diarrhea, etc. Post-mortem examinations so far recorded have not shown any characteristic naked-eye abnormality. In the blood, Man-

¹ Jour. Ment. Sci., October.

¹ Trans. London Path. Soc., 1900, II, 99-124.

son has found, in several cases, sometimes in great abundance, a peculiar worm, named by him "Filaria perstans." The geographic distinction of this worm and of sleeping sickness corresponds fairly well; but it has also been found in the blood of healthy persons. Perhaps additional factors come into operation which are not now understood, if *F. perstans* is the cause of the disease. The mode of action of the parasite would then become a most interesting subject for study. Mott describes the changes in the central nervous system in two cases of African lethargy. The principal lesion was a meningo-encephalo-myelitis, which may be readily construed as produced by a poison that affects especially the lymphatic system of the central nervous organs. As indicated, the pathology of these lesions, which may be regarded as the proximate lesions, awaits full explanation until the true cause of the sleeping sickness has been established. The case of sleeping sickness exhibited by Mackenzie,² in 1890, showed the same meningo-encephalitis as in Mott's two cases.

Medical News.

ALABAMA.

THE BANDAGE-ROLLER MANUFACTURING COMPANY has been organized in Selma, with the object of manufacturing a mechanical appliance for rolling bandages of all kinds and sizes.

DR. WILLIAM H. SANDERS, state health officer, will make an effort to induce the coming legislature to provide adequate compensation for county health officers. He says that under the existing system, one county pays the county physician only \$5 a year, and many others pay only \$25.

THE STATE INSANE ASYLUM at Tuscaloosa, with a capacity of 1000, has now about 1500 patients and is refusing applications for admission by the hundred. Dr. J. T. Searcy, the superintendent, has addressed a letter to each member of the legislature, calling attention to the overcrowding of the institution, recalling the fact that the state has the 1600 acres of land and the buildings of Mt. Vernon barracks and reservation donated to it by the United States, and begging the legislature to pass measures to relieve the overcrowding.

COLORADO.

DIPHTHERIA is prevalent in Globeville, and the schools have been closed in consequence. On October 20, there were four deaths and three days later 20 cases had been reported.

Denver.

THE NATIONAL JEWISH HOSPITAL FOR CONSUMPTIVES was incorporated in Denver, October 31, not for pecuniary profit, by Henry Frankle, Sol. L. Holzman and David May.

THE HOSPITAL CORPS of the First Infantry, N. G. Colo., has been reorganized and now contains eighteen enlisted men, officered by Major Carey K. Fleming, M.D., Captain Aubrey H. Williams, M.D., and Lieutenant David D. Thornton.

AFTER JAN. 1, 1901, every school in the city will have assigned to it a medical inspector, provided the city council will authorize the necessary expenditure. The health commissioner, Dr. Thomas J. Carlin, urges that a daily inspection of every school be made.

ILLINOIS.

BLESSING HOSPITAL, Quincy, will have the following staff for the next six months: Dr. Charles D. Center, physician-in-charge; Drs. Leonard L. Gill and Edmund B. Montgomery, consulting physicians; Dr. Robert J. Christie, Jr., surgeon; Drs. Joseph Robbins and Robert J. Christie, consulting surgeons; Dr. Sarah Vasey, obstetrician and gynecologist; Dr. Charles W. Root, consulting obstetrician and gynecologist; Dr. Frank E. Tull, oculist and aurist, and Dr. Frederic M. Pendleton, consulting oculist and aurist.

Chicago.

DR. J. CHARLES STAMM has been sued for \$20,000 for injuries alleged to have been received by a woman while under his professional care.

THE CHICAGO COLLEGE FOR NURSES has been founded, with the intention of giving "women training in all duties of skilled nurses without requiring two years of bondage in hospitals and training schools."

DR. W. S. CHRISTOPHER, of the board of education, in view of the excellent results of medical inspection of schools last year, wants the inspection of both public and parochial schools intrusted to the health department.

A MOTION was made on November 8, to quash the indictments against the officials of the Metropolitan Medical College on the ground that the indictments are faulty because the charges do not come within six calendar months.

HEALTH DEPARTMENT.

The mortality of Chicago for the first ten days of this month was 18 per cent. lower than for any previous like period. At this rate the annual death-proportion of Chicago per 1000 would be only 10.56. For the week ended November 10, only 361 deaths was reported, or 79 less than for the corresponding week of 1899. Of the deaths only 5 were from typhoid fever, which compares favorably with 12, the figures of a year ago; 56 were from consumption; 31 from pneumonia; 26 from heart diseases; 23 from acute intestinal diseases; 29 from violence; 9 from diphtheria and 1 from scarlet fever.

INDIANA.

DRS. A. G. BRETZ AND R. R. THOMPSON, Indianapolis, now internes of the City Dispensary, have been appointed to the staff of the City Hospital.

THE STATE BOARD OF HEALTH has sent out circulars to all health officers and school officials warning them against expected outbreaks of diphtheria. The disease exists in every county in the state, and the State Board advises systematic inspection of school-children and quarantining of suspected cases.

DUNKIRK PHYSICIANS have organized a Physicians' Protective Union, officered by Dr. J. S. Lytle, president; Dr. W. H. Benson, vice-president, and Dr. Donn P. Murray, secretary and treasurer. The object of the union is to force collections of accounts due physicians and to blacklist the recalcitrant debtors.

IOWA.

DR. H. LANDIS GETZ, Marshalltown, has resigned as chief surgeon of the Iowa Central Railway.

MISS MIRA HIRSHLEY, Muscatine, has purchased ground on which to erect a hospital which she will donate to the city when completed.

THE TOTAL COST of the one case of smallpox that occurred last winter in Independence, was \$1500, including the cost of the suit brought by Dr. Joseph H. McGready, for \$800, due for his services, but which the board of supervisors attempted without success, to cut down.

A DONATION of \$50,000 has been offered by A. Slimmer, of Waverly for the erection of a hospital in Fort Dodge, provided that the city shall furnish an equal amount of money as a maintenance fund and that the hospital shall be free to persons of all colors and creeds.

MAINE.

ON NOVEMBER 3, Dr. and Mrs. S. F. Conant, Skowhegan, celebrated their golden wedding.

THE BUILDING at Presque Isle, formerly occupied by St. John's Diocesan Hospital, has been offered by Bishop Codman, to the Northern Aroostook Medical and Surgical Society for a hospital, which is urgently needed for that locality.

THE BIENNIAL REPORT of Dr. Albion G. Young, Augusta, secretary of the State Board of Health, is an unusually valuable document. He discusses tuberculosis in Maine, vaccination and vaccin lymph, and summarizes the reports of the local boards of health of the state.

MARYLAND.

SEVERAL CASES of smallpox have broken out among negroes at Hyattsville, and the State Board of Health is taking active measures to prevent an epidemic.

THE WOMEN of Govanstown, Baltimore County, have organized an improvement association and have brought pressure to bear to induce the County Board of Health to establish systematic collections of garbage and night soil under the supervision of the local medical officer of health.

THE LADIES HOSPITAL CORPS of the B. & O. R. R. at Brunswick, Frederick County, have opened a hospital at that place. Quarters were secured in the bunk-house and fitted up with all modern conveniences. It was rendered necessary by the frequency of accidents in the railroad yards.

Baltimore.

THE CITY WATER DEPARTMENT is exercising a close scrutiny over the streams from which the water-supply is derived, seek-

ing out the cases of typhoid fever and observing the disposition of the excreta from infected houses.

THE UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE has lately received a bequest of \$3500 from the estate of Dr. Charles M. Hitchcock, who graduated at the university in 1835, moved to California, and died in San Francisco about twenty-five years ago.

THERE WERE 190 deaths for the week ended November 10, a death-rate of 18.26 per 1000 per annum. There were 11 deaths from typhoid fever, 30 from tuberculosis, 7 from cancer, and 8 from pneumonia. Of new cases reported there were: Diphtheria, 43; scarlet fever, 12; typhoid fever, 33; measles, 4; whooping-cough and mumps, each 2.

MASSACHUSETTS.

DR. RUPERT W. PARKER, Boston, was knocked down on November 4, his left arm broken and his wrist badly sprained. His assailants numbered four, one of whom he managed to hold and give into custody.

THE HOUSE OF MERCY, Pittsfield, cared for 1147 patients during the fiscal year just closed, and still reported a balance in the treasury. The managers are making great efforts to raise the \$50,000 required to build the new hospital, and as they have succeeded hitherto in their endeavors, the new building may be considered a fact on the extreme verge of accomplishment.

THE HEALTH REPORT of the state for October shows a general increase in infectious diseases, and especially in diphtheria. Greater vigilance is urged on school inspectors, and a temporary hospital has just been opened in Cambridge, for contagious diseases. During 1900 there have been in Boston 3715 cases of diphtheria, 1463 of scarlet fever, 586 of typhoid fever, and since May 1, 650 cases of consumption have been reported.

TFT'S MEDICAL SCHOOL, Boston, has increased its faculty by the appointment of Dr. George W. Kaan as assistant professor of clinical bacteriology; Dr. Timothy Leary, as professor of pathology and bacteriology; Dr. E. Channing Stowell, as assistant professor of children's diseases; Dr. Horace D. Arnold, as professor of clinical medicine, and Dr. Herbert W. White, as assistant professor of theory and practice of medicine. The new building for the school will be ready about May 1 next.

MICHIGAN.

THE WOMEN in the medical department of the University of Michigan number 49.

DR. R. JOHNSTON PALMER, Battle Creek, was severely injured in a runaway November 4.

DR. B. D. HARRISON, secretary of the State Board of Medical Examiners, will institute legal action to prevent A. G. Retz, of Muskegon, practicing as a physician without having the necessary qualifications.

MINNESOTA.

DR. HALDOR SNEVE, St. Paul, has been appointed surgeon to the St. Paul Union Stockyards Company.

THE CITY HOSPITAL, Minneapolis, with its 100 patients, nurses and staff, is in quarantine on account of a recrudescence of smallpox.

MISSISSIPPI.

DR. JOHN J. STEVENS, Hattiesburg, has been appointed health officer of Perry County.

A NEW CASE of yellow fever with death was reported from Natchez, November 8. The United States Marine-Hospital surgeon is endeavoring to trace the source of infection.

CANDIDATES for medical licenses to the number of 28 appeared for examination in the House of Representatives, Jackson, on October 10. Six were colored, including one woman.

IN DEFAULT of funds to carry out measures for the limitation of scarlet fever and smallpox in the state, the State Board of Health has formally reported to the governor that these diseases prevail in certain portions of the state.

NEW YORK.

THE MEDICAL BOARD of the Watertown City Hospital has re-elected Dr. James D. Spencer, president, and Dr. Frederick B. Smith, secretary.

THE HEALTH BULLETIN for October, issued by the State Board of Health, shows 10251 deaths, representing 16.5 per 1000 per annum. Of this number 245 died from typhoid fever and 980 from consumption.

GUY E. WHITE, a senior student in Syracuse Medical College, who served in the 202d New York Infantry, U. S. V., and afterward in the hospital corps of the army, died from heart disease, October 23, aged 22.

TYPHOID FEVER is unusually prevalent in Syracuse, and investigation as to its cause is being made by the city health authorities. During October, 24 new cases of the disease were

reported and, on November 6, 29 cases were under treatment in hospitals.

CONY ISLAND is assured that it will have a hospital before the opening of summer. The building on West Eighth street, near Surf avenue, formerly occupied as a police station, will be leased and transformed into a hospital. The district contiguous has a population of about 50,000 and the nearest hospital is five miles away.

Buffalo.

THE CRADLE-BANK receipts for the maintenance fund of the Children's Summer Hospital at Athol Springs amounted to \$5444.29 for the season.

AN INTERNATIONAL CONGRESS OF NURSES is expected to be held during the Pan-American Exposition in commemoration of the rise and progress of nursing.

THE BUFFALO GENERAL HOSPITAL will soon build an addition costing \$50,000. It will be 38 feet wide and 96 feet long, and will be used for ward purposes.

THE EMERGENCY HOSPITAL at the Exposition grounds, begun about two weeks ago, is now nearly completed. It is a T-shaped structure, with wards for men and women, operating room and an ambulance barn in which four automobile ambulances will be kept ready to answer emergency calls.

OHIO.

DR. MERRILL RICKETS, Cincinnati, gave a dinner in honor of Dr. Thomas H. Allen, of New York, November 8.

DR. AND MRS. ALEXANDER J. ERVIN, Mansfield, sail for Europe on the *First Bismarck* to-day, and will winter on the Nile and the Mediterranean.

THE CITY HOSPITAL of Cincinnati has elected Dr. John M. Withrow, gynecologist, Dr. John E. Griewe, clinical director, and Dr. David J. Wolfstein, neuropathologist.

DR. ORLANDO B. LONGENECKER, Dayton, has been found guilty of advertising a medicine through the mails for an illegal purpose, and has been sentenced by the United States Court to jail for six months and to pay a fine of \$50 and costs.

DURING the 24 hours from November 5 till November 6, 11 cases of diphtheria, 10 of scarlet fever, 3 of smallpox, 1 of typhoid fever and 3 of membranous croup were reported in Cleveland, yet the health officer says he sees "no reason for alarm."

THE ATTORNEY-GENERAL of the state has decided that "any person found guilty of wilfully refusing to comply with any lawful order of the local board of health may be fined not exceeding \$100 for the first offense and can not be legally imprisoned, and for subsequent offense of like nature he may be fined and imprisoned for not more than ninety days."

DR. J. C. CULBERTSON, editor of the *Cincinnati Lancet-Clinic*, gave an "evening of authors" at the Hotel Sterling to meet Rev. and Mrs. Henry C. Culbertson, at which the leading literary lights of the Ohio Valley were present, including Dr. Charles Frederick Goss, author of "The Redemption of David Corson"; Dr. John Uri Lloyd, author of "Stringtown on the Pike"; Coates Kinney, author of "Rain on the Roof"; John J. Piatt, Dr. W. H. Venable and some forty others. A unique feature was the dining table set in the form of a hollow square, in the center of which was another table piled with copies of the books written by the guests of the evening.

OREGON.

THE North Pacific Sanatorium has recently been opened in Portland.

DR. L. T. BROCK, Sumpter, has been appointed assistant surgeon to the Sumpter Valley Railroad.

THE UNIVERSITY OF OREGON Medical Department began its fourteenth annual session at Portland, October 1. The dean, Dr. Simeon E. Joseph, made the opening address.

THE GOOD SAMARITAN HOSPITAL, Portland, received the entire gate receipts of the street fair for one day. In addition to this amount, \$553 has been donated toward the building fund of the hospital.

PENNSYLVANIA.

AN EPIDEMIC of typhoid fever is now prevailing in the town of Cementon, and several deaths have occurred. Up to November 8, 42 cases had been reported.

THE POLICE of Lancaster, a few days ago, found a man suffering from smallpox, and he was at once taken to the county hospital. He recently came from Baltimore.

THE STATE HOSPITAL at Norristown has asked for an appropriation from the state amounting to \$85,000, to be used for a new buildings for male consumptives to cost about \$5000; two buildings for nurses, \$50,000; pathological laboratory, \$3000, and a chapel, \$10,000.

THE CARBONDALE HOSPITAL has reorganized its staff, which now consists of Dr. Alexander F. Gillis, chief of general surgical staff; Dr. John S. Niles, chief of special surgical staff; Dr. David L. Bailey, chief of medical staff, and Dr. William W. Fletcher, in charge of eye, ear and throat department.

Philadelphia.

FIVE of the ten filters for the public schools have been installed at a cost of \$1269. The water from these filters has been tested and approved by the chief inspector of the bureau of health.

DR. LAURENCE TURNBULL left an estate of \$79,000.

A BEQUEST was left by the will of Mary Ann McCumney to St. Mary's Hospital, and the amount—\$800—has been paid to this charity.

FOR THE WEEK ended November 10, the deaths numbered 369, or 7 less than the previous week. Tuberculosis caused 40 deaths; pneumonia, 37, and bronchitis, 7. Of diphtheria, 153 cases were reported, with 21 deaths.

THE FUNDS accumulated by the relief association maintained by Shoneman Bros., on the retirement of the firm from business, were divided between the Free Hospital for Poor Consumptives and the Children's Country Week Association.

THE MEDICAL INSPECTORS OF SCHOOLS, who have served a year without pay, have organized and will ask the council for an appropriation for the coming year. Failing this, the system of medical inspection in the public schools will be likely to fall to the ground.

RHODE ISLAND.

THE EMERGENCY HOSPITAL at Providence was opened on September 3. The building is being rapidly furnished and equipped.

DR. EDWARD P. STIMSON, Tiverton, has been appointed medical examiner of District No. 1, County of Newport, vice Dr. A. S. MacKnight, Little Compton, resigned.

TYPHOID FEVER is said to be epidemic in Newport. Fifty cases have been reported, the local hospital is full, and endeavors are being made to secure an emergency hospital. Incidentally the board of aldermen has directed that the city water be examined.

THE STATE BOARD OF HEALTH is investigating the case of Dr. Joseph Roy, Harrisville, who is charged with grossly unprofessional conduct in that the diploma presented by him to the board was originally issued to another person; that he has not had a sufficient education to practice medicine with safety, and that he obtained his certificate to practice by misrepresentation.

TENNESSEE.

THE MEMPHIS HOSPITAL MEDICAL COLLEGE opened for its twenty-first annual session November 1.

THE QUARANTINE over Maury County was suspended November 4 on account of improved smallpox conditions there.

DR. CHARLES S. BUTLER, Bristol, has successfully passed the examination and has been commissioned as assistant-surgeon in the United States navy with the rank of lieutenant.

DR. WILLIAM D. HAGGARD, JR., Nashville, has been elected to fill the chair of gynecology and diseases of children in the medical department of the University of Tennessee, formerly occupied by his father for many years.

THE SUPREME COURT of Tennessee has decided, in the case of Dr. Henry P. Colle, who sued the city of Knoxville for \$1000 extra compensation for attending smallpox cases during an epidemic, that he could not recover in the absence of a specific contract.

TEXAS.

THE MEDICAL UNIVERSITY of DALLAS held its opening ceremonies October 30 and installed its faculty.

THE MEDICAL COLLEGE of the State University, Galveston, reopened on November 15, and will continue its session until June 29.

"DR." L. W. JONES, Cleburne, was arrested at Buel October 27, charged with the forgery of a doctor's certificate. He was released on bond.

STATE HEALTH OFFICER DR. WALTER F. BLUNT, Austin, has visited Smithville and Hondo to investigate the smallpox situation in those places.

VIRGINIA.

DR. WILLIAM M. SMITH, Alexandria, was elected major and surgeon of the 17th Virginia regiment, on October 10.

DR. JOHN G. TRIVILIAN, in charge of the Richmond City Ambulance and Hospital, has asked the city council for a third ambulance physician.

THE WILL of Dr. Hunter McGuire was probated September 30. The estate is valued at \$150,000 and is devised to his wife,

and his library and instruments are to be divided equally between his sons, Drs. Stuart and Hugh McGuire.

THE VIRGINIA HOSPITAL, Richmond, between October, 1899, and July, 1900, cared for 399 patients, and the dispensary treated 5516 patients. The hospital was closed from July 20 to October 1, when it was opened for charity cases, and private patients were admitted November 1.

GENERAL.

BILLS OF HEALTH to vessels engaged in foreign trade will hereafter be issued at Manila by the officials of the United States Marine-Hospital Service.

THE ASHES of eighteen cremated plague victims, each in its own sealed receptacle, are reposing in the offices of the Honolulu board of health, awaiting instructions from the friends of the deceased.

THE REPORT comes from Cape Nome, in October, of the nine hospitals open at the end of July, one only was in operation. This hospital is about to close, as it has not enough patients to warrant its continuance.

DR. FRANCISCO DEL VALLE, formerly mayor of San Juan, Porto Rico, is the first Porto Rican to vote without going through the formality of naturalization. He was "naturalized by annexation," and voted at the recent election at Baltimore.

DR. MANUEL S. YGLESIAS, health officer of Vera Cruz, Mexico, has been visiting Philadelphia, and recently paid a visit to the quarantine station at Marcus Hook. He was chosen a delegate from Mexico to the American Public Health Association at Indianapolis, and since that time has been making a study of the quarantine stations in various parts of the country.

SMALLPOX has broken out at several of the Indian reservations in the West. Reports show that the disease has appeared and is epidemic on the Wichita, Apache, Kiowa and Comanche, and Cœur d'Alene reservations, and that it is increasing at Fort Hall Agency, Blackfoot and Pocatello, Idaho, and at Valentine, Neb., shipping point for the Rosebud Agency.

PROFESSOR TILMANN, of Griefswald, Germany, professor of surgery at that place, and well known to the profession of this country by reason of his contributions to surgical literature, the latest of which is his experimental research on the results of wounds from the modern small-caliber, steel-jacketed bullet, forming a part of Professor Von Coler's work on that subject, has recently visited Chicago in the course of a vacation trip through North America.

MAIL FROM MOLOKAI, the leper settlement of Hawaii, is disinfected with sulphur dioxide at the settlement, transferred to the steamer and received in clean and disinfected sacks. On its arrival in Honolulu, the mail in sacks is disinfected with formaldehyde. All letters are perforated and the corners clipped before disinfection. Although non-disinfected mail from Molokai has been handled for many years, no case of leprosy has ever been discovered among post-office employees.

PROF. WILLIAM W. KEEN, Philadelphia, was entertained November 2, by his old students of Jefferson Medical College resident in and near Indianapolis, and in the evening was tendered a banquet at the Bates' House, in which 60 participated. Dr. Thomas C. Hood officiated at toastmaster. Dr. Alembert W. Brayton made the address of welcome; Dr. G. W. McCaskey spoke on behalf of the medical profession of Indiana; Dr. Frank C. Ferguson, for the Marion County Medical Society, and Dr. Frank B. Wynn contended that "Indiana is no mean State."

PAN-AMERICAN MEDICAL CONGRESS.—This congress will be held at Havana, Cuba, Dec. 26-29. Dr. Henry P. Newman, 100 Washington street, Chicago, American secretary of the Section on Abdominal Surgery and Gynecology, desires to hear at once from those who wish to take part in the scientific work of his section. Also he would be glad to hear from any from the West who are thinking of attending the congress, as arrangements are being made for low railroad rates from Chicago. Dr. Charles H. Hughes, of St. Louis, Mo., who has been appointed Secretary of the Section on Nervous and Mental Diseases, requests alienists and neurologists especially, and all medical men who appreciate the importance of, and who desire to advance, neurology and psychiatry in clinical and legal medicine, to ally themselves with this section and to prepare contributions on proper subjects. He requests that titles and summaries of papers be sent to him at once at 3857 Olive Street, St. Louis, Mo.

DR. FREDERICK PETERSON, president of the board of managers of the Craig Colony for Epileptics, at Sonoma, N. Y., offers a prize of \$200 for the best original unpublished contribution to the pathology and treatment of epilepsy. All manuscripts should be submitted in English. The prize

is open to universal competition. Each essay must be accompanied by a sealed envelope, containing the name and address of the author and bearing on the outside a motto or device, which is to be inscribed also on the essay. All papers received will be submitted to a committee of three members of the New York Neurological Society, and the award will be made on its recommendation, on October 8, 1901. Manuscripts should be sent to Dr. Frederick Peterson, 4 West 50th street, New York City, on or before Sept. 30, 1901.

A NEW EMERGENCY RATION.—Officers of the War Department are endeavoring to determine the value of a new emergency ration, fitted to meet the requirements of troops in the field. The test is being made upon 25 men of Troop A, Eighth U. S. Cavalry, stationed at Fort Reno, Okla. Two different emergency rations are being experimented with. The first consists of two cakes of pure chocolate, three cakes of a combination of meat and bread-stuff, in compressed form, with salt and pepper. The second consists of tea instead of chocolate, and a combination of meat and bread-stuff in a compact form. The experiment will begin by having the expedition to leave Fort Reno under hurried orders. Five regular, and emergency rations will be issued at the start. The men will live for two days on the regular ration and then will subsist for five days on the new ration. The temperature and weight of each man will be taken twice daily. The investigation is being made by a board consisting of Capt. S. W. Fountain, Eighth Cavalry, S. W. Foster, Fifth Cavalry, and Capt. and Asst.-Surg. J. D. Poindexter, of the medical department of the army.

CANADA.

POLITICS AND THE PROFESSION.

A notable feature of the recent general elections was the personal defeat of Sir Charles Tupper and his subsequent retirement from the leadership of the Conservative party in the Dominion. Sir Charles was at one time a prominent and successful practitioner in the County of Cumberland, N. S., but forsook medicine for politics at the age of 34. He is a graduate of the Royal College of Surgeons, Edinburgh, was instrumental in founding the Canadian Medical Association, and was thrice elected to its presidency. Dr. Roddiek was a candidate for political honors in the City of Montreal, and it is very gratifying to the medical profession that he has again secured the confidence of his constituents.

THIRD ANNUAL REPORT—NATIONAL SANITARIUM ASSOCIATION.

The annual meeting of the National Sanitarium Association was held in Toronto on the afternoon of the third inst., Chief Justice Sir William Meredith, president, in the chair. The third annual report was presented, which showed that the work in the Muskoka Cottage Sanitarium was of the most gratifying character. This institution was opened only three years ago, and already 371 patients have been received, of whom 47 are still under treatment. The number discharged apparently cured has been 57; with disease arrested, 95; with marked improvement, 78. In most cases, the patients have not remained long enough to reap the benefits of the institution, but the average stay has increased each year, and this year amounted to 129 days. On Oct. 1, 1899, the beginning of the hospital year, 48 patients were present, and during the year, 141 more have been admitted, making a total on the books of 189. Of these 43 were from the City of Toronto, 130 from other points of Ontario, 4 from other provinces of Canada and 12 from the United States. Out of the total, 122 patients remained in the institution over three months, and of these 109 gained in weight, 6 lost in weight, and 7 neither gained nor lost. The total receipts for the year were \$19,020. The expenditure amounted to over \$20,000; \$3148 was expended in butcher's meat and \$1263 in milk. A letter was read from the medical superintendent, Dr. J. H. Elliott, at Nordrach, who has been spending a year in Europe studying the methods pursued there.

LAY PRESS DEFENDS PATENT MEDICINES.

A measure has been introduced into the Ontario legislature at its last session in regard to regulating the manufacture and sale of patent remedies, as well as limiting also their advertisement in the press of the province. Considerable opposition to the measure is arising amongst the manufacturers and the retail druggists, probably more particularly now amongst the latter, as the requirements of the bill are such, that if they wish to prepare and sell a preparation of their own, they will have to pay into the treasury of the province \$1000, to license them to manufacture any article which they might wish to expose for sale in their shop windows; and if they desired to sell different receipts or "non secrets," they would be required

to put up \$10,000. It has been pointed out on behalf of the druggists—and a very ingenious point it is—that the newspapers of Ontario would stand to suffer to a greater extent than the retail druggists, as a very large percentage of the revenue of the press comes from the advertisement of "trade-mark" articles; and of course the newspaper owners are up in arms against the proposed legislation and are hand and foot with the patent-medicine vendors, with the single exception of one society journal, which has given its contemporaries of the press some pretty severe raps on their advertisements and their opposition to this bill. Commenting further on the relation of the manufacturers of patents, the press and the public, this writer goes so far as to say: "In the interests of the patent-medicine houses the newspapers should not entirely forget the interests of the public, nor for the sake of temporary profit impair their permanent interests." It is certainly refreshing to see at least one paper in Ontario taking such a firm stand for the good of the community; and while all the provisions of the bill may not be considered perfect, it contains elements which ought to count as its essential principles, and which ought to commend it to right-thinking legislators.

FOREIGN.

YELLOW FEVER is declared to be epidemic at Leone, Nicaragua.

DR. CAVALLI, who accompanied the Duke di Abruzzi on his arctic trip, has been made a Commander of the Order of the Italian Crown.

MR. WILLIAM ANDERSON, surgeon to St. Thomas' Hospital, London, and professor of anatomy at the Royal Academy, died October 27.

DR. POZZI, in a recent lecture in Paris, paid a glowing tribute to American surgeons, whom he characterized as "scientifically audacious and brilliantly cool."

THE ASSOCIATION of Physicians of the Seine recently offered a banquet to its president, Dr. R. Jaumin, on the occasion of his decoration with the button of the Legion of Honor.

THE LANCET announces the dedication of a new and permanent building for the Free Home for the Dying. The building is said to be well adapted for its purpose, containing 25 beds, 12 in the woman's ward, 8 in the men's and the rest in single rooms.

SINCE THE DEATH of the plague-stricken sailor from the steamer *Marienburg* at Bremen, several new cases of the disease have been discovered. The outbreak is causing a panic on a small scale, and is affecting seriously the shipping interests of the port.

EIGHT SEAMEN suffering with beri-beri, and the body of one who had died of the disease, were landed at Palmouth, Eng., October 17, from the Norwegian bark *Brilliant*, from Newcastle, N. B., for Grimsby. All had been taken off the waterlogged Norwegian bark *Homewood*, which sailed from Ship Island for Havre, August 3.

AT THE LAST meeting of the British Medical Association, a Committee on Reorganization of the British Medical Association was appointed. This committee, of which Mr. Edmund Owen is chairman, is now holding meetings in order that it may have its report ready to present to the branches by Feb. 1, 1901. We understand that the committee is instructed to consider the advisability of adopting the delegate system. This would be a reform in the right direction, and, if adopted, will likely result in taking away from the council a large part of the power as a legislative body which it enjoys at present.

THE VITAL STATISTICS of New South Wales in 1899, as given in the *British Medical Journal*, show a decreasing birth-rate and a slightly decreasing death-rate. The number of children to a family have dropped from 5.26 to 4.34, and the birth-rate is only 27.10 to the 1000 of population, the lowest recorded. The mean annual increase of population by excess of births over deaths is 1.67 per cent. for 1890 to 1899, as against 2.30 in the period of 1880-81. Illegitimate births are increasing, amounting to 7.16 per cent. of the total, and having increased from 4.09 per cent. to 6.84 per 1000 in 1896-99. Phtisis showed a decrease from 14 per cent. in 1889 to 11 per cent. in 1899, while cancer is on the increase.

Treatment of Dysentery with Methylene Blue.—Berthier administers methylene blue in dysentery in two to four injections of 1 to 2 cc. in a liter of warm water. It rapidly arrests the pains, and diminishes the number of the stools, by its parasitocidal, analgesic and cholagogue action. It is also a mild disinfectant and powerful antitoxin. The patient recovers and retains as much of the injection as possible. The bile reappears in the feces by the second day at latest.—*Int. Med. Congress.*

Correspondence.

Medical Study in Helsingfors, Finland.

VIENNA, Oct. 25, 1900.

To the Editor—The University at Helsingfors is very well equipped, having over 2000 students, and a teaching staff of about 100 professors and docents; a fair proportion of the students belong to the medical faculty, which is justly celebrated throughout Europe.

In the medical clinic I saw some excellent work carried on by Professor Rüneberg, son of the national poet of Finland, and his assistant, T. W. Tallquist. As is well known, these investigators have made admirable studies of the different anemias, especially of that form of secondary anemia which is due to the presence of the bothrioccephalus latus. I saw many of the latter class of cases in the University Hospital, as well as several cases of pernicious anemia, a malady very similar in its clinical history. It is a matter of routine in that clinic to examine microscopically the feces of every patient suffering from any form of anemia, in the hope of finding the eggs of the above parasite. The detection of these eggs is marvelously easy; a very large number of these cases yearly is at the disposal of this clinic. The Helsingfors observers have quite definitely proved by experiments on dogs the manner of action of this parasite. Formerly it was supposed that the worm produced anemia either by its effect on the nervous system, or by the actual absorption of fluid; the real mode, however, is by the generation of some poison which enters the general circulation, and produces destruction of the red corpuscles. Clinically, these patients, besides suffering from a profound anemia, are distinguished by a deep icterus of the conjunctivæ and a dark color of the urine. A curious fact in connection with patients carrying this worm, is that only a very small percentage, hardly 1 per cent., develop a condition of anemia.

An examination of the blood shows regularly a diminution of the leucocytes; the ratio of multinuclear white corpuscles to the uninuclear varies greatly; in this regard this form of anemia varies from the pernicious variety, which shows only an abnormal increase of the uninuclears. Often the number of the red corpuscles in a cubic millimeter sinks down to 500,000; in spite of this great oligocythemia most of these cases recover after the expulsion of the worm. In most of the cases are found nuclear red corpuscles, some of which are normoblasts, but a few are megaloblasts.

Tallquist has constructed a handy method of determining the percentage of hemoglobin; it is by means of comparing a drop of blood sucked up by white filtering paper and comparing it with a colored scale; the filtering paper and the colored scale are bound together in a book, making a clinical determination of hemoglobin a very easy matter.

The surgical clinic at Helsingfors, whose head was formerly the lamented Eslander, during the year 1898, had 1358 in-patients and 9804 out-patients. Their methods were the ordinary ones in use in well-appointed hospitals, and need not be given in extenso.

Among the hard-working peasants of Finland hernias are very common and a very large number of them have been radically treated at this clinic; a careful investigation as to the final result of the different operations for rupture is now being conducted by the surgical staff. This is not yet completed, but through the kindness of Dr. E. Sandelin, I was able to get some preliminary figures. For inguinal hernia the years 1889 till 1898 inclusive there were performed 1039 radical operations, mostly by Bassini's method. Of these cases 5 died; of crural hernia in these years there were 51 operations with one death. For umbilical hernia there were 19 operations with no death, and for hernia in the linea alba there were 31 operations with no death. Relapses after operations for external inguinal hernia took place in about 7 per cent., for internal inguinal hernia in about 12 per cent., in all cases.

It was my privilege to spend two days at the gynecological clinic of Professor Otto Engström, and to witness that skilled operator perform several difficult operations. Professor Eng-

ström's new clinic has only 26 beds; in connection with these is a polyclinic where 1600 to 1700 patients are yearly treated; from Jan. 1, 1900, till Sept. 8, 1900, there were 1472. Moreover, to these should be added the patients belonging to his very large private practice, many of whom go to his clinic for operation. For example during 1899 he performed 56 ovariectomies, 37 ovariectomies with removal of the tubes, 6 ventrofixations for ordinary prolapse, 90 ventrofixations for retroflexion, 23 cauterizations of the ovaries, and so forth. Engström as an operator is very conservative; that is to say, wherever it is possible he endeavors to save an important organ. Uterine myomata he always strives to enucleate. At the congress of gynecologists in Amsterdam, September, 1899, he reported 180 cases of enucleation of intramural myomata of the uterus by the abdominal route with a mortality of hardly 3 per cent. Of these women 9 have since become pregnant. This is certainly not a small result, for more than half of those operated on were unmarried, and among those who were married, were many over 40 years of age, and others suffering from the effects of old inflammations in the pelvis. Since September, 1899, he has had many more cases of enucleation, and many more of his patients have become pregnant. Even in cases of total prolapse of the uterus, he never does an extirpation unless the patient is in, or has passed, the climacteric, or there is reason to suspect cancer. In bad cases of prolapse, as plastic operations on the vagina, and of uteri rarely suffice, Engström makes regularly a ventrofixation of the body of the uterus by a sort of peritoneal suture, to wit: the serosa of the fundus is scraped off, the peritoneum is shoved somewhat to one side, the fundus is then united with strong catgut sutures to the freshened recti muscles just over the symphysis. In this way he gains a very firm union.

So far as the ovaries are concerned, Engström is very careful. In cases of supravaginal amputation on account of myomata as well as extirpation of the uterus for cancer, or prolapse, or in cases of removal of the tubes, he makes the attempt to save them. If the whole ovary can not be saved, he yet tries to preserve a bit of the normal ovarian tissue.

It is surprising how little importance Engström attaches to certain conditions that other gynecologists make much of. According to his experience a retroflected uterus per se is very rarely the cause of the symptoms of disease. The latter are almost invariably occasioned by inflammatory processes, communicated to the uterus or tubes. This view Engström advanced at the Amsterdam Congress, as well as on other occasions. It is needless to say that he rarely uses pessaries. In those retroflexions that are bound down with adhesions he always proceeds in the following manner: After thoroughly breaking up the adhesions the anterior part of the fundus is united by its serous surface to the serous surface of the abdominal wound; a strong silk suture is then passed through all the layers of the abdomen and through the uterus; this suture remains two weeks.

The peasantry and neighboring classes of Finland frequently are found to have floating kidneys; in the year 1899 in Engström's clinic 600 cases were diagnosed; of these only 2 were treated by nephrorrhaphy. Engström usually examines these patients in the upright position, and is heretic enough to believe that this condition per se does not give rise, as a rule, to serious symptoms.

In all the above-mentioned operations the strictest antiseptic precautions are invariably observed, even to the bathing of the patient, operator, and assistants just before the operation. In all plastic operations about the vulva, as a preliminary procedure, the anus is sewn up by a puckering string suture, which naturally is removed directly after the operation. The scientific results of Engström's work are of a very high order, and are published at intervals in the German language, although his teaching is naturally given in the Swedish tongue. Many of the studies are from his own pen, but a large proportion is the work of his pupils. The scientific activity of his school is shown by the fact that a volume appears every three months. The last number, xxxi, is entitled: "Ueber Schwanghaft in unvollkommen entwickeltem Horne eines Uterus bicornis unicollis." ALLEN STAPLES, M.D.

The Individual Communion Cup.

PHILADELPHIA, Nov. 9, 1900.

To the Editor:—In THE JOURNAL for November 3, a brief reference is made (p. 1150) to a "Sanitary Substitute for the Individual Communion Cup," which the *Lancet* suggests, namely, "intinction," or "the ancient custom of dipping the bread in the wine." With regard to the ecclesiastical or sanitary reasons for the revival of this method of celebrating the Lord's supper I have nothing to say here, pro or con. But the reason for advocating the change that the *Lancet* gives, namely, that individual communion cups are not practicable, is valid or not, according to the point of view: that is, whether from the dogmatic and ecclesiastical, or from the purely sanitary.

If the *Lancet* means that according to the doctrine and ritual of the Church of England (presumably, because the state church), individual communion cups are impracticable, then I have nothing to say; the advocates of this sanitary reform do not urge any body of the Christian church to relinquish any beliefs that it considers vital and dear to its spiritual serenity and moral conduct, and holding which, it believes would be jeopardized by substituting individual for commonly-used communion cups. But if the *Lancet* means that individual communion cups are not practicable from a sanitary standpoint, then it is either ignorantly or wilfully, certainly wofully, mistaken. Of course, there are very few churches in England that use individual communion cups; and these are "dissenting" churches. Perhaps the *Lancet* thinks that sanitary progress among dissenters is unknowable, or unworthy of notice. Yet, surely that great journal can hardly be so stupidly agnostic of American literature on the subject, not to know that in these United States there are hundreds of churches and hundreds of thousands of communicants demonstrating that individual cups are not only practicable, but practical; clean, safe, convenient, satisfactory.

The "dissenters" here outnumber the sister denomination of the Church of England by so many millions that the *Lancet* could hardly have failed to know, even with a manifest sectarian bias, that sanitary advancement in this matter is ahead here, even if the editor of that journal believes that in England the state church ought to live up to its traditions as a sanitary leader, and adopt intinction instead of having many mouths of questionable cleanness and health using a single chalice. Sincerely yours,
HOWARD S. ANDERS, M.D.

Marriages.

THOMAS J. TALEBOTT, M.D., to Miss Bessie Olivia Fisher, both of Baltimore, October 31.

JAMES L. PHILLIPS, M.D., New York City, to Miss Marion Ewing Hamilton, Baltimore, Md., October 30.

LOUIS H. BIRMINGHAM, M.D., Boston, to Miss Jennie R. Marsh, at Sutton, Mass., November 1.

MARTIN L. DALTON, M.D., Willis, Va., to Miss Lula M. Lester, Floyd, Va., October 30.

JOHN W. COFFIN, M.D., Beaver Falls, Pa., to Miss Gertrude M. Jolly at Coraopolis, Pa., October 31.

S. WHITFIELD HARTT, M.D., Port Angeles, Wash., to Miss Bertha Dayton, Lisbon, O., October 31.

W. KEELING WOOD, M.D., Centreville, Va., to Miss Elda Belle Vanderlip, of Indian Lake, Mich.

O. WELLINGTON ARCHIBALD, M.D., St. Paul, Minn., to Miss Emily Kennedy, of Jamestown, N. D., at St. Paul, Minn., October 30.

PAUL WILLIAMSON HOWLE, M.D., Mt. Carbon, W. Va., to Miss Adeline Green, Richmond, Va., November 1.

ALBERT F. MILLER, M.D., Auburn, N. Y., to Miss Alice L. Lovell, of Syracuse, N. Y., November 1.

Deaths and Obituaries.

JOHN BERRYMAX, M.D., Edinburgh, 1861, at St. John, N. B., November 4, aged 72. After a trip to Australia he studied in

Edinburgh, and was assistant to, and lived with, Sir James Y. Simpson. On the outbreak of the Civil War he was put in charge of a hospital in West Philadelphia. Soon after the close of the war he moved to New Brunswick and settled in St. John. In 1886 he was returned to the House of Assembly from St. John.

AUGUSTUS D. MERROW, M.D., Bowdoin College, 1854, for thirty-three years a practitioner on Freedom, N. H., twice state representative and twice state senator, at his home, October 16, aged 73.

STANLEY MAC C. STUART, M.D., first lieutenant and assistant surgeon, assigned to 11th Cavalry, U. S. V., at Santa Cruz, Luzon, November 6, from fracture of the skull, caused by a fall from his horse.

REMUS ROBINSON, M.D., College of Physicians and Surgeons, Baltimore, 1881, from paralysis after several years, at his residence in North Windham, October 29.

M. LAFAYETTE GORDON, M.D., College of Physicians and Surgeons, for twenty-eight years a missionary in Japan, at Auburndale, Mass., November 4, aged 57.

CLINTON W. SIEGER, M.D., University of Pennsylvania, 1875, from dropsy, after an illness of several years, at his home, Siegfrieds, Pa., October 27, aged 47.

WILLIAM A. CLAPP, M.D., Jefferson Medical College, 1847, who had practiced medicine more than half a century in New Albany, Ind., November 7, aged 73.

GEORGE M. DEWEY, M.D., Jefferson Medical College, 1883, at Keytesville, Mo., where he had resided for fifty-four years, November 5, aged 81.

JOSHUA N. SPEED, M.D., College of Physicians and Surgeons, Keokuk, Ia., 1860, the oldest practitioner in Rushville, Ill., November 6, aged 66.

EDWARD V. NEWTON, M.D., New York University, 1875, coroner of Norfolk, Va., at that place, November 3, after a lingering illness.

STANHOPE C. SMITH, M.D., Tulane University, 1850, was found dead in his house, Lacey's Springs, Ala., October 30, aged 80.

C. W. RILEY, M.D., Fort Wayne College of Medicine, 1896, from concussion of the brain, in a runaway accident, November 1.

VINCENT SULLIVAN, M.R.C.S., England, of Kingston, Ontario, at Las Vegas, N. M., November 4, from tuberculosis, aged 32.

A. T. ROBINSON, M.D., Albany Medical College, 1895, from apoplexy, at his home, Mansfield, Mass., November 4, aged 34.

THOMAS WHEELER, M.D., Medical College of Evansville, Ind., 1854, at Bloomfield, Ind., October 31, aged 79.

HIRAM GREENTREE, M.D., University of Maryland, 1855, from dysentery in Baltimore, October 28, aged 78.

JAMES P. CLEAVER, M.D., University of Pennsylvania, 1894, at Lakewood, N. J., November 8, of tuberculosis.

CHARLES NORMAN HAMPER, M.D., Edinburgh, at Meeker, Colo. October 29, of heart disease, aged 32.

JAMES H. LOWE, M.D., Tulane University, 1858, at his home, Knight's Ferry, Cal., October 16, aged 64.

T. E. STAPLES, M.D., Missouri Medical College, 1848, at his home, Nelson, Mo., October 27, aged 70.

LEVIN W. MAGRUDER, M.D., Tulane University, 1867, at his home, Woodville, Miss., October 30.

FRANK H. WILY, M.D., Jefferson Medical College, 1887, at Centrepot, Pa., aged 37.

New Instruments.

Grooved Director for Vaginal Hysterectomy. Uterine Elevating Forceps.*

E. D. FERGUSON, M.D.

TROY, N.Y.

Though simplicity and fineness of instruments in operative work is the pride of many surgeons, there can be no question concerning the help that most operators find in special devices to meet special indications. The two instruments which I

* Read at the Meeting of the New York County Medical Association, October 15, 1900.

present have been tested in actual work and have been found helpful.

The first which I show is a director intended to be passed behind the broad ligament in vaginal hysterectomy, thereby bringing at once into the operative field, and in full view of the operator, the lateral tissues to be incised.

Having opened freely into the pouch of Douglas and having freed the bladder from the uterus, the left index finger of the operator is passed behind the broad ligament and made to appear above that structure at the side of the uterus, the peritoneum having been incised previously at the corresponding vesical fold, or the opening being made on the end of the finger which shows above the broad ligament.

Having made sure that no tissue aside from that belonging to the broad ligament is included by the finger and having sufficiently separated the parts, the director is passed along the palmar surface of the finger until its tip appears well below the broad ligament, when the finger can be withdrawn. The instrument is curved so as to allow of its use when the broad ligament will not permit free descent of the uterus, though in most cases in actual use the director can be advanced until the broad ligament lies on the convex portion.

Having thus brought the broad ligament well into view, the groove in the director enables the operator to ligate securely in sections the uterine connections on the selected side,

that side being the one more readily secured by the finger. The method of ligation will be that in which the operator is most facile, the writer preferring the cobbler's stitch made with a strong kangaroo tendon. The separation of the uterus can go hand in hand with the ligation, which when completed allows the uterus, now freed on one side, to be turned out of the vagina, thus affording opportunity for the ligation of the opposite broad ligament and excision of the uterus. Of course, it is understood that at the lower portion of each broad ligament care is taken to avoid the ureter, but it seems to the writer that if the director emerges close to the uterus at its cervical portion, and the sewing is done along the line of the groove, the ureter will necessarily lie to the outside and remain unharmed.

The reintroduction of forcible and moderately protracted compression as a means to control hemorrhage, notably in the use of the angiotribe, would seem to lessen materially the occasion for the device which I present, and the convenience and even utility of the angiotribe is freely conceded by the writer.

There is one condition for the safe use of the angiotribe which should be kept in view, and that is that the stump should have no rude handling after the incision, otherwise the vessels may be re-opened. Should we be unable to include all the parts we wish to excise in the grasp of the angiotribe, the traction and manipulation necessary to bring other and higher parts into view may result in embarrassing or even serious hemorrhage. At present it is believed that most operators will feel a sense of security in interrupted but locked suturing of the broad ligament, and in particular where the condition of the organs is such as to render it desirable to attack the ovaries after the removal of the uterus.

The other instrument is intended to aid in bringing the uterus into the operation field in ventral suspension of the uterus.

It is only occasionally that the operator will feel the urgent need of such a device, though in many cases he will find it a convenience.

In cases where the uterus is somewhat rigid in its retroflected form, and the pelvic tissues do not allow it to return forward

with slight support, this device will be found a convenience. If added to these obstacles to easy operating, we have to deal with a thick layer of abdominal fat in a patient subject to ether retching, the difficulties of the operation become great without some device like the uterine elevating forceps.

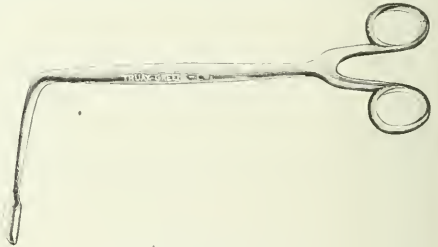
The method of application is simple, one blade being applied behind the uterus on the palmar surface of the requisite number of fingers, the other blade being placed in front of the uterus, when on locking and compressing the uterus, that organ is completely under the control of the operator, who proceeds to place the anterior stitch, passing it through the fundus of the uterus between the blades of the forceps. As soon as this stitch is made to include both lateral walls and the uterus, the forceps can be removed, as the uterus is now under control.

It is possible that the shape of the blades would have been modified if the author could have been at the side of the instrument-maker, for the shape is not entirely satisfactory to him, though Tiemann & Co. have done exceedingly well from the rather poor drawings which were furnished. In actual work, however, the instrument has never failed to fill all requirements and that without any detectable abrasion on the uterus.

Epiglottis Retractor.

SETH SCOTT BISHOP, M.D.
CHICAGO.

The accompanying figure illustrates an epiglottis retractor designed for use in cases in which it is impossible to obtain a good view of the interior of the larynx without holding the epiglottis upward and forward. The spade-like blade which rests on the posterior or under surface of the epiglottis is sufficiently wide to produce a certain degree of a flattening



BISHOP'S EPIGLOTTIS RETRACTOR.

effect on an omega-shaped epiglottis, thus facilitating laryngoscopy in two ways. A firm control over the retractor is given by the employment of the double-ring handle, such as is used in the biting forceps.

Books and Pamphlets.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

BOOKS.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the Kindred Branches with their Pronunciation, Derivation, and Definition, Including Much Collateral Information of an Encyclopedic Character. By W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician in the University of Pennsylvania Hospital. Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Diplococci, Micrococci, Streptococci, Ptomains and Leuko-mains, Weights and Measures; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc. With Numerous Illustrations and 24 Colored Plates. Leather. Pp. 770. Price, \$4.50. Plain, \$5.00. Index. Philadelphia and London: W. B. Saunders & Co., 1900.

PATHOLOGY AND MORBID ANATOMY. By T. Henry Green, M.D., F.R.C.P., Physician and Special Lecturer on Clinical Medicine at Charing Cross Hospital. Revised and Enlarged by H. Montague Murray, M.D., F.R.C.P., Physician to Out Patients, and Lecturer on Pathology and Morbid Anatomy at Charing Cross Hospital. Ninth American Revised from the Ninth English Edition by Walton Martin, Ph.D., M.D., Assistant Demonstrator of Anatomy,

College of Physicians and Surgeons, Columbia University. With 4 Colored Plates and 339 Illustrations. Cloth. Pp. 585. Price, \$3.25. Philadelphia and New York: Lea Bros. & Co. 1900.

SAUNDERS' POCKET FORMULARY. With an Appendix Containing Posological Table; Formule and Doses for Hypodermic Medication; List of Poisons and their Antidotes; Diarrhetes of the Female Pelvis and Fetal Head; Obstetrical Table; Diet List for Nervous Diseases; Materials and Drugs Used in Antiseptic Surgery; Treatment of Asphyxia from Drowning; Surgical Remembrance; Tables of Incompatibilities; Eruptive Fevers; Weights and Measures, etc. By William M. Powell, M.D., Author of "Essentials of Diseases of Children." Sixth Edition. Thoroughly Revised. Leather. Pp. 207. Price, \$2.00. Philadelphia: W. B. Saunders & Co. 1900.

EYE, EAR, NOSE AND THROAT. A Manual for Students and Practitioners. By William Lincoln Balleger, M.D., Assistant Professor of Otolaryngology and Laryngology in the College of Medicine of the University of Illinois, and A. G. Wippert, M. D., Professor of Ophthalmology and Otolaryngology, Chicago Eye, Ear, Nose and Throat College. Series edited by Bern B. Gallouet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with 150 Engravings and 6 Colored Plates. Cloth. Pp. 511. Price, \$2.50. Philadelphia and New York: Lea Brothers & Co.

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Miscellany.

GENERAL REMARKS ON THE GUNSHOT WOUNDS OF 1898 AND 1899.

[Extract from Annual Report, now in press, of the Surgeon-General of the Army.]

Of the 4919 men injured by gunshot during the years 1898 and 1899, 586 were killed and 4333 were wounded and received into the field and other hospitals. The killed constituted 11.9 per cent. of those struck; the wounded 88.1 per cent. In other words, 1 man was killed for every 7.4 wounded. The Mauser bullet must therefore be regarded as less deadly than the larger missile used during the Civil War. The "Medical and Surgical History" of the Civil War shows the following casualties:

	Killed.	Wounded.
United States troops.....	59,580	280,040
Confederate troops.....	31,425	227,871
Total.....	111,285	507,911

In percentages the casualties were: killed 17.97; wounded 82.03, or 1 man killed to every 4.56 wounded. The relative proportion of killed was therefore considerably larger during the Civil War than during our recent experiences. It is to be noted also that many of the wounds of the past two years were made by missiles of large caliber. Of those reported in 1899, 471 were specially stated as having been caused by the Remington bullet of caliber .45. It is safe to say that had the whole number of wounds received been inflicted by the

smaller Mauser or Krag-Jørgensen bullet the percentage of immediately fatal wounds would have been materially lessened.

The less deadly character of the injuries inflicted by the modern bullet is manifested also when we exclude the killed and regard only those wounds which came under the care of the surgeons. Of these, during the two years, there were 4333, and 259 of the patients, or 6 per cent. of the whole number, died. The corresponding percentage from the records of the Civil War was 14.3. Table C in Part I of the medical volume of the "Medical and Surgical History of the War of the Rebellion," shows that among the white troops of the army there were borne on the reports of sick and wounded 230,018 gunshot wounds, of which 32,907 or 14.3 per cent. proved fatal. The marked reduction of the ratio of killed to wounded may be placed to the credit of the small-caliber bullet; but the lessened mortality among the cases which came into hospital may not wholly be attributed to the humane character of the wounds inflicted by this missile. Due credit must be given to the improved surgical methods of the present day. Wounds of any region of the body may be taken in comparison and the result will always be found to show a decided lessening in the percentage of cases ending fatally among those of the past two years as compared with those of the Civil War. Take, for instance, gunshot wounds of the femur. During the Civil War surgeons in the field hospitals regarded a fractured femur as a serious menace to life, the danger from which was believed to be materially lessened by an immediate amputation. The field-hospital surgical work after a battle consisted in great part of amputations, excisions and resections. Of 6576 fractures of the femur 2923 cases were treated by primary amputation, 186 by resection and the remaining 3467 by conservative or expectant measures; this conservative action being due in many cases to a want of favorable conditions for the performance of primary operations. The limb was promptly amputated in 44.4 per cent. of these gunshot fractures. On the other hand during the past two years 82 cases of gunshot fracture of the femur were reported, 6 of which were treated by primary amputation and 2 by resection, the remaining 74 cases being treated by conservative methods, not because the conditions were not favorable for the performance of primary operations, but because of a conviction that under present methods of treatment the limb could be preserved without adding materially to the danger of life. The limb was lost through surgical intervention in only 7.3 per cent. of the cases.

Not only limbs but lives were saved by the surgical practice of the past two years. In the 82 gunshot fractures of the femur the upper third was involved in 32, of which 5 were fatal, the middle third in 27, of which 3 were fatal, and the lower third in 23, of which 1 was fatal. The mortality varied from 4.3 per cent. of the cases in which the lower third was fractured to 15.6 per cent. of the cases in which the upper third was the site of the injury, whereas the corresponding percentages of fatal cases during the Civil War were respectively 42.8 and 49.7. The whole of the lessened mortality in these serious fractures may be credited to the protection given to the wound by the first-aid dressing and to the care exercised in the subsequent aseptic treatment of the fractured limb.

In penetrating wounds of the thorax the rate of mortality fell from 62.6 per cent. during the Civil War to 27.8 per cent. during the years 1898 and 1899. The Civil War reports show 8403 cases in which the results were determined; 6260 deaths occurred among the number. The reports for the later years, as already stated, show 198 cases, of which 55 were fatal.

There were during the Civil War 3475 penetrating wounds of the abdomen in which the ultimate results were determined; 3031 of these, or 87.2 per cent. of the total, proved fatal. During the years 1898 and 1899 116 cases, 81 fatal, were recorded, the fatal cases constituting 70 per cent. of the total. Of 10 cases in which laparotomy was performed 9 were fatal.

The alteration in the percentages of mortality in fractures of the cranium is less marked than in wounds of other parts of the body. Of 4243 cases of cranial fracture during the Civil War, 2514, or 59.2 per cent. were fatal. In 1898 and 1899 68 cases were recorded, with 37 deaths, the latter forming 54.4 per cent. of the whole number.

Societies.

Indian Territory Medical Association, Muscogee, Dec. 4-5.
Pan-American Medical Congress, Havana, Cuba, Dec. 26-28.
Western Surgical and Gynecological Association, Minneapolis, Minn., Dec. 27-28.

THE OHIO COUNTY (W. Va.) MEDICAL SOCIETY at its recent meeting at Wheeling elected the following officers: Dr. William R. Taylor, president; Dr. Charles A. Wingerter, vice-president; Dr. Henri P. Linsz, secretary, and Dr. Robert J. Reed, treasurer.

THE PEORIA (Ill.) CITY MEDICAL SOCIETY, at its annual meeting, October 30, elected Dr. Emerson M. Sutton, president; Dr. William T. Sloan, vice-president; Dr. Emma J. Lucas, treasurer; Dr. Elmer M. Eckard, secretary; Dr. Albert L. Corcoran, censor, and Dr. Aloysius J. Kanne, pathologist.

THE MEDICAL CLUB, composed of women physicians of New Jersey, was organized November 2 at Newark. The officers elected were Dr. Katherine D. Porter, Orange, president; Dr. Mary D. Hussey, East Orange, recording secretary; Dr. Isabel M. Geddes, Newark, corresponding secretary, and Dr. Augusta M. Madison, Newark, treasurer.

THE CENTRAL DISTRICT MEDICAL SOCIETY, at its session, November 2, at Sedalia, Mo., elected Dr. Joseph B. Norman, Pilot Grove, president; Drs. Squire H. Redmon, Tipton, Ethan F. Statts, Beaman, and A. E. Monroe, New Lebanon, vice-presidents; Dr. William O. Dunlap, Sedalia, treasurer, and Dr. Horace B. Cole, Sedalia, secretary.

LUCAS COUNTY (Ohio) MEDICAL SOCIETY met in Toledo, November 2. Dr. Park L. Myers read a paper on "Some Thoughts on the Alleged Deterioration of the Human Female as a Factor in Reproduction," and Dr. Orville W. Kimball a paper on "Diphtheria." "Prophylaxis and Treatment of Incipient Tuberculosis" was the subject for general discussion, opened by Drs. J. T. Jacobson and William A. Dickey.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS held a special meeting in Brooklyn, November 4, when eulogies were delivered on the following members who had died during the year; Drs. John Cargill Shaw, Charles Edward West, John Cooper, Aaron Edgerton Peck, Robert Francis Cunnion, Henry Dwight Bliss, Landon Carter Gray, Alexander Johnston Chalmers Skene, Julius Charles Rappold, Frank Stephen Milbury and William Webb Browning.

THE AESCULAPIAN SOCIETY OF THE WABASH VALLEY held its fifty-fourth annual meeting at Paris, Ill., October 26, and elected Dr. John A. Baughman, Neoga, president; Dr. Francis D. Lydick, Paris, vice-president; and Dr. Harry McKenna, Paris, secretary and treasurer. A resolution was passed by the society prohibiting its members from advertising special methods of treatment, on pain of expulsion. Among the papers read were those by Dr. W. J. Fernald, Rantoul, on "Strychnia as a Therapeutic Agent"; Dr. E. L. Birch, Robinson, on "Puerperal Hemorrhage"; Dr. J. L. Firebaugh, Robinson, on "Shock," and President Charles B. Johnson, of the State Board of Health, Champaign, on "Some Medical Discoveries of the Nineteenth Century."

San Francisco County Medical Society.

Regular Meeting, Oct. 9, 1900.

SOME ACCIDENTS IN THE USE OF OBSTETRIC FORCEPS.

DR. HENRY GIBBONS, JR., presented this paper. He bases his experience with forceps on 1200 obstetric cases in private practice, and 150 in consultation. In 190 of these cases forceps had been used. With ordinary care, he thinks serious injury to the mother from forceps used was not likely to occur. He has never known a death to take place, or anything more than laceration of the soft parts. In these days of aseptic methods death should not occur, but the injury to the soft parts may leave important disabilities. Extensive lacerations of the perineum are more likely to occur in occipito-posterior positions, when rotation anteriorly has failed to take place. Lacerations of the neck of the uterus not infrequently occur from the use of the instruments by attempting to extract the head before full dilatation of the cervix takes place; and if the patient's strength is good, and there are no other contra-indications, the forceps should never be applied until dilatation is complete. He called attention to the liability of bruising the tissues covering the inner surface of the pubic arch by

the jamming of the head and forceps against it. This occurs when the head is still in the oblique diameter, and pretty well up, so that the handles of the ordinary forceps can not be depressed sufficiently to insure traction in the direction of the axis; and in these cases axis-traction forceps should be used, preferably those of Tarnier.

The danger to the child is far more serious than to the mother. Aside from minor injuries, which are not infrequent, but are usually of little importance, fracture of the bones of the head, rupture of vessels in the brain, or lacerations of the brain itself, may occur. The conditions of election for the forceps are complete dilatation of the cervix, sufficient time for molding of head, that it may more easily pass through the pelvis, completion of the long rotation in occiput or chin posterior positions, and rotation of the head into the conjugate diameter of the pelvis. When these conspire, the forceps, in competent hands, have almost no danger to the child, and the danger should not be much, even with the tyro, if he has some experience in the use of tools and is a man of good judgment. But as we recede from these conditions the risk to the child becomes greater. When the head is still in the oblique diameter, and not high up, the risk is not greatly increased, provided the instruments are applied to the sides of the head and in its occipital diameter with the occiput to the heel of the blades. The difficulties of application have, however, increased, and not even an expert can always get them in exact position. If not exactly applied they grasp the head more or less obliquely, and if much force is required to effect delivery any of the accidents named above may occur. He thinks there was no excuse for the accidents which occur from forceps slipping. Such an accident has never occurred in his practice. If the index finger of the hand that clasps the lock be extended to touch the presenting part the operator at once appreciates when slipping begins and can avoid it. All the risks to the child are increased the higher the head is in the pelvis, with the added danger resulting from the impossibility, with the ordinary forceps, of making traction in the direction of the axis of that part of the pelvis in which the head rests, and of being required to apply extra force, since much is lost by the necessary dragging of the head against the pubic arch instead of under it. The Tarnier forceps are far better suited to such cases. When the head is at the brim the dangers are supreme. None but an axis traction forceps should be used in such cases.

He urged more conservatism in the use of instruments in labor, bearing in mind the fact that the duration of normal labor in primipara averages twenty hours, and often extends into the second, or even the third, day without serious inconvenience or harm; and in the absence of those emergencies which imperatively call for the application of forceps the case should be left to nature.

Dr. JAMES F. McCONE considered episiotomy useful for preventing deep perineal tears, and thought Eichelberg's high incisions the best method of performing episiotomy. The necessity of waiting for the molding of the child's head, particularly in women of rachitic pelvis, should be emphasized. He had seen spoon-like depressions that allowed heads to pass through contracted straits. Had forceps been applied too early injuries high up in the pelvis would have resulted.

TREATMENT OF LARYNGEAL TUBERCULOSIS.

Dr. ROBERT D. COIN, in this paper, divided the disease, as regards its therapeutics, into three stages. In the first stage, with the exception of a circumscribed infiltration, or ulceration, the larynx is healthy. In this stage, the only one in which a permanent cure can be hoped for, the treatment consists in curettement in case an infiltration be present; in eauterization with lactic acid in case an ulcer be present. If the general condition, especially that of the lungs, be good these procedures are imperative and should be repeated at intervals of from one to three weeks until the diseased condition is completely removed.

In the second stage the larynx presents extensive infiltrations or ulcerations. Here complete elimination of the morbid tissue can no longer be hoped for, but antiseptic treatment comes to the front, the author preferring antiseptic inhalations

of carbolic or boracic acid or lysol. If the epiglottis permit an inspection of the interior of the larynx, the antiseptic swab can be used to advantage. By these methods secondary infection, and the terrible dyspnea and dysphagia of the last stage is prevented.

Finally, if the case is first seen in its last pitiful stage, all that can be done is to treat it symptomatically, to administer a morphia powder before each meal, or, better still, to apply a 10 or 20 per cent. solution of cocaine to the pharynx. In impending suffocation, tracheotomy must of course be performed.

TECHNIC OF THE NEW BASSINI OPERATION.

Dr. CAMPBELL FORD presented a short paper describing the technic from his own observations.

Dr. HENRY J. KREUTZMANN presented two pathological specimens, namely, a uterine fibroid and a multilocular cyst of the ovary.

Omaha Medical Society.

Meeting of Oct. 9, 1900.

FRACTURES OF THE NECK OF THE FEMUR.

Dr. J. P. LORD stated that most works give a very antiquated treatment for these fractures. They usually advise the use of Buck's extension and sand-bags. Senn's method of securing better apposition of the fragments is much used and approved. All authorities advise reduction and the best possible apposition. The ideal treatment is difficult to carry out. Improper immobilization and fixation are the chief causes of non-union. The old methods of the weight and pulley fail; eversion occurs; poor results follow. To best show his method, he gave the details of a case of fracture of the narrow part of the neck of the femur in a man of 37, weighing 190 pounds. He had leaped across the "horse" in a gymnasium and landed beyond the mat on the floor, falling on his hip; there was immediate eversion and $\frac{3}{4}$ inch shortening. These two things led to the diagnosis of fracture at the narrow part of the neck rather than at the base. General anesthesia was given; 4-inch adhesive strap, with block at the end, was run from the perineum down; the malleoli were protected by cotton around them, not over them, as is too common. The limb was covered with cotton and bandaged; plaster-of-paris bandage was then placed from the toes to mid-thigh; traction was made from a pulley in the ceiling behind the patient to a band pulling against the perineum. The extension block was pulled to over-correction of the shortening. A padded board $2\frac{1}{2}$ feet long was then incorporated into the outer and posterior aspect of the thigh and carried up and behind the greater trochanter. The pelvis was well padded and the plaster bandage was then carried up on to the trunk to the cartilage of the eighth rib. The mattress was reinforced with boards beneath to prevent sinking down in the bed. Fifteen pounds were placed on the extension and it was believed that apposition and fixation were well done. In eight weeks the dressing was reapplied and in four more it was removed. There was no eversion and only $\frac{1}{4}$ inch of shortening. There was no limp. The old methods give about 2 or $2\frac{1}{2}$ inches of shortening and many cases of non-union. Serious trouble often results in the knee or ankle from improper extension.

Dr. A. F. JONAS, in discussion, said that Senn devoted much time to the subject of impacted fractures; he reached the conclusion that impaction was often desirable; when there was no shortening no disturbance was to be made. The aged often die from these fractures and great care must be taken. Dr. Jonas was of the opinion that the method outlined by Dr. Lord was a good one, but not the only one. Buck's extension and the sand-bags are not good; they move or are moved. He has had most excellent results from the Volkman splint; it is a tin trough in which the thigh and leg rest; lateral arms of iron project from the sides so that turning of the splint is impossible. Extension is made in the ordinary manner; eversion is impossible. An advantage of this splint is that it lies clear of the bed.

Dr. HAMILTON said that he had more annoyance from such fractures than from any other troubles. When the periosteum

was torn away from the proximal end of the bone, non-union was certain, no matter what apparatus was used.

DR. J. CAMERON ANDERSON said that the old classification of intra- and extra-capsular was not a good one; he preferred to class them as at the small part or at the base of the neck. Senn's apparatus was by no means approved by the best surgeons. In sleety times injury of the soft parts forbids any fixed dressing. Fractures of the neck in children are often overlooked or called hip-joint disease.

DR. A. F. JOXAS related his experiences and thoughts on the International Medical Congress, in extenso.

Vermont State Medical Society.

Annual Meeting, Rutland, Oct. 11 and 12, 1900.

(Continued from p. 1232.)

President Dr. M. R. Crain, Rutland, in the chair.

LOBAR PNEUMONIA.

DR. W. L. HEATH, Richmond, presented a paper on lobar pneumonia. He defined it as an acute disease in which a specific parasite invades the air cells of one or more pulmonary lobes, where it grows in the fibrinous medium exuded from the capillaries and generates a toxin that affects the system at large with constitutional disturbances. In the treatment of pneumonia he recommended the inhalation of chloroform in connection with oxygen, by adding one or two drams to the water in the wash bottle; calomel for its effect on the bowels as well as its absorptive effects, and blood-letting in robust patients. Aconite is a safe drug for relaxing the arterial system. It withdraws the blood from the venous system and stores it in the arterial. Alcohol is valuable and should be given early; guaiacol with hypophosphites in convalescence. For the cough, codein or heroin, with muriate or carbonate of ammonium. Steam inhalations are useful and comforting to the patient. The application of cold to reduce temperature is valuable. The diet should be liquid and the free administration of water is recommended.

VAGINAL HYSTERECTOMY.

DR. C. W. STROBELL, Rutland, said the operation of vaginal hysterectomy is more difficult of performance than its progenitor, which enters the abdomen along the linea alba. The operation has met with violent opposition. The objections urged against it are the alleged impracticability of rendering the birth canal sterile, danger of hemorrhage, narrowness of working space, and danger of pelvic hernia and injuring the intestine. Improved technique, and the combined lithotomy and Trendelenburg posture have proved the fallacy of most of these and experience has shown pelvic hernia to be rare. The writer noted that nausea and surgical shock were markedly less when the lower route was taken, and that intestinal obstruction and intestinal paralysis were rare.

Vaginal hysterectomy is performed by three methods, namely, the American, the German and the French. Of these, the American is the most surgical, and the French is the safest in the hands of most operators.

PUERPERAL SEPTICEMIA.

DR. E. M. POIN, Rutland, read a paper with the above title. Puerperal septicemia is a preventable disease; it is a wound infection, and arises from septic material being carried into raw surfaces at the time of confinement. As a rule the poison is introduced into the wound by the physician or attendants, or by instruments or dressings. There are cases, however, in which the disease arises from pus tubes, pelvic abscesses, etc. A confinement case should be conducted as aseptically as an abdominal section. Post-partum douches should never be used excepting as symptoms demand them, for the reason that the uterine cavity is supposedly aseptic, while the vagina is not, and by reversing the flow secretions may be carried within the uterus, thus favoring infection. Lacerations and contusions should be treated on surgical principles, and aseptic dressings always used after confinement. Sepsis generally arises from retained membranes or clots, and is promptly relieved by intrauterine irrigation.

RUPTURE OF THE UTERUS DURING CHILD-BIRTH.

DR. L. H. HEMENWAY, Manchester, reported a case of rup-

ture of the uterus during confinement, with recovery of the patient. The symptoms were sudden and extreme exhaustion of the patient, with rapid and feeble pulse, great pallor, and an anxious countenance. An examination showed the head presenting, and a shoulder and arm could be plainly felt just beneath the abdominal wall. An attempt to put on the forceps failed, and the child was turned and delivered. The woman made a slow but perfect recovery.

ABDOMINAL PALPATION IN OBSTETRICS.

DR. F. E. CLARR, Burlington, advocated the employment of abdominal palpation in all obstetrical cases. He said that the presentation and position could be made out in nearly all cases, by this means, and he deprecated frequent vaginal examinations. If practiced early, malpositions could be corrected. The special point urged was that vaginal examinations increased the danger of sepsis, and should therefore be practiced as infrequently as possible. The writer explained in detail the technique of abdominal palpation, and urged all physicians to become as expert as possible in the method.

(To be Continued.)

Toronto Clinical Society.

First Regular Meeting of Season, October 3, 1900.

President DR. W. H. B. Aikins in the chair.

PRESIDENT'S ADDRESS.

DR. AIKINS referred to the honor conferred on the Society through Mr. I. H. Cameron, one of their number, being elected an honorary F. R. C. S. The Society now has three members who hold this degree. The better consideration of suggestive therapeutics was insisted on. He thought this branch of medicine was now being put on a scientific basis.

THE MEDICAL SIDE OF THE SOUTH AFRICAN WAR.

DR. GEORGE STIRLING RYERSON delivered an address on the above subject. It dealt particularly with typhoid fever, dysentery and veldt fever. He especially eulogised the splendid work of the hospital orderlies. Their work was indeed trying. He had not seen any typhus fever. A noteworthy fact was the total absence of smallpox in an army of 200,000 men, which proved most emphatically the importance and the power of vaccination. He thought statistics would prove later that typhoid inoculation was a valuable means of preventing this scourge of armies. No Canadians had been inoculated, and there had resulted no mortality from the process.

RETROPHARYNGEAL ABSCESS.

DR. G. SILVERTHORN presented a child less than a year old with a retropharyngeal abscess following an attack of measles. Symptoms occurring were dyspnea and convulsions. Operation was performed externally through the sternomastoid muscle of the right side. Recovery took place within a week from that date. There was no history of syphilis or tuberculosis, and it was not carious in origin.

DISPLACEMENT OF THE LIVER.

DR. H. B. ANDERSON presented a patient and described the history of the case. The subject was a young man aged 25 years, who for the past ten years had repeated attacks of asthma. He had also had pleurisy on the right side three times. The lower border of the liver was below the umbilicus, and percussion over the normal position of the organ elicited a tympanitic note. Rest in bed in this case always resulted in beneficial results. The interesting point in the case is that it is associated with definite attacks of spasmodic asthma.

PECULIAR BULLET COURSE.

DR. SILVERTHORN presented this paper and specimens. They were from the body of a father who had been shot by his son. On the left side, commencing 1½ inches outside the nipple line, and on a line with the nipple itself, was the wound of entrance, ¾ inch wide. On following this wound backward, the bullet was found to have fractured the left fifth rib and torn up a portion of its upper edge 2¾ inches from its junction with its cartilage. It then passed through the pleura and through the anterior angle of the upper lobe of the lung, and then through the pericardium; then along the left border of

the heart, which it grooved up, and passed on backward, tunneling the fat in the auriculo-ventricular groove; it then passed out again from the pericardium and backward through the anterior portion of the lower lobe, and still backward into the aorta, and just through the aorta opposite the ninth dorsal vertebra, causing considerable amount of hemorrhage into the posterior mediastinum; but the bullet could not be found. It could not be found where it was apparently lost, so an examination of the arteries was made; it was found in the left femoral artery, just below where the profunda femoris is given off. The size of the bullet was 1/4 inch in diameter, and in impinging the posterior wall of the aorta had perforated that wall supported behind by the vertebral column, had fallen back into the blood-stream, and, either through the force of gravity or the force of the blood-current, or both combined, had been swept on to the position in which it was ultimately located. The specimen of the artery was also shown with the bullet in situ.

Therapeutics.

Chronic Rheumatism.

R. Potassii iodidi	.....	3ii	8
Vini colchici rad	.....	3iiss	10
Aque menth. pip., q. s. ad.	.....	3iii	96

M. Sig. One teaspoonful every four hours.

Sweating Feet.

R. Sodii salicylatis	.....	gr. xxx	2
Potassii permanganatis	.....	3i	4
Bi-smuthi subnitratris	.....	3iiss	48
Acidi borici, q. s.	.....	3iii	96

M. Sig. Dust on the feet and into the stockings and shoes every morning.

First Stage of Pleurisy.

R. Tinet. aconiti	.....	m. vii	45
Spts. etheris nitrosi	.....	3vi	24
Syrupi simplicis, q. s. ad.	.....	3iv	128

M. Sig. One dessertspoonful every hour until eight doses are taken, then every two or three hours.

Furuncles.

R. Acidi carbol.	.....	gr. v	33
Ext. ergotæ flu.	.....	3i	4
Pulv. amyli	.....	
Zinci oxidii, aa.	.....	3ii	8
Ung. aque rosæ	.....	3viii	32

M. Ft. unguentum. Sig. Spread the ointment on a thick layer of absorbent cotton and hold in place by means of adhesive plaster.

—L. D. Bulkley.

Myalgia.

R. Linimenti chloroformi	.....	
Tinet. aconiti	.....	
Tinet. opii	.....	
Spiritus camphoræ, aa.	.....	3i	32

M. Ft. linimentum. Sig. Apply locally two or three times a day.

Mucous Patches in the Mouth.

R. Acidi borici	.....	3ii	8
Glycerin	.....	3ii	64
Tinet. myrrhæ	.....	3i	32
Aque rosæ, q. s. ad.	.....	3viii	256

M. Sig. To be used locally to the patches in the mouth.

Mucomembranous Colitis.

R. Bi-smuthi subnitratris	.....	
Bi-smuthi salicylatis, aa.	.....	3iiss	10
Mucilaginis eydonii (quincee)	.....	O i	512

M. Sig. Use as rectal injection.

Aortic Insufficiency in Acute Articular Rheumatism.

R. Sparteine sulphatis	.....	gr. iss	09
Infusi digitalis	.....	
Syrupi aurantii amari, aa.	.....	3i	32
Aque—gum	.....	3ii	64

M. Sig. A tablespoonful every four hours.

—*Reforma Medicæ.*

Eczema of the Scalp in Children.

R. Resoreini	.....	gr. vii	15
Sulphuris	.....	gr. xli	2 66
Lanolini	.....	3ii	8
Adipis, q. s. ad.	.....	3iii	96

M. Sig. Apply once or twice daily.

Acute Gastritis in Children.

R. Acidi carbolici	.....	gtt. iv	25
Sodii bicarb.	.....	3iiss	6
Elix. aurantii	.....	3ss	16
Aque, q. s. ad.	.....	3iv	128

M. Sig. One teaspoonful every three hours.

Silver Nitrate in Intestinal Tuberculosis.

Petit, in *Klin. Ther. Woch.*, states that silver nitrate, in intestinal tuberculosis of children, both disinfects the intestine and promotes the healing of the tuberculous ulcers.

R. Argenti nitratis	.....	gr. 1/7	009
Amyli	.....	
Pulv. glycyrrhizæ, aa.	.....	gr. 3/10	02

M. Ft. pilula No. i. Sig. One such pill to be given to a child between 5 and 10 years of age once a day for three days, first emptying the rectum by means of an enema of normal salt solution. Increase the number of pills to three a day for two days if the diarrhea has not ceased.

For children under 5 years he gives silver nitrate in solution or as an enema.

R. Argenti nitratis	.....	gr. 1/7	009
Aque destil	.....	3i	32
Syrupi rubi idæi, q. s.,	.....	3iiss	80

M. Sig. One tablespoonful every fifteen or twenty minutes until the entire amount is taken, to a child over 6 months of age.

—N. Y. Med. Jour.

Dry Pleurisy.

R. Tinet. aconiti	.....	m. x	66
Spts. etheris nitrosi	.....	3ii	8
Liq. potassii citratris	.....	3iii	96
Syrupi tolutani, q. s. ad.	.....	3iv	128

M. Sig. Two teaspoonfuls every hour.

Pleurisy With Effusion.

R. Ammonii chloridi	.....	
Ammonii carbonatis, aa.	.....	3i	4
Tinet. cubebæ	.....	3iii	96
Syrupi tolutani, q. s. ad.	.....	3iv	128

M. Sig. Two teaspoonfuls every hour.

—Butler.

Locomotor Ataxia—Systemic Treatment.

R. Ferri lactatis	.....	gr. xl	2 66
Ext. cinchonæ	.....	3i	4
Ext. nucis vomicæ	.....	gr. viiiss	5
Ext. gentianæ, q. s.	.....	

M. Ft. pillule No. xx. Sig. One or two pills three times a day.

—Erb.

Topical Application for Burns.

R. Tannin	.....	
Alcoholis, aa.	.....	3iiss	10
Etheris sulphurici	.....	3iiss	80

M. Sig. For external use.

—*Bul. Gén. de Thé.*

Ringworm of the Scalp—Tinea Circinata.

R. Hydrarg. chloridi corros	.....	gr. 1 6	01
Acidi tartarici	.....	gr. viii	5
Cocainæ hydrochloratis	.....	gr. xv	1
Alcoholis	.....	
Aque destil., aa.	.....	3i	32

M. Sig. Scrape the affected parts well and make multiple subcutaneous injections of the above solution.

—DuCastel, *Wéd. Woch.*

Simple Conjunctivitis.

R. Zinci sulphatis	.....	gr. 2/5	026
Aque destil.	.....	3iv	16

M. Sig. To be used as a lotion for the eye.

R. Plumbi acetatis neutralis	.....	gr. 1/5	013
Aque destil.	.....	3iiss	10

M. Sig. As a lotion.

Keep cold compress constantly on the eye. —Ohlemann.

Eczema of the Scalp.

R. Hydrarg. sulph. rub.	gr. v	33
Sulphuris sublim.	gr. xx	1 33
Ol. bergamoti.	gr. viii	5
Vaselini, q. s. ad.	3i	32

M. Ft. unguentum. Sig. Use locally night and morning. —Max: *Med. Prog.*

Prostatorrhœa.

R. Tinct. nucis vomicæ .....m.	xvi	1
Tinct. cantharidis .....m.	viii	5
Liq. ferri et ammonii acetatis, q. s. ad.	3vi	256

M. Sig. One tablespoonful three times a day, after meals.

Irritable Bladder.

R. Salol		
Tinct. hyoscyami, aa.	3ii	8
Infusi buchii, q. s. ad.	3vi	192

M. Sig. One tablespoonful three times a day.—Fothergill.

Scarlatinal Sore Throat.

R. Hydrargyri chloridi corros.	gr. i	06
Ammonii sulph. ichthyolati.	gr. lxxv	5
Aque destil., q. s. ad.	3iii	96

M. Sig. Use as a local application two or three times a day. —A. Baginsky: *Med. Age.*

Dr. Unna, in *Medical News*, recommends paraformaldehyde as a caustic preparation for the removal of small cutaneous growths.

R. Paraform .....gr.	xv	1
Ol. ricini .....m.	viii	5
Collodii .....3v	20	

M. Sig. Apply externally. Paraform is not soluble in collodion, but sufficient is taken up for this application. The caustic action is limited and not severe and can be applied by the patient himself.

Acute Coryza.

R. Menthol .....gr.	xv	1
Salol .....3i	4	
Acidi boracici .....3iv	16	

M. Sig. Use as an insufflation in the nose two or three times a day. —Garel.

To Prevent Erections and Nocturnal Emissions in Treatment of Gonorrhœa.

R. Lupulin .....gr.	xv	1
Camphoræ .....gr.	ii	12
Ext. humuli, q. s.		

M. Ft. pilule No. x. Sig. Take six a day.

Infantile Eczema.

R. Acidi salicylici .....3ss	2
Bismuthi subnitratris .....3vi	24
Amyli .....3iiss	10
Unguenti aquæ rosæ .....3ii	64

M. Ft. unguentum. Sig. Apply locally two or three times a day. Of use in the moist variety.

Infantile Diarrhœa.

R. Acidi lactici .....gr.	xxxvi	2|36
Syrupi cydonii (quince) .....3viiss	30	
Aque destil. ....3i	32	

M. Sig. Teaspoonful every two hours. Thiereclin, in *Gazetta Med. Lombarda*, advocates the use of lactic acid in doses of 30 grains daily in children less than one year old. —N. Y. *Med. Jour.*

Atonia Intestinalis—Deficient Peristalsis.

R. Sodii benzoatis		
Pulv. rhei rad., aa. ....gr.	viii	5
Ext. nucis vomicæ .....gr.	1 3	02

M. Sig. One powder two or three times a day.—Huchow.

Extensive Burns.

R. Europhen .....3i	4
Vaselini	
Vaselini .....3i	32

M. Sig. Apply locally three or four times a day.

R. Ichthyol .....gr.	xl	4 66
Zinci oxidii .....3i	32	
Magnesi carbonatis .....3iv	16	

M. Sig. Apply locally twice a day.

Ozena.

R. Creosoti .....gr.	lxxv	5|
Alcoholis—70 per cent.	3iiss	10
Glycerini .....3x	40	

M. Sig. Apply locally. —Ferrari.

Enuresis.

R. Tinct. belladonnæ .....3ss	16	
Ext. ergotæ fluidi .....3i	32	
Tinct. nucis vomicæ, q. s.	3ii	64

M. Sig. Take twenty drops, in water, three or four times a day. —Can. *Med. Rev.*

Dysuria from Uric Acid.

R. Acidi benzoici .....gr.	iv	25
Sodii boratis .....gr.	xl	2 66
Aque, q. s. ad. ....3viii	256	

M. Sig. Two tablespoonfuls every two hours. —Sajous.

Styes on the Eye.

Keiper states that styes are usually due to eye-strain. He recommends the following as a wash:

R. Acidi borici .....3i	4
Aque destil. ....3iv	16

M. Sig. Bathe the eyelids every hour.

Hypodermoclysis.

R. C. Kemp, in *Med. News*, states that the administration of normal salt solution hypodermically will prevent the development of certain symptoms sometimes produced by the administration of large doses of antistreptococic serum, and that congestion of the kidneys, which sometimes occurs after the administration of antitoxic serum will not take place if twice the amount of normal saline solution be injected immediately after the administration of the antitoxin. The most suitable place for introducing the normal salt solution is in the lateral lumbar region, as there is no interference with respiration, nor pain on moving the limbs.

Medicolegal.

Right of City as to Location of Smallpox Hospital.—The case of Frazer and others vs. the City of Chicago was brought to recover damages for the menace to the health of the inhabitants in the vicinity of a smallpox hospital, or, rather, to those inhabitants who in the intended future use of the plaintiffs' property might become residents in the vicinity thereof, and who, by reason of its location, would be deterred from purchasing the plaintiffs' property, and the consequent loss in the speculative value thereof. But the Supreme Court of Illinois holds that no such cause of action could be maintained. It points out that power is expressly given, in the village act, "to erect and establish hospitals and medical dispensaries, and control and regulate the same." Consequently, the establishing of the smallpox hospital referred to was clearly within the police power of the city, and, the court holds, in the absence of carelessness or negligence, or of an abuse of that power in any way, the hospital could not be a public nuisance. Nor, it goes on to say, could it be a private nuisance unless it should become such in its subsequent use or unwarranted operation, having in view the peculiar conditions under which it was established and maintained. The law is well settled, it declares, that where a thing not malum in se, or a wrong in itself, is authorized to be done by a valid act of the legislature, and it is performed with due care and skill, in strict conformity with the provisions of the act, its performance cannot, by the common law, be made the ground of an action, however much one may be injured by it. But it was contended that it is an unreasonable, unusual, and extraordinary use of property to utilize it for the segregation of diseases. However, the court says that, under the express delegation of power by the legislature, it cannot hold that the application of property for the use of a smallpox or other hospital is such an unusual or unreasonable use of property as would take it out of the police power of the city, so as to render it liable for such application, when, as here, it is conceded that the pesthouse is rightfully located and well conducted. To this it adds that it can

see no difference, in principle, between the right of a city to establish and maintain a smallpox hospital, and to erect and use jails, fire-engine houses, calabosoes, and the like. Greater care might be required in the maintenance of one than the other, and different considerations would undoubtedly enter into the selection of a site of a pest-house than of the fire-engine house or jail; but the city would be liable only for an abuse of authority or an unwarranted exercise of discretion in locating or maintaining the same, having reference to the present necessities, the crowded condition of the locality in which they are placed or maintained, and other pertinent facts and circumstances.

On Self-Treatment and Proof by Physical Acts.—Arkansas River Packet Company vs. Hobbs, is the title of a personal injury case brought by the latter-named party, and appealed to the Supreme Court of Tennessee, by the former. At the trial, the jury was instructed that it was the duty of the plaintiff—Hobbs—upon being injured to do all reasonably within his power to have his knee cured and restored to its original condition. It was also instructed that if he selected and used all reasonably accessible means for that purpose, and for a time, on his own judgment and without medical advice, adopted and pursued such treatment as a physician of ordinary care, prudence, and skill would have used in treating an injury, the law would accept that action on his part as full discharge of his duty in that behalf, even though it might appear from the evidence at large that a more skillful treatment might have produced a more favorable result. These propositions the supreme court pronounces entirely sound and unobjectionable. The first, it says, announces the generally accepted doctrine that he who is injured in his person or in his property by the wrongful act of another should take reasonable precautions to repair the injury, and prevent the enhancement of ultimate damage; and the second, rightly applies that doctrine. The exercise of reasonable and ordinary care and prudence, according to the circumstances of the case, the court declares, is all that the law demands, and in no event will the wrong-doer be heard to say that the person injured was bound, at his peril to secure the services of the most skillful physician in the community, or to adopt the treatment which in the end would prove to be the most efficacious. The court also holds that the grounds on which the privilege of voluntarily exhibiting an injured limb to the jury is practically unanimously accorded to a plaintiff, to show the nature and extent of his injuries, by the authorities, which are greatly divided in opinion as to the court's power to compel such exhibition, justifies with like force the voluntary performance of physical acts which are in themselves fit and appropriate as illustrations of the same fact. Indeed, it thinks that allowing such physical demonstrations, with the privilege of all legitimate cross-examination to the adverse party, affords a superior method of getting at the truth, and produces a higher order of evidence than is usually attainable, in that it adds physical illustration to oral statement, and impresses the court and jury through the sense of sight as well as through that of hearing. It may be true, it says, that a designing witness can exaggerate the true condition of an injured limb by false and constrained movements, and yet that can not render the performance of physical acts inadmissible as evidence, any more than the equally obvious fact that he may give undue and false coloring to his oral statements renders him incompetent to testify by word of mouth. That objection goes only to the question of weight or credibility, and does not reach that of competency or admissibility.

Illegal Quarantine of Race and District.—The remedy by injunction the United States Circuit Court, Northern District of California, holds is the proper one for such a case as that of *Wong Wai vs. Williamson* and others. In other words, it, in this case, holds illegal and void, and to be kept by injunction from being enforced, such quarantine restrictions and regulations as the acting board of health and acting federal quarantine officer in San Francisco imposed upon the Chinese when they made their inoculation with Haffkine prophylactic a condition to their being allowed to leave the city for other parts of the state. To begin with, it finds that, while suitable

provision was made in the city charter for the necessary legislation providing rules and regulations to secure the proper sanitary conditions in the city and for the protection of the public health, the board of health was without legislative authority to deal with the bubonic plague situation, through apparent lack of action on the part of the board of supervisors. And it says that when the municipal authority has neglected to provide suitable rules and regulations upon the subject, and the officers are left to adopt such methods as they may deem proper for the occasion, their acts are open to judicial review, and may be examined in every detail to determine whether individual rights have been respected in accordance with constitutional requirements. Then, too, it holds that the quarantine officer in the marine-hospital service of the United States at that port had no jurisdiction to impose quarantine regulations or restrictions upon any class of persons traveling from place to place within the state. But of perhaps still more importance, it holds that any quarantine regulation or restriction imposed upon any particular class of persons, as Chinese or Japanese, and not imposed upon others similarly situated, is an arbitrary and unreasonable interference with, and discrimination against, the individual liberty of the persons regulated and restrained, contrary to the provisions of the fourteenth amendment to the constitution of the United States, and therefore void. In *Jew Ho vs. Williamson*, where the evidence was such that the court says that, if it were within its province to determine the issue, it would be compelled to hold that the plague did not exist and had not existed in San Francisco, it holds unreasonable, unjust and oppressive, and therefore contrary to the laws limiting the police powers of the state and municipality in such matters, a quarantine of a district comprising 12 blocks containing 10,000 persons, with free intercommunication within the district. At the same time, it accords to the board of health the right to maintain special quarantines in places suspected of having disease, and the right to enforce such regulations as it may deem proper in order to secure an absolute exclusion of such places from the remainder of the community. And where suspicious cases are found and a quarantine is imposed upon the proper locality or house or building, the physician who has been attending the person afflicted, the court holds, should be permitted to continue to attend. In case of a death among the Chinese, a physician selected by the Chinese association interested, it also thinks, should be allowed to attend any autopsy that might be made. But this privilege, the court adds, should not be abused, and there should not be an effort on the part of everybody, out of curiosity and otherwise, to attend upon such autopsies, and there should be no unreasonable interference with the authority of the board of health in matters of this kind.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, November 3.

- 1 *Local and Regional Anesthesia with Cocain and other Anæsthetic Drugs, Including the Subarachnoid Method, as Applied in General Surgical Practice. Rudolph Matas.
- 2 *Cocain Analgesia from Subarachnoid Spinal Injection, with a Report of Forty-four Cases, Together with a Report of a Case in which Antipyrin Was Used. George H. Fowler.
- 3 *Intraspinal Cocainization for Surgical Anesthesia. S. Ormond Goldman.
- 4 *Analgesia in Obstetrics Produced by Medullary Injections of Cocain. S. Marx.
- 5 *Anesthesia in Children with Adenoids, and in the Adenoid Operation, with Special Reference to the Dangers of Chloroform in Children of the Lymphatic Diathesis. T. H. Bailest.
- 6 Large Scrotal Hernia: Operation for Radical Cure Under Special Anesthesia with Eucain; Aluminum Bronze Wire Used for Buried Sutures; Operative Recovery; Death from Exhaustion and Urinary Sepsis. W. W. Keen.
- 7 Anesthesia by Cocainization of the Spinal Cord. George G. Hopkins.
- 8 Subarachnoid Injections of Cocain as a Substitute for General Anesthesia in Operations Below the Diaphragm, with Report of Seven Cases. Edward Wallace Lee.

- 9 Two Cases of Medullary Narcosis. W. L. Rodman.
 10 Cocain Anesthesia of the Spinal Cord. Ernest La Place.
 11 *Subarachnoid Injections of Cocain as a Substitute for General Anesthesia. A. M. Phelps.
 12 *A Note on the Use of Nitrous Oxid and Ether as an Anesthetic. Thos. R. Brown and Howard A. Kelly.
 13 *Ethyl Bromid in Obstetrics and Gynecology. Wilmer Krusen. *New York Medical Journal, November 3.*
- 14 An Operation for Laceration of the Perineum; Failure of Medullary Narcosis. Herman J. Boldt.
 15 *Fulminating Appendicitis. Charles A. Wheaton.
 16 *The Modern Cesarean Section, an Ideal Method of Treatment for Placenta Previa. A. Palmer Dudley.
 17 A Southern Health Resort; Climatic Advantages of Asheville, N. C., as a Temporary Residence for Tuberculous Patients. B. T. Whitmore.
 18 A Case of Paralysis of the Recurrent Laryngeal Nerve; Recovery. John F. Culp.
 19 Supposed Glioma of the Retina; Enucleation; No Return in Twelve Years. David Webster.
 20 A Case of Sudden Death Probably Due to Pulmonary Embolism. J. Shelton Horsey. *Medical Record (N. Y.), November 3.*
- 21 *Modern Quarantine in Its Relations to Passengers, Crew, and Cargo. Alvah H. Doty.
 22 *Incineration vs. Earth Sinks and Chemical Disinfection. William G. Bissell.
 23 *Some Cases of Acute Appendicitis. Alexander B. Johnson. *Boston Medical and Surgical Journal, November 1.*
- 24 *Gushot Injuries by Rifles of the Reduced Caliber. Louis A. LaGarde.
 25 *Purpura Hemorrhagica, or Morbus Maculosus of Werlhof. Stephen S. Burt.
 26 *A Note on Rectal Feeding in Peptic Ulcer. George G. Sears.
 27 *Phthisis; Some Causes of Failure in Its Climatic Treatment. Will Howard Swan. *Medical News (N. Y.), November 3.*
- 28 *Treatment of Puerperal Eclampsia. J. B. Killebrew.
 29 *Observations Upon the Quartan Malarial Parasite and Upon the Staining Reactions of the Tertian, Quartan and Estivo-Autumnal Parasites. Charles F. Craig.
 30 *Is Living Animal Tissue Capable of Neutralizing the Effects of Strychnin and Venom? An Experimental Study. S. J. Meltzer and G. Langmann.
 31 *Eye-Work in General Practice. S. W. S. Toms.
 32 *Present Status of Interstate Reciprocity Concerning Licenses to Practice Medicine. Emil Amberg. *Cincinnati Lancet-Clinic, November 3.*
- 33 *Subcutaneous Injection of Alcohol in Saline Solution. J. Hlms Eastman.
 34 *Constipation. George J. Monroe.
 35 Case Reports. M. L. Heidingsfeld. *St. Louis Medical Review, October 27.*
- 36 President's Address before Medical Association of Missouri. Walter B. Dorsett.
 37 The Medical Practice Act, Proposed by the Committee of the Missouri State Medical Association. E. L. Priest. *November 3.*
- 38 Address in Surgery before Missouri Medical Association. W. A. McCandless. *Medical Fortnightly (St. Louis, Mo.), October 25.*
- 39 Ophosis: Defective Hearing. O. F. Baerens.
 40 *Diagnosis of Tumors of the Spinal Cord and Its Membranes. Frank P. Norbury.
 41 Diseases of the Lungs and Pleura. (Continued.) Albert Abrams.
 42 The Medical Treatment During the Adolescent Period. Edwin Rosenthal. *Pediatrics (N. Y.), October 15.*
- 43 The Treatment of Scarlatinal Nephritis. (Continued.) Robert C. Kemp.
 44 *The Diagnostic Importance of the Meningococcus Intracellulars. Louis Fischer. *Alienist and Neurologist (St. Louis), October.*
- 45 The Employment of Physical Methods in the Treatment of Nervous Diseases. (To be continued.) Aug. Hoffmann.
 46 Simulation of Organic Disease of the Nervous System by Hysteria. Prof. Von Krafft-Ebing.
 47 Sexual Pervert Impulses and Obsessions. Paul Garner.
 48 The Influence of Age Upon the Production of Nervous Diseases. William C. Krusen.
 49 Puberty Psychoses. Jules Volzsin.
 50 The Legal Disabilities of Natural Children Justified Biologically and Historically. (Continued.) E. C. Spitzka.
 51 *Can Syringomyelia Be Diagnosed Ante-Mortem. Arthur E. Mink.
 52 *The Brain and Nerve-Destroying Policy of Railways. C. H. Hughes. *St. Paul Medical Journal (Minn.), November.*
- 53 William and John Hunter and the Medicine of Their Time. Burnside Foster.
 54 *Fulminating Appendicitis. Charles A. Wheaton.
 55 Pregnancy and Heart Disease. George G. Sears.
 56 The Influence and the Demand of Science Upon Medical Education. R. O. Bearr.
 57 Ophthalmia Neonatorum, Prophylaxis. Frank Todd. *American Gynecological and Obstetrical Journal (N. Y.), October.*
- 58 *The Consideration of the Methods of Hemostasis in Abdominal Surgery. E. E. Montgomery.
 59 Varicose Veins of the Vulva Complicating Pregnancy; Dermoid Cysts. Wilmer Krusen.
 60 A Case of Supposed Urethral Traumatism. Henry B. Stehman.
 61 Treatment of Adherent Cysts of the Ovary and Broad Ligament by Incision and Drainage; Report of a Case. J. E. Allden.
 62 *Cureage; Two Advantages It Possesses over Curettage. Frank A. Stahl. *Louisville Monthly Journal of Medicine and Surgery, November.*
- 63 Empyema of the Antrum of Highmore. Adolph O. Pfingst.
 64 Asepsis in Labor. Edward Spelden.
 65 Excision of Joints. J. Lively Johnson.
 66 A Report of Surgery. (Continued.) H. Horace Grant. *American Journal of Obstetrics (N. Y.), October.*
- 67 *The Prevention and Treatment of Postpartum Hemorrhage. John W. Byers.
 68 *Spina Bifida. W. Reynolds Wilson.
 69 Vaginal Hysteromyectomy and Morcellation of the Myomatous Uterus. O. Theinhaus.
 70 Chronic Constipation of Infants and Young Children. George W. Cook.
 71 *The Objections to Symphyseotomy and How to Overcome Them. William P. Carr.
 72 An Indication for Symphyseotomy. Henry D. Fry.
 73 Complete Laceration of the Perineum in Young Girls. J. Wesley Bovée.
 74 *Compression of the Ureters in Myomatous Uteri. J. H. M. Knox, Jr.
 75 Hystereotomy. William F. Metcalf.
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 81 Immunity in Tuberculosis. A. D. Lake.
 82 *An Inquiry into the Existence of Autochthonous Malaria in Buffalo and Its Environs. Irving P. Lyon and Alfred B. Wright.
 83 Several Glimpses Mostly Medical of Lands Across the Seas. Francis Eugene Fronczak.
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 87 Results of Operative Procedures for Mechanic Obstruction at the Pylorus. N. Stone Scott.
 88 Acute Intestinal Obstructions. C. B. Parker.
 89 Symptoms of Chronic Intestinal Obstruction. C. A. Hamann.
 90 Gall-stones as Intestinal Obstructions. John H. Lowman.
 91 Malignant Disease Giving Rise to Intestinal Obstruction. Dudley P. Allen.
 92 Obstruction of Sigmoid and Rectum Due to Intrapelvic Disease. M. Rosenwasser.
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- 95 *A Study of Cases of Inebriety. Geo. E. Partridge.
 96 The Physiologic Chemistry of Alcohol. Henry F. Hewes.
 97 Alcoholism. H. L. Staples.
 98 The Effect of Alcohol on the Nervous System in the Light of Recent Scientific Research. W. H. Riley.
 99 *Mental Suggestion as an Aid in the Treatment of Morphomania. Samuel H. Green.
 100 Damage of Daily Use of Alcohol. C. H. Hughes.
 101 *Bellrium Tremens in Moderate Consumers of Alcohol. Frank H. Pritchard. *Medical Sentinel (Portland, Ore.), October.*
- 102 A Plea for More Care in the Early Diagnosis of Cancer. J. H. Eagleson.
 103 Some Needs of Hospitals for the Insane. W. H. Anderson.
 104 Report of a Case of Persistent Scintia Treated by Celiotomy and Suspension of the Uterus. J. W. Bean. *The Medical Bulletin (Philadelphia), October.*
- 105 *A Simple and Effective Treatment of Dyspepsia. J. M. McLeod.

- 106 The Use of Protargol in the Treatment of Venereal Ulcers. Hiram Williams.
- 107 Acute Sphenoidal Sinusitis Terminating in Fatal Suppurative Meningitis and Disagosticated only at the Autopsy. J. Tonbert.
- 108 Case of Capillary Bronchitis cured by the Passive Inhalation of Nascent Chlorid of Ammonia. Ephraim Cutter.
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- 109 *Light as a Remedial Agent in the Treatment of Tuberculosis. J. W. Kime.
- 110 Treatment of Pleural Effusions. William Jepson. Brooklyn Medical Journal, November.
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- 114 The Molecule. Thos. L. Maddin.
- 115 Corneal Ulcer. F. Clawson.
- 116 Blood Cure of Chronic Gastric Catarrh. T. J. Biggs. St. Louis Medical and Surgical Journal, November.
- 117 Pre-Columbian Lupus (Uta) and its Surgical Treatment by Amputation of Nose and Upper Lip, as Represented on the Huacoc Pottery of Peru. Albert S. Ashmead.
- 118 Splenic Anemia—Case—Blood Cured. T. J. Biggs.
- 119 A Case of Leucoderma of Leprosy in a Japanese Subject. Albert S. Ashmead.
- 120 Some Scintillating Features Regarding the Therapeutics of Eczema. Wm. Hooker Vail. The Stylus (St. Louis, Mo.) October.
- 121 Syphilitic Gummata of Spinal Cord Treated Successfully by Very Large Doses of Iodid of Potash. Francis W. Campbell.
- 122 The Physician's Vaster Empire. John Hunter.
- 123 An Interesting Case of Phlebitis. R. E. Donnell.
- 124 Report of a Case of Tetany. Alexander Hunter. The Laryngoscope (St. Louis, Mo.) October.
- 125 Primary Epithelioma of the Antrum of Highmore. H. Holbrook Curtis.
- 126 Report of a Case of Spontaneous Cure of a Severe Mastoiditis. H. S. McEwan.
- 127 Carcinoma of the Larynx—Laryngectomy. Joseph S. Gibb.
- 128 Primary Carcinoma of the Larynx—Report of a Case. T. H. Farrell.
- 129 Report of a Case of Tic Douloureux. F. H. Koyle.
- 130 Cerebral Abscess Following Chronic Otitis Media Purulenta—Operation—Recovery. William H. Dindley.
- 131 *Treatment of Hay-Fever. Seth Scott Bishop.
- 132 *Some Observations Upon the Common Diseases of the Throat and of the Naso- and Oro-Pharynx. Gilbert D. Murray. Carolina Medical Journal (Charlotte, N. C.), October.
- 133 Epiphora; Lachrymal Abscess; Congenital Absence of Lachrymal Puncta—Stricture of the Lachrymal Duct. L. Webster Fox.
- 134 Criminal Abortion—Medico-Legally Considered. (To be concluded.) J. D. Roberts.
- 135 Surgical Methods as Practiced in the Country. William H. Hudson.
- 136 Tuffier's Method of Intra-Spinal Analgesia—Report of Case. T. P. Whaley.
- 137 Reflected Pin in Appendicitis. H. S. Lott.
- 138 Notes of the Surgical and Gynecologic Clinics in Berlin. H. A. Royster. Charlotte Medical Journal, October.
- 139 *Suggestions for the Care of the Nose. E. R. Russell.
- 140 Exploratory Incisions; Their Relation to General Practice. W. O. Spencer.
- 141 The Use of Suprarenal Extract in Diseases of the Nose and Throat. Seymour Oppenheimer.
- 142 Pseudo (?) Smallpox. Jno. R. Rose.
- 143 Bacterial and Auto-intoxication in Health and Disease. Paul Paquin.
- 144 Subarachnoid Injection of Cocain. J. E. Massey, Jr. Georgia Journal of Medicine and Surgery (Savannah), October.
- 145 Some Remarks on the Etiology and Treatment of Diabetes Mellitus. Louis W. Bishop.
- 146 Tuberculosis of the Knee-Joint—A Clinical Lecture. Daniel W. Maraton.
- 147 *Treatment of Cancer of the Cervix of the Uterus Complicated by Pregnancy. George Ben Johnston.
- 148 *On the Pharmacopoeial Recognition of Diphtheria Antitoxin. Joseph W. England.

AMERICAN.

1. Local and Regional Anesthesia.—Matas' paper is a valuable historical and critical review of the methods of regional anesthesia as employed in surgical practice, including the subarachnoid method. He gives full credit to Corning, Halsted and others as pioneers in the local use of cocain. He describes the methods at length, illustrating the different operations for regional infiltration, etc., and reports cases in his

own practice, which has been extensive with these methods. He considers anesthesia with cocain or its allies most often impracticable and unsatisfactory in the following conditions: 1. All operations or manipulations in which complete muscular relaxation is required to accomplish the object of the intervention; as in the reduction of fractures and dislocations of the larger bones and joints—the hip, the shoulder, the elbow, and the knee—in relaxing ankylosed joints, spastic muscular contractures; stretching sphincters—of the rectum and bladder—etc. 2. In all extensive atypical operations on the head and trunk in which the neuro-regional method is inapplicable and the field of the operation can not be well defined or circumscribed, as in the radical extirpation of mammary cancer by Halsted's and Meyer's methods; in the extirpation of bilateral and multiple chains of adherent lymphatics in tuberculosis of the neck, etc. 3. In all atypical operations involving prolonged and complicated maneuvers in the splanchnic cavities, especially when the organs operated upon are adherent and inflamed. 4. In all operations upon patients whose emotions are beyond the control of reason or the will, as in the violently insane, in delirious patients, in children, in hysterical and extremely timorous patients, and in all those in whom the mere consciousness of the operative act—without physical pain—is sufficient to produce great mental excitement and distress. In spite of these he says the number and character of the cases in which the most rebellious conditions can be brought under the domain of the new technic by a patient, tactful and skilled operator is astonishing. Spinal cocaineization is considered at length, and its advantages and disadvantages discussed. The author's personal experience, begun in 1899, has been limited to nine cases and shows very little objection to this method. Judging from this, he would limit its indications for application for the present: 1. To adults, and to reasonable persons who have good self-control, thereby excluding children, hysterical patients, and the insane. 2. To patients in whom the methods of local or regional anesthesia are inapplicable. 3. To patients suffering from emphysema, advanced asthma, chronic bronchitis, and other respiratory affections in whom a general inhalation anesthetic is absolutely contraindicated; in advanced cardiac cases with degenerative lesions, he would fear the possible depressing effects of the injection and excitement on the circulation. 4. In the majority of cases in which the painful part of the operation is not likely to be prolonged beyond one hour and a half, as he would be averse, in the present state of our knowledge, to repeat a second cocaineization or to increase the total dose of the cocain to more than 2 cgm., especially in exhausted subjects. The danger of repeating the intradural injections to prolong the anesthesia is also one of the objections to the use of the method in ordinary labor. But its advantages in instrumental cases, as shown by the successful experiences of Dupaigne, of Louviciennes, France—who, according to Tuffier, first applied the subarachnoid method in labor, January, 1900—and of Bumm and Kreis, of Basle; of Doleris and Malartic, of Paris; and Marx, of New York, can not be doubted, especially in nephritic patients.

2. Cocain Analgesia.—Fowler reports forty-four cases of which he gives a brief résumé and one case in which antipyrin was injected. The analgesia in this case did not seem to have been quite complete according to the author's belief and there was nausea, vomiting, headache, acceleration of pulse and rise of temperature quite up to the average of this operation in connection with spinal cocaineization. In certain cases Fowler employed also ether or chloroform anesthesia where the analgesic effect was not sufficiently prolonged and in special disturbances no bad effects were noticed and, rather less of the anesthetic than usual was required.

3.—See abstract in THE JOURNAL of November 3, p. 1172.

4. Analgesia in Obstetrics.—The report by Marx is a general one of his experience with medullary injections of cocain in obstetric practice. He thinks the usual precautions for sepsis are the same as in abdominal operations, and remarks that he has seen the analgesia from the ears down, but in most cases it extends only to the umbilicus. The analgesia from one injection lasts from one to five hours, and

he has never met with any serious symptoms in labor such as are actually seen in surgical work. There was no fainting pulse and cyanosis. The use of certain drugs has given such excellent results that, barring a very short vomiting and headache, he never sees any of the distress he was formerly accustomed to. The drugs which he relies on are the bromids, hyoscin hydrobromate and nitroglycerin, and he thinks it well to have the stomach of the patient emptied some time prior to the expected puncture. His best success has been in those cases where 30 to 40 grains of sodium bromid were given one to two hours before. Only when this fails does he allow the use of hyoscin hydrobromate in 1/100 to 1/200 of a grain, given in the anesthetic areas. Nitroglycerin he usually reserves until slight cyanosis becomes apparent and the pulse fails. He gives it also hypodermically in 1/25 to 1/100 of a grain doses. Uterine contractions are not interfered with. He does not hesitate to use repeated injections. He says he has carried a woman through a labor of eight hours by repeated injections, with practically no pain. A special point noticed is the ease with which the cervix can be dilated when the patient is cocaineized. He is careful to avoid any psychic exhaustion, and therefore insists on quiet, blindfolding of the eyes and plugging the ears of the patient.

5. **Anesthesia in Adenoids.**—The following are the conclusions of Halsted's article: 1. Children with adenoids present two distinct conditions, viz., the lymphatic diathesis, manifesting itself locally in the nasopharynx, and the constitutional and local effects of mouth-breathing. 2. Mouth-breathing children and those of the lymphatic diathesis are in depressed general health and possess a lowered general tone of all the cells and organs of the body and so resist badly all heart depressants, such as chloroform, shock, fright, etc. 3. Instead of being regarded as comparatively safe during the period of childhood because of the existence, among so many children, of the lymphatic diathesis; the presence of this diathesis is a positive contraindication to the use of chloroform in any operation. 4. The adenoid operation in children under 12 years of age without general anesthesia must as a rule be condemned because it does not permit of a thorough removal of the growths, is exceedingly painful, and because the pain and loss of blood produce such shock that irreparable injury is often done to the nervous system of a sensitive child. 5. For the removal of adenoids, ether properly administered is incomparably safer than chloroform, and in skilled hands is but little more disagreeable to the patient, and in the great majority of cases is the best anesthetic in this operation.

11. **Subarachnoid Injections of Cocain.**—Phelps notices the enthusiasm in regard to medullary anesthesia and gives special caution not to progress too fast.

12. **Nitrous Oxid and Ether.**—Brown and Kelly mention the advantages of the combined method of using nitrous oxid with the Bennett inhaler, followed by ether, and have been using it in all cases operated on during the last eight months in Dr. Kelly's private hospital. It seems to possess so many advantages to the patient, operator and anesthetizer and so few disadvantages that it has become a distinct part of the operative technique.

13. **Ethyl Bromid.**—The uses of ethyl bromid are detailed briefly by Krusen, who specially mentions the need of thorough examination of the patient before anesthetizing and the employment of a pure drug. The advantages which are claimed for this agent are: 1, the short space of time required to render the patient unconscious; 2, the small quantity of the drug employed and the rapidity of its elimination from the system; 3, the simplicity of its administration, no cumbersome apparatus or inhaler being required, and 4, the comparative freedom from unpleasant sequels, such as headache, nausea, vomiting, etc., which characterize the other more popular anesthetics.

15.—See abstract in THE JOURNAL of October 20, p. 1049.

16. **Cesarean Section.**—Dudley pleads for Cesarean section in placenta previa as being a comparatively harmless and

efficient method of saving two lives instead of risking one or both. He claims that it is practically free from danger if properly performed. By the latter condition he means that an ante-partum diagnosis justifying the operation shall have been made, proper asepsis employed and the operation done before the patient has become in any way exhausted.

21.—See abstract in THE JOURNAL of November 3, p. 1170.

22. **Incineration vs. Earth Sinks.**—The disposal of camp refuse, especially the excreta, is an important matter, as shown by experience in the late Spanish-American war with typhoid fever. Bissell describes and illustrates an incinerator used by the National Guard of New York in their encampment in 1899 and the excellent results obtained. He gives the testimony of those who have observed its action and advocates its more extensive use.

23. **Acute Appendicitis.**—Johnson reports forty cases of appendicitis operated on during a period of a little more than a year and calls attention to certain special points, especially the value of abundant saline irrigation of the peritoneal cavity through a moderate incision and without evisceration, in cases of purulent peritonitis.

24. **Military Gunshot Wounds.**—This article of La Garde's reports the results of observations on the wounds received in the Santiago campaign. He thinks that the Mauser bullet apparently has sufficient stopping power for the purpose of war, as the men who were hit almost invariably fell back at once. The terrific explosive effects were not observed, but he accounts for it by the fact that the fighting was done in a country covered with bushes and the bullets necessarily lost much of the velocity through obstructions. This also accounts for the large number of lodged bullets—10 per cent. The flesh wounds were comparatively slight and the experience in the Santiago campaign does not confirm the apprehensions as to hemorrhage produced by small jacketed bullets. The gunshot injuries of the diaphyses of the bones, as a rule, were not attended with much comminution, and in the joints perforations were usually clear-cut. More than one-half of the injuries to the head ended fatally; about one-fourth of those of the thorax recovered—a favorable showing. After-effects, however, have been noted, and this must be considered. Gunshot wounds of the abdomen were very fatal and laparotomies invariably so. He gives a tabulated comparison of the effects of the new arm as compared with the conclusions based on the results of many deaths with the old weapons, showing the larger percentage of wounds of the extremities in modern war.

25. **Purpura Hemorrhagica.**—This disorder is discussed by Burt, who describes the symptoms and notices its frequent fatality and gives histories of cases. He considers it a bacterial disease. It is especially liable to affect young children and pregnant women and is rather less frequent in the male than in the female. It is treacherous in its course; it may commence mildly and be converted very suddenly into a really dangerous disorder. The results of medical treatment are not especially favorable, and certainly not in the virulent forms. In conclusion he gives extracts from Pflügge's "Die Mikroorganismen," showing the bacteriologic findings.

26. **Rectal Feeding in Peptic Ulcer.**—Two cases are reported by Sears which seem to show that nutrient injection of peptonized food is a valuable method in gastric ulcer. The tube is inserted beyond the sigmoid flexure if possible, at least eight or twelve inches inside the rectum, and the fluid injected slowly. Efforts at expulsion are prevented by a pad and the enemata are repeated every six hours. He does not claim that all the necessary nourishment can be furnished this way, but in his cases the improvement of the patient by this method was encouraging.

27. **Climatic Treatment of Phthisis.**—Swan points out the factors acting to produce the many failures to receive benefit from the Colorado climate. They are, the advanced stage of the disease at which many patients seek this change, the poverty which requires them to work, and often at damaging occupations, when they should rest, and their neglect of

the proper methods of living. He urges three points: 1, do not send patients with far-advanced phthisis to Colorado, unless they are able to make the change without serious fatigue, and unless they can live there in the manner they should and for a prolonged period; 2, do not send early cases, unless there are assured means for proper hygienic living for a period sufficiently long to get the patient well enough to earn, in part at least, his living, and to find employment. How long will depend on the individual case and his progress, but, roughly speaking, three or four months at least. There are many openings for employment, but more people looking for the desirable ones, and 3, most important of all, instruct the invalid to rest and keep quiet after his arrival until some one competent to advise him considers it safe to begin to exercise; and then have his manner of life and hygiene directed from time to time, according to his progress and condition.

28. **Puerperal Eclampsia.**—After first noticing the cause and assuming that eclampsia is due to an accumulation of toxins in the system, produced in the body, Killebrew concludes that one of the best methods of treatment is to dilute the toxins as much as possible and at the same time to increase the activity of the excretory organs by the use of normal salt solution. The pregnant woman, he says, should be under constant observation by her physician, at least after the sixth month. If there are any premonitory symptoms of toxemia such as disturbance of vision, epigastric pain, nausea, mental irritability, etc., it is a strong indication that toxemia is present. She should be kept quiet, put on a liquid diet, largely of milk, and the bowels looked after carefully; she should also have a daily warm bath with an hour or more of rest in bed and hot enemata of one to three pints of normal salt solution once or twice in every twenty-four hours. If, in spite of this, the symptoms progress, or if convulsions have occurred when the patient is seen active measures must be taken; excepting in very anemic cases, he advises bleeding. While the dark toxin-laden blood flows from the distal end of the divided vein, normal salt solution at a temperature of about 100 F. is injected into the proximal end. Intravenous injection is preferable to other methods as being more certain and rapid and not more dangerous. If the patient is edematous and the circulation is sluggish, salt solution under the skin is probably never taken up by the lymphatics. The uterus should be emptied immediately. After these measures have been taken the colon should be thoroughly irrigated, and if convulsions recur they should be controlled with chloral given in an enema, and if they again become severe another infusion of normal salt solution should be given, but this rarely will be necessary. During convalescence the patient should be kept in bed and the bowels and other excretory organs kept active. The diet should be restricted to liquids for a week and then gradually increased as deemed best. Hot saline enemata should be given twice daily. All excitement, worry, depression and callers should be avoided. Other drugs than chloral are not especially favored by the author.

29. **The Malarial Parasite.**—Craig describes the staining reactions of the different forms of tertian, quartan and estivo-autumnal parasites in malaria. For staining he uses either Romanovsky's or Chenzinsky's method, preferably the latter. The former is a mixture of equal parts of saturated methylene-blue and 1 per cent. aqueous eosin solutions. The latter is somewhat similar, but in different proportions; a concentrated watery methylene-blue solution, diluted one-half with water, is added to an equal amount of a .5 per cent. solution of eosin in 60 per cent. alcohol.

30. **Animal Tissue and Poisoning.**—Meltzer and Langmann report experimental studies of the effects of animal tissues on certain poisons, such as snake venom and strychnin. Their results can be briefly summarized as follows: Constriction of an extremity of an animal, even after removal of the constriction, markedly retards the fatal outcome of snake-poisoning and transforms an effective minimum dose of strychnin into an ineffective subminimum dose. This effect is apparently due to some impairment of the power of absorption within the constricted leg. It seems quite certain that

no part of either poison becomes fixed or neutralized by the tissues of the animals experimented on. The claim of v. Czylharz and Donath to that effect could not be sustained.

31. **Eye-Work in General Practice.**—Toms calls attention to the ocular conditions producing reflex symptoms, such as anorexia, vomiting, vertigo, gastro-intestinal disturbances, etc., and cites cases illustrating his views. He says in conclusion that it is apparent that there are many cases presenting nondescript ailments due to some latent irritation to susceptible nervous centers, capable of reflecting impressions to organs easily deranged, that are indirectly dependent on abnormal conditions of congenital eye defects in refraction or muscular unbalance. He does not assume that general practitioners can become experts in the detection of the obscure etiology of these conditions, but they should be able to do more than is sometimes done at the present.

32. **Interstate Reciprocity.**—Amberg continues his paper, giving the statements of the officials in various states of their desires and standing in regard to medical reciprocity, and suggests that all local medical societies appoint committees to settle the question, and that the various state and territorial medical societies appoint a certain committee which should be in touch with the committees of the local societies, and also a committee to be appointed by the AMERICAN MEDICAL ASSOCIATION or its Section on State Medicine. The latter should be in constant touch with the committee of the National Confederation of the State Medical Examining and Licensing Boards. He also thinks it would be advisable that the certificates of the medically strong states be accepted by the weaker states and territories without the stronger accepting the certificates of the weaker. The medical profession will not cease in its efforts until the point is reached when the title of M.D. in any place in the United States gives a guarantee that the bearer has complied with the requirements of the present state of medical science.

33. **Subcutaneous Injection of Alcohol.**—Eastman suggests the use of a small amount of alcohol in normal saline solution in certain cases where a direct cardiac stimulant is required. He has found the salt solution containing whisky more prompt and certain in its results than the plain physiologic salt solution. The pulse was distinctly reduced in rate and increased in force by the use of the combination in a case of serious toxemic and fulminating appendicitis, and he suggests it as worthy of a further trial.

34. **Constipation.**—The general subject of constipation is reviewed by Monroe, who considers it less an actual than a relative disease. While normally there should be a passage of the bowels once in twenty-four hours, there are exceptions to this rule. He mentions one of a man who lived to the age of 77 in good health up to within two years of his death and yet who defecated only about twice a month. The causes are noticed: sedentary habits, bad air, strictures, tight-lacing, etc. He thinks the continued use of oatmeal, especially in those of sedentary habits and in the aged, will produce this condition, and another cause is the use of large enemata, the frequent repetition of which paralyzes the muscles of the rectum. The various symptoms of the condition are also noticed—mental depression, headache, intestinal obstruction, nervousness, hemorrhoids, etc.

40.—See abstract in THE JOURNAL, xxxiv, p. 1334.

44. **Meningococcus Intracellularis.**—The special point of Fischer's article is the comparatively more favorable prognosis with the meningococcus than with other forms of infection in the meninges and the value of lumbar puncture as a diagnostic method of determining its presence. His own experience with this procedure as a therapeutic measure has been rather favorable, as it also enables him to give a better prognosis when the meningococcus has been found.

51. **Syngomyelia.**—Mink argues for the impossibility of an absolute diagnosis of syngomyelia during life, claiming that many cases have been wrongly diagnosed, as shown by post-mortem and that in others the reports have been with-

held for this reason. In enumerating the different troubles that may be confounded with it, he mentions hysteria, leprosy, tabes, bulbar palsy, etc., and concludes that the diagnosis is impossible during life with reasonable certainty, for the following reasons: 1. It has no definite symptomatology. 2. In some cases it has no symptomatology at all. 3. The so-called syringomyelic dissociation of sensation upon which so many diagnoses have been based is not characteristic of syringomyelia, as it occurs in many central nervous diseases and is lacking in quite a few cases of syringomyelia. 4. Dissociation of sensation is, to a certain degree, a normal condition. 5. There are no special symptoms or groups of symptoms characteristic of syringomyelia alone. Comparatively few cases diagnosed during life have been confirmed by post-mortem examination, e. g., cases by Raymond, in France, and Dereum, in this country, but they are so few in number compared with cases unverified or contradicted by post-mortem examination or unsuspected until then that they appear to be of the nature of "lucky strikes."

52. **Railroads and Overwork.**—Hughes protests against the policy of railroads in demanding long hours of specially trying work, including in those thus overtaxed not only the subordinates and train dispatchers, but also higher officials. The human brain is a limited machine, its limitations should be recognized as much as those of the machines of the shop and road.

54. See abstract in THE JOURNAL of October 20, p. 1049.

58. **Hemostasis in Abdominal Surgery.**—The difficulties of the various methods of hemostasis in abdominal surgery are noticed by Montgomery, who concludes that the angiotribe supplemented by the ligature is probably the best method. In catgut properly prepared we have a ligature which is capable of absorption and yet may remain sufficiently long to insure the patient against hemorrhage. The angiotribe prepares a groove in which the ligatures may be placed. He prefers the catgut prepared by his own methods for safety.

62. **Curette.**—Stahl emphasizes the advantages which the finger has over the curette in locating foreign bodies and its superior facility in shelling out intact the secundines instead of the usual morselling by the curette and forceps. He claims that he has never yet met a uterus whose fundus he can not reach and whose cavity he has been compelled to curette a second time for retention. The index finger can not be used so well, but the middle finger can, and he illustrates his method.

67. **Postpartum Hemorrhage.**—After first noticing the pathology, etc., of postpartum hemorrhage Byers insists on two measures which should be adopted in every case for its prophylaxis: 1. The proper management of the third stage of labor. 2. The important principle never to deliver in the absence of pains. He advises waiting patiently for the separating of the placenta, avoiding all efforts to massage or stimulate the uterus. As regards the second point, he insists on that no matter how tired the physician may be or how tedious the labor, he must avoid doing anything when pains are absent. The proper method is to give a dose of opium, when the patient will fall asleep, and after sufficient rest the pains will reappear and she will probably be able to complete the birth without the forceps. As regards the treatment postpartum, he thinks the best method is the external uterine massage. The introduction of the hand into the uterus is a very dangerous procedure, and should be done only when it can not possibly be avoided. He would use hot water in cases where uterine massage fails. In case both of these fail, bimanual compression should be made, though he thinks this very fatiguing and trying. He describes the technique of gauze plugging, and where in spite of such packing, hemorrhage continues, he would recommend drawing the uterus down as far as possible, which he thinks acts by kinking and compressing the uterine arteries. Injection of iron has not been used by him for the past five years; it is not without danger and interferes with subsequent measures. The sources of hemorrhage are mentioned, especially lacerations and their treatment.

68. **Spina Bifida.**—Wilson's article is an elaborate treatise on the whole subject of spina bifida and its operative treatment. Palliative measures he thinks may be successful, but the possibility of spontaneous cure must not be forgotten. The special technique of removal of the tumor and closure is described, and he mentions the risks of the proceeding.

71. **Symphiseotomy.**—The dangers of symphiseotomy, according to Carr are: 1. Dangers from anesthesia and from shock, which are unavoidable. 2. Danger from infection, which is unnecessary but real. 3. Danger of attempting it in unfavorable cases where the pelvis is too small. He goes at some length into the discussion of this subject. 4. Danger of lacerating the bladder or uterus or the sacro-iliac ligaments. This can be avoided by insuring not over two and a half inches separation in all cases, and there will then be no laceration of tissues excepting some peeling off of the periosteum. 5. Danger of hemorrhage from rupture of the anterior vesical veins or those of the elitoris. Usually this may be checked by gauze packing, but may be entirely obviated by separating the tissues carefully all around the symphysis and for three-quarters of an inch to one inch on each side of the median line. 6. Danger of sepsis, and he insists on special antiseptic precautions, using 1-2000 bichlorid solution freely. 7. Discomforts and dangers that may follow from the imperfect methods of coating the bones which he thinks can be obviated by wiring the joints. This should be done in every case. The two cases he reports are not enough to base an opinion upon, but they show that wiring the bones does not necessarily produce any bad results. The contrast between the cure where wiring was used and that where it was not is most marked, and until this becomes part of the operation, symphiseotomy will not meet with general favor.

74. **Compression of the Ureters by Myomata Uteri.**—The conclusions of Knox' article are given as follows: 1. Some compression of the ureters is produced by a large proportion of all large myomatous uteri. 2. The resulting hydroureter and hydronephrosis may continue for years and give rise to no discomfort to the patient. 3. The presence of a dilatation of the ureter and renal pelvis, however slight, lowers the resistance of these organs to toxic and infectious agents, and hence inflammatory conditions of the ureter and kidneys not infrequently follow ureteral compression. 4. In all instances of uterine myomata, the possibility of urethral involvement must be considered. When such a condition is suspected, every effort should be made by means of direct examination, urethral catheter, etc., to arrive at an accurate diagnosis. 5. Exploratory incision is occasionally justified to establish a diagnosis. 6. The ureters should be inspected whenever the abdomen is opened for the removal of a tumor. 7. A myomatous mass found to be existing under pressure upon one or both ureters should be removed, if possible, unless operative interference is contraindicated. Such serious sequelae of ureteral compression as extreme hydronephrosis, pyelonephrosis, etc., should receive appropriate treatment.

81. **Immunity in Tuberculosis.**—From a study of the cases in a special locality and among the tribe of Indians of the Cattaraugus Reservation, Lake finds a very large mortality from tuberculosis, but he has come to the conclusion from his studies here and elsewhere that early tuberculosis in the form of serofulous engorgements, etc., seems to confer a certain degree of immunity to later pulmonary infection. The same protection seems to be conferred in tuberculosis of the bones and joints. He observes that the development of phthisis at puberty is a common occurrence in the special population where it has been here studied, but those who have undergone extensive glandular tuberculosis with suppuration appear to escape. He thinks that with very few exceptions the whole population of the reservation may be divided into two classes: 1. Those who manifest existing tuberculosis. 2. Those who have suffered from the affection as shown by scars, deformities, etc., and have become the most vigorous men and women of the tribe. Recoveries from this, like other contagious diseases, appear to protect against a second invasion.

82. **Autochthonous Malaria in Buffalo.**—Lyon and Wright have endeavored to ascertain whether there is any such thing as locally-originating malaria in Buffalo. They have investigated the mosquito forms, finding no specimen here of the anopheles genus. Neither have they found any evidence that malaria originates in that particular locality. They do not pretend to have settled the question absolutely, but simply to have collected some facts and statistics and believe that only by such study as they have made can the true state of facts be ascertained.

95. **A Study of Cases of Inebriety.**—Partridge reports about twenty histories of drunkenness and calls special attention to the mental element in the cure of the habit. He finds that the craving is not for drink itself but for something it produces. There is a possibility of inebriety being self-limited, the tendency dying out at certain periods, generally in the climacteric period of life. Very few succeed in going right early, the average cure seems to come on between the age of 30 and 50, as he finds by reference to authorities and his own observations. If the physiologic basis for drinking is the change of protoplasm due to the continued assaults of alcohol, as many maintain, it will be difficult to account for the fact that young men are as a rule less easily cured than older ones. The social feeling is the most common cause of drinking.

99. **Mental Studies in Morphinomania.**—Green reports two cases of prisoners in the Georgia penitentiary, one who had been in the habit of taking over 400 grains and the other 350 grains of morphin daily. Both were treated by gradually diminishing the doses, keeping up the impression that they were taking the full amount by giving them quinin instead. The remarkable features of the cases were the reduction of 400 grains in the first case and 350 grains in the second case in about 70 days. At the same time a nutritive diet was insured, and no bad effects were observed excepting the rapid, nervous heart and pains in the limbs which disappeared like magic under the combination of digitalis, iron, quinin and suggestion.

101. **Delirium Tremens in Moderate Drinkers.**—Referring to a paper by Dr. Elmergreen, of Milwaukee, in the *Medical Times* in which he reports cases of delirium tremens in moderate consumers of alcohol, Pritchard concludes that the symptoms of delirium tremens, etc., are due in these cases to uremia coming from kidney disorders. His conclusions are stated as follows: 1. A renal disturbance is a constant accompaniment of uncomplicated delirium tremens. 2. The relation of time between the renal disturbance is an acute nephritis, which, as a rule, probably develops without any preceding chronic nephritis. 3. The course of the renal disturbance follows so closely, step by step, with the delirium that there is good ground for assuming that there is a genetic connection between the two phenomena. 4. There are so many similar points in the two states which are notoriously brought about by an insufficiency of the renal functions—uremia—and delirium tremens, that there is reason to assume that the delirium is an acute auto-intoxication psychosis as a consequence of the insufficient kidney function, which is due to the acute nephritis. 5. The peculiar form that this psychosis takes on is dependent upon its developing in chronic alcoholics. 6. There is a probability that delirium tremens in pneumonia is dependent not on the pneumotoxins directly, but on the always present renal lesion. He says finally that he has examined the urine of quite a number of beer and whisky drinkers, and finds that when in average health their kidneys are not quite normal, the urine being thin with a slight trace of albumin, a little renal epithelium and occasionally casts if they are a little under the normal. If they take cold the condition is aggravated. He doubts whether the cases in delirium tremens were normal before the attack and whether the real insufficiency actually developed on such virgin soil as assumed by Hertz, who has studied the subject, in *Hospitals Tidende*, (1898, Nos. 8, 9, and 10).

105. **Dyspepsia.**—McLeod's paper is largely a recommendation of caroid as the most valuable single agent we have for

the treatment of dyspepsia and since he has begun to use it, he has not been obliged to make elaborate examinations of the stomach-contents preliminary to treatment, reserving this for certain rare cases in which there are special reasons for knowing the exact chemical and other conditions existing in the stomach. Treatment by caroid without this procedure has been exceedingly satisfactory. Of course, the diet must be attended to as usual, especially the foods which produce troublesome symptoms. He seldom bars tea and coffee unless their use has been excessive. Excepting when special symptoms are particularly accentuated, these cases may be satisfactorily treated with a combination of caroid with charcoal and boric acid or sodium bicarbonate, which, in the form of tablets, is beneficial. If fermentation and excessive acidity are especially pronounced creosote in 3-gr. doses may be judiciously combined with caroid or thymol, or bismuth or larger doses of sodium bicarbonate according to individual needs. In atonic dyspepsia characterized by loss of appetite and in inability to digest foods, a combination of caroid with the usually employed bitter-tonics affords quick relief and in most cases permanent cure. He offers this paper not as a systematic study of dyspepsia but simply to emphasize the fact that this condition under ordinary rules can be satisfactorily treated without necessarily studying the exact chemical and pathological conditions existing in the stomach.

109.—This article has appeared elsewhere. See *THE JOURNAL*, October 27, 1900, p. 1115.

111. **Torticollis.**—Eight different etiologic varieties of torticollis are enumerated here by Wood: 1. Torticollis of infancy due to the shortening of the sternomastoid muscles. He considers this torticollis usually due to hematoma, while some cases may be due to muscle rupture without a tumor. Some of these cases disappear without contraction following. He advises general massage with passive motion, with care to prevent tension of the contracted side. He would not hesitate to use a retention collar at night in a stubborn case. 2. Contractured cases in children, where in addition to the sternomastoid, the deep muscles, the scaleni and posterior group, have not developed their full length. These cases are amenable to surgical, mechanical and calisthenic measures, and a cure depends upon a correct appreciation of the amount of attention to be bestowed on each plan of treatment. He thinks all three are required, and advises to confine surgical interference to the sternomastoid, the platysma and the underlying fascia. The deeper structures should be thoroughly stretched until they cease to exert a force to pull the head back, but this should be done very carefully and slowly to avoid danger. After the manipulation he has used a slightly over-corrected position kept up by a plaster-of-Paris cast. 3. Muscular torticollis due to cervical muscular rheumatism, and if treated by the salicylates, Turkish baths and massage, easily cured in a short time. 4. Glandular torticollis due to inflamed cervical glands, the head being kept in position to relieve this. There are usually signs of infection. 5. Osseous torticollis with spasmodic contraction of the posterior groups of muscles due to reflex irritation from vertebral caries. These are generally treated for some months on a frame cot in the recumbent position, with head-extension applied by weight. Only after pain has ceased should any collar, brace, mask, or chin-cup be applied. 6. Cases due to ocular defects brought on by change of position to assist accommodation. The cause, of course, must be corrected. 7. Cases due to occupation. They may come on suddenly. These cases can generally be improved and cured by rest in bed combined with sedative and later tonic medication. Lastly he mentions the severe spastic cases, the cause of which he is inclined to think is cortical though the evidence as yet is meager. The only reasonable procedure is the division of the posterior branches of the upper cervical nerve-ends in addition to the older procedure by Gardner and Keen. There is some evidence that section of the muscle alone, if sufficiently radical, may cure these cases, and it seems to be proved by experiments and indicated by partial operations that paralysis of the head will not follow even if both posterior groups and both sternomastoid muscles are removed. The risks of the operation are

relatively not great; there has been only one death and that was due to erysipelas. As to cure, the statistics are not sufficiently positive as regards the final results.

112. Tubercular Peritonitis.—Besides the discussion of tubercular peritonitis, McNaughton reports a very interesting observation of heredity. A child apparently healthy at birth became ill a few days later and died aged twenty-one days. Autopsy disclosed abundant tubercular deposits in the lungs, and numerous cavities.

131. Hay-Fever.—Referring first to an article by E. B. Gleason on the treatment of hay-fever with hydrobromic acid and nitro-muriatic acid, Bishop calls attention to the fact that, while in his earlier papers, he had pronounced the acid treatment as effective, he has repeatedly emphasized the greater value of the eliminative treatment. He quotes a paragraph from his work on "Diseases of the Ear, Nose and Throat" to this effect. It is desirable, he says, to have a uranalysis made in all cases of hay-fever to determine whether there is an excess of uric acid as compared to urica and whether a sufficient amount is being excreted or not. While he repeats all he has said for the value of acid treatment for temporary relief during the paroxysm, the most gratifying results have been obtained from the use of lithia. The effervescing tablets, 3 or 5 grains, should be taken every morning and night until from 15 to 25 grains a day is taken in divided doses. He cautions against too much indulgence of the appetite and over-feeding and emphasizes the importance of taking an abundance of pure water.

132. Common Diseases of the Throat and Pharynx.—The points in this paper to which Murray wishes specially to call attention are: 1. Teeth should receive attention from infancy, in order that caries may not invite forty-two different kinds of micro-organisms. 2. The mouth is the primary cause of many throat troubles, and ought to receive treatment simultaneously with the throat. 3. There is a quality of mildly offensive breath, which arises from micro-organisms present in the mouth, throat, naso- and oro-pharynx. 4. A bad taste in the mouth, particularly before meals, suggests infection of the tonsils, naso- and oro-pharynx. 5. Diseased tonsils, not necessarily enlarged and often hidden, no longer act as a barrier to disease, but rather as a germ incubator, and the diseased outer surface ought to be removed. 6. The term "rheumatic sore throat" should be used with less freedom. 7. The vicious habit of the mother tasting the child's food before giving it to the child should be preached against. 8. For the same reasons all instruments, drinking utensils, should be carefully cleansed before use. 9. Coating of the tongue, which is often local in origin, should be removed as systematically as the tartar from the teeth.

139. Care of the Nose.—Russell insists on the importance of proper care of the nose in catarrh to prevent chronic disorder. He thinks that salt water in the strength commonly used is irritating and dangerous and advises baking soda in 2 per cent. solution, 5i to a tumbler of warm water, as the best for this purpose. He gives, also, the formula of Dobell's solution as a valuable therapeutic agent and would substitute, if carbolic acid is objectionable, menthol, thymol and salicylate of soda 2 grains each to the pint. He says this treatment should be carried out night and morning in all cases of cold in the head and describes the method of douching the nose.

147.—This article has appeared elsewhere. See THE JOURNAL of July 14, title 53, p. 118.

148.—This article has appeared elsewhere. See THE JOURNAL of November 3, ¶137, p. 1181.

FOREIGN.

British Medical Journal, October 27.

Signs and Symptoms of Bubonic, Pneumonic, and Septicemic Plague. JAMES CANTLE.—The three types of plague, bubonic, pneumonic and septicemic are here described. The former compose about 70 per cent. of all the cases met with. The history is best considered under the headings of exposure, incubation, invasion, defervescence and convalescence.

Contact is the most potent agent in its spread. It appears that the disease spreads through abrasions, wounds of the skin, scratches, etc. Infection by the alimentary canal would seem feasible and is supported by the fact of the abundance of plague bacilli in the feces and that animals seem to contract the disease in that way. Infection by the breath is unlikely, but impact of the sputum in pneumonic cases is believed to have spread the infection. The rat is credited with the largest share of animal transmission and some consider the vermin of the animal as the real agent. The body parasites of man, such as fleas, lice, bugs and also flies and ants, may absorb the plague bacilli and possibly convey them by their bites. The average incubation is five days, but it is believed that it may have a shorter or a longer one, extending to even ten or fourteen days. The maximum and minimum periods are undetermined. There are no special symptoms peculiar to incubation; general discomfort is sometimes experienced, but is not characteristic. The onset of plague is generally sudden; a splitting headache, prostration, pains in the limbs and back, etc., may usher in the disease. There is nothing characteristic, however, beyond marked prostration and early appearance of cerebral disorder, until the glands become tender or buboes appear. Abrasions of the skin should be sought for especially in the lower extremities, if buboes appear in the groin. The fluid drawn from the gland or periglandular swelling is usually found to be of the sero-sanguinolent character but later becomes sero-purulent, and finally pus. The plague bacillus will be found in numbers, unless the buboes are of several days' standing, when none may be found. The lips become cracked early and the teeth covered with sordes. Nausea and vomiting frequently usher in the disease. Diarrhea may occur early, but it is seldom frequent or profuse. The liver may be tender and somewhat swollen. The urine is slightly albuminous as a rule. The pulse is frequent from the onset and throughout the illness, becoming later soft and dierotic and toward the end irregular and running. The lungs rarely show any change in bubonic plague, though they are attacked in the pneumonic form. Delirium is common and sleeplessness one of the most distressing symptoms. The rise of temperature is gradual up to 104 or 105 F. on the third or fourth day, falling at the end of that period sometimes below the normal. It may again increase but generally subsides after the opening and discharging of the buboes. In some cases, however, it may be high from the beginning. Apyrexia is not common in true bubonic plague, but in such conditions as *pestis ambulans* and fulminant plague it is the rule. The pneumonic form appears like septic pneumonia, it is discovered only by the presence of plague bacilli. The pulse is short and compressible from the first and there is much cardiac distress. Delirium, frequently followed by coma, prevails and the patient usually dies on the third or fourth day. In septicemic plague the patient seems struck down as if by active poison and the prostration from the first is extreme. There may be no buboes detectable during life, though a swelling is found in post-mortems. Hemorrhages are frequent. Apyrexia is not uncommon, delirium of the typhoid type is frequent. The disease usually ends in two or three days. The pathologic anatomy is described, the enlarged glands, congested viscera, heart and pericardial changes, hemorrhages in the peritoneum and bowels, congested kidneys, meningeal congestion. In the pneumonic type are to be found the engorged lungs with typical pneumonic consolidation.

The Bacteriology of Plague. DAVID C. REES.—Virchow, in 1879, reasoning from analogy, predicted that plague was microbial, but the discovery of the organism was made within a short period, and independently of each other by Yersin and Kitasato in 1894. The micro-organism resembles closely the chicken-cholera bacillus. It is a small bacillus measuring from one to two microns in length and from .3 to .5 micron in width, though larger forms are sometimes met with. Its ends are rounded, giving it an oval appearance and it is usually described as non-motile, though Kitasato has described it as actively motile in a temperature of 37 C. It is frequently seen arranged in pairs and in the broth-cultures seems to form streptococcus-like chains. Involution forms are

frequently met with; these occur generally under unfavorable circumstances. It does not form spores and has no true capsule. It is a facultative anaerobe. It stains readily with the ordinary anilin dyes, but is decolorized by Gram's method. In cover-glass preparations it stains more intensely at the ends, giving rise to a bipolar appearance. Laboratory cultures may exhibit this feature, but they do not always. It can be brought out best by overstaining with a strong carbol fuchsin for four or five minutes and then carefully decolorizing with absolute alcohol. The plague bacillus shows a great affinity for the thionin group of stains. It grows well in ordinary media and at a temperature of 25 to 30 C., so that in a hot climate an incubator may often be dispensed with. Haffkine's stalaetite growth is also noticed as characteristic. Apes and rodents are especially susceptible to inoculation, sheep, goats, cows and horses to a less degree, and dogs and cats very slightly. Birds and also swine are refractory to repeated inoculations. Rats or guinea-pigs usually show evidence of intoxication on the first day. There is no dispute as to the bacillus being the cause of the disease. It does not, as a rule, possess high powers of resistance outside its vertebrate hosts. It is readily killed by direct sunlight, disinfectants, or rapid drying at a high temperature; with slow drying it has more resistance. It is, therefore, more readily killed in a hot, dry than in a damp temperate climate. Pure cultures which are protected from light and drying may retain their vitality for months. It is extremely resistant to cold. Laboratory cultures soon lose their virulence, but may regain it by passing through susceptible animals. Inoculation is usually through the skin. The Australian commission states that it has succeeded in infecting a rat by rubbing a virulent culture into the intact skin. It is possible that in densely-crowded dwellings it may be contracted by aerial infection. It is not likely that it is usually contracted through the intestinal tract, though this may sometimes occur. The Australian commission is inclined to believe that infection takes place sometimes through the tonsils. With sporadic cases at the onset of an epidemic, the bacteriologic examination should be careful and systematic. During the epidemic, however, a provisional diagnosis can often be made by simple examination of the cover-glass preparations made from the glands, sputum or blood; it is good practice to examine the blood in all cases of plague. The bacilli are usually present in very small numbers in peripheral blood; Rees finds it best to make the preparations on slides for this reason. In mixed infections, endeavor should be made to isolate the bacillus from plate colonies or by the employment of Haffkine's salt medium. It may sometimes be necessary to make sections of organs and glands in suspected cases. The diluted blood-serum obtained from a case of plague is said to cause clumping with plague bacilli, but this has not been proved of practicable value, as it can be obtained only late in the disease, and then not always. Rees regards the bacillus as belonging to the septicemic group of pathogenic micro-organisms, that is, one that may be present in the blood and cause toxemia or death without local manifestations. It is parallel in some respects with the anthrax bacillus, though its action on the lymphatic glands is different. It does not itself produce pus, but can cause necrosis of tissue.

On the Methods of Making Antitoxic and Preventive Fluids. C. BALFOUR STEWART.—The method of making antitoxic and preventive fluids from plague are described by Stewart, who notices the serums of Haffkine, Yersin, Lustig and others. Haffkine's method is to take the broth in which the microbe was grown after sterilizing it. It is really not a serum, but a vaccin, and the misuse of the former term is to be regretted. A small definite quantity of plague poison is injected, which is easily dealt with by the body, and which can not increase, there is the same distinction as between a case of mild septic intoxication and a case of septicaemia. The antitoxic serum of Yersin is used as a curative agent for plague, and also acts as a prophylactic measure, but the immunity conferred is very short, only about fifteen days. The principle of this serum is the same as that of the antidiphtheritic serum and others. An animal, preferably a horse, is immunized by inoculation at intervals with dead or living cultures of the

specific microbes, and after the first or second inoculation the quantities are increased and the intervals between inoculation shortened. The animal, which takes the place of a human being who has been inoculated with a vaccin, acquires an active immunity, and if the serum of such an immunized horse be inoculated in considerable quantities into a human being suffering from the specific disease, the latter is ameliorated or cured. The serum may act in one of two ways; it may be bactericidal by killing the microbe in the body or preventing its growth, or it may be antitoxic. Roux says that antitoxic plague serum, however it is made, is always antitoxic, but that this property is more marked in some cases than in others. Those made by injecting living cultures are more antitoxic than those made by injecting dead cultures. This fact, according to Metchnikoff, explains the difference in the results obtained with the Yersin serum. Lustig's method of prepared vaccin is based on the observations that the nucleo-proteid which he separated from the bodies of plague microbes, is a substance which induces immunizing properties when injected; neither the metabolic products of growth nor toxins are used. The plague microbe is cultivated on an agar plate and the growth is scraped off and dissolved in a 1 per cent. sterilized solution of caustic potash. This solution is then rendered slightly acid with hydrochloric or acetic acid, and the resulting precipitate collected on filter paper; after washing it is dried in vacuo. It gives the chemical tests of a nucleo-proteid and is easily soluble in a weak solution of carbonate of soda. He proposes to use this solution as a prophylactic, but no report of its trial for this purpose has been made. The results of the curative serum were not at first very satisfactory, but lately better results seem to have been obtained. Neither Yersin's nor Lustig's serum appears to come up to what might be expected of a specific treatment, and the latter does not appear to be so efficacious as the former. This is possibly accounted for in a way similar to that of Metchnikoff's explanation of the difference in Yersin's sera referred to above. Haffkine's prophylactic is the greatest success as a scientific preparation.

The Lancet, October 27.

The Role Played by the Spleen in Pancreatic Digestion of Proteids. HENRY F. BELLAMY.—First noticing the experiments of Schiff, which seem to indicate that the splenic function is essential to the formation of trypsin in the pancreas, and the apparent contradiction to this from Heidenhain's discovery of the zymogens, together with the later investigations of Herzen, which confirm in a measure the ideas of Schiff and seem to indicate that the spleen furnishes the product of internal secretion causing in the pancreas the transformation of inert zymogens into active trypsin, Bellamy next proceeds to notice the criticisms of Lussana and others of Herzen's views, and especially those of Popelski, and points out their weakness. Extirpation of the spleen apparently produces in animals no serious disadvantage, but the actual loss according to Herzen's results is that there is almost complete cessation of proteid digestion by the pancreas, this function being in such cases almost entirely performed by the stomach. The question as to the destiny of the zymogen which the pancreas continues to elaborate, is answered by the suggestion that it becomes gradually transformed into trypsin by oxidation and other agencies along the intestinal tract. It has been noticed that the spleenless animals require more food, which can be explained not only by the loss of direct proteid substances in the alimentary tract, but also in that the parapeptones normally going on to the duodenum to be converted into true pancreatic juice are, owing to the breakdown of the pancreas, no longer capable of being absorbed and assimilated by the organism. The stomach and pancreas, therefore, so far as the digestion of proteids is concerned, would appear not only to be in direct harmony with each other in the intact organism, but also if from any cause one or the other is thrown out of action, its work is assumed and efficiently carried on by the survivor.

Bulletin Medical (Paris), October 20.

The Operation on the Xiphopagus.—The entire issue of the *Bulletin* is devoted to the description of Chapot-Prevost's famous operation, with numerous photographs and skiagrams.

(See cut in THE JOURNAL, xxxiii, p. 746.) The surviving twin is illustrated as a bright, pretty girl of 12, with nothing to betray her previous condition except a straight linear scar, 15½ cm. in length, on the front of the trunk. After the separation some time elapsed before she learned to balance herself without support. The hour-glass shape of the continuous liver is illustrated. The pericardium in each was connected by a fibrous band, as was also the pleura. The latter was inadvertently opened in one during the operation; possibly this was responsible for the fatal pleuropneumonia in her case. Separate anesthesia was required for each of the twins, but methylene blue injected in one was eliminated by both. During the operation Maria made an effort to vomit, which resulted in hernia of a large portion of the intestines in each through the wound. Replacing the intestines in the two abdomens was a perplexing task, much facilitated by the aid of an assistant who had taken his position under the table, and who was able, by raising from beneath the still unincised rear portion of the connecting band, to distinguish between and separate the intestines belonging to each. Chapot-Prevost never speaks of the case as twins, but always as "the monstrosity." The singleness of the monstrosity was decided by the majority of members of the profession who examined the case, and this conception legally justified intervention, which was besides urgently demanded by the parents.

Gazette Hebdomadaire (Paris), October 18.

Cure of Hemorrhages from a Dysenteric Ulcer by Injection of Gelatin. A. PUGNAT.—The hemorrhages occurred during defecation and had been noted for five years at intervals and daily during the last year. A tumor could be palpated in the cecum. After a subcutaneous injection of gelatin the hemorrhage recurred the following day as usual, but never appeared after this.

Presse Medicale (Paris), October 13 and 27.

Uremic Origin of Angina Pectoris. A. GILBERT.—Angina pectoris is caused by a neuralgia or a neuritis of the cardiac plexus, usually of toxic origin and, in case of arteriosclerosis, connected with the uremic intoxication. This conception entails an important therapeutic indication, i. e., that a patient with angina pectoris should have every cause of intoxication from food or drugs carefully eliminated. Among the arguments Gilbert advances in support of this theory are that obliteration of the arteries and ossification of the costal cartilages are unable to induce the syndrome of angina pectoris, while neuralgia or neuritis of the cardiac plexus satisfactorily explains all the symptoms. The prompt relief that follows local anesthesia of the precordial region with methyl chlorid is another argument. Coincidence of interstitial nephritis with the angina is the rule in severe cases. The curative action of a strict milk diet is also remarkable. The milk does not cure the angina any more than it cures uremic asthma, but it enables the patient to live comfortably with his renal lesion until some new indiscretion in eating or some other cause inaugurates the toxic symptoms once more, although they may appear this time as a nervous, respiratory or gastrointestinal disturbance. Drugs, especially morphin, soothe for a moment, but then hasten instead of retarding the attacks. The iodids alone seem to act favorably on the renal process and attenuate the toxins. When the toxic angina is transient, as when it is due to tobacco, tea, coffee, etc., the cure follows removal of the cause, but when caused by an irremediable lesion of the kidneys, the syndrome is liable to recur again and again. With an exclusive milk diet the life of the patient may be prolonged, while injudicious medication may prove rapidly fatal.

October 27.

Medullary Anesthesia. F. LEGUEU.—From experience with fifty-seven patients, Legueu concludes that this method is not destined to supplant general anesthesia, but that it is an excellent method of analgesia for brief, simple subumbilical operations, and for those on the perineum, lower urinary apparatus and legs if the muscular contraction—which is not suppressed by the cocain—does not prove a hindrance to operating. The dose should average 2 gm. The symptoms that followed the injection were all slight and transient. Vomiting

occurred in 13 cases after return to bed and in 11 during operation, but it was always slight and lasted less than five minutes. Cephalalgia was experienced 29 times, usually slight, but in 2 cases it was severe, and in another persisted for thirty-six hours in an extremely severe form. The temperature rose in 12 out of 55 cases. The pupils were dilated in the cases followed by vomiting and cephalalgia, and possibly this sign can be utilized to determine the tolerance. The anal sphincter became relaxed in 7 patients, with consequent incontinence. Paresis of the legs was noted in one patient for three days, but then vanished. In one case there was retention of urine for a week, in a young man operated on for a hydrocele. Incontinence of urine, persisting for three days, occurred in another. The patient is returned to his bed smiling and tranquil, free from the vomiting that follows chloroform. He can eat before and after the operation, and the best proof of the advantage of this method of analgesia is the eagerness with which it is demanded by other patients, witnesses of the first. Those who have previously had experience with chloroform are loudest in their praise of the new method.

Berliner Klinische Wochenschrift, October 22.

Trigger-Finger. TILMANN.—In the majority of cases of trigger-finger the phenomenon is due to a thickening of the flexor tendon, caused by repeated compression of the tendon against the volar side of the head of the bones of the palm by grasping a hard object by an unaccustomed hand. The thickened tendon is unable to pass the central sharp edge of the tendon sheath at the joint and waits until this edge is lowered, when, with a snap, it slips over it, and once past, acts normally. The thickening sometimes retrogresses when cause is removed. In fresh cases this may occur in four to six weeks, but in older cases three to six months are required, and in a very old case no improvement can be anticipated without an operation, which should consist in resection of the thickened center of the tendon, leaving the surface intact as much as possible.

Fracture of the Greater Tuberosity of the Humerus.—H. WOHLGEMUTH.—The greater tuberosity of the humerus is more frequently torn off in case of fracture or luxation of the upper portion of the arm than is generally appreciated. Failure to recognize and treat it, however, may entail serious functional disturbances. Suture is not necessary, merely the application of a bandage, with the arm raised and in abduction. A Middeldorf "triangle" is of great assistance in holding the supine forearm for the purpose.

Hemorrhagic Erosions of the Mucous Membrane of the Stomach. C. PARISER.—Hemorrhagic erosions of the mucous membrane are merely a complication of chronic gastritis in its early stages, or a special variety which may be called chronic, exfoliative gastritis. Pariser has found the best measure to relieve pain and cure the lesion to be lavages of silver nitrate applied after rinsing out the fasting stomach with half a liter of tepid water, twice in succession, carefully measuring the siphoned fluid to ensure that all has been removed, then introducing half a liter of .5 to 1 per 1000 solution of silver nitrate, allowed to remain one minute in the stomach and then removed, repeating this lavage twice. The stomach is then rinsed with a liter of tepid salt solution in two portions. This treatment is repeated every other day and continued for ten to twelve days after all scraps of mucosa have disappeared from the stomach contents. The diet is equally important in treatment. The measures applicable to an ulcer sometimes succeed when the silver nitrate fails, or may be allowed when lavage is refused by the patient.

Centralblatt f. Inn. Medicin (Leipzig), October 20.

Pathology of Alcohol. G. ROSENFIELD.—Twenty dogs were given alcohol on an empty stomach in doses from 12 to 27 c.c., continued for a long time. In every case in which more than four doses had been administered the liver was found in fatty degeneration, the fat constituting 17 to 36 per cent. of the organ. In a parallel series of tests, 60 gm. of sugar were administered with 35 to 30 c.c. of alcohol and there was no fatty degeneration nor other symptoms of intoxication. The fat in the liver was even less than normal in this case.

Mitteilungen a. d. Grenzgebieten (Jena), vii, 1.

Traumatic Stricture of the Intestines. H. SCHLOFFER.—Nine cases of traumatic stricture are known to date and Schloffer adds a tenth. Five patients died. In order to determine the mechanism of stricture, he experimented with sixty-three dogs and several swine. He finds that contusion injuries of the intestines in dogs, that did not entail the death of the animal, terminated always in complete *restitutio ad integrum*, but in pigs an annular stricture could be produced. The conclusions are that traumatic stricture may occur in consequence of incipient invagination, the rigidity of the muscular wall having been compromised by the trauma. Annular strictures are probably favored by injury of the submucosa and of the mesentery, with resulting disturbance in the circulation, and necrosis. Partial or complete laceration may also entail a stricture as it heals with adhesions. One case is recorded in which a traumatic stricture was consecutive to an invagination which healed spontaneously with expulsion of the invaginated portion per anum. Traumatic adhesions between loops of intestines may produce stenosis sooner or later, with symptoms appearing suddenly.

Therapeutische Monatsheft (Berlin), October.

Diet in Typhoid Fever. H. EICHHORST.—There have been only 64 relapses out of the 1154 cases of typhoid fever treated at the Zurich clinic. Eichhorst attributes this success to his use of milk; 50 to 100 c.c. are given every half hour during the febrile period, the milk boiled and cooled and administered alone or in milk-soup, coffee or tea; no alcohol is given except in case of great prostration, and then always warm. This strict milk diet is continued for three days after the fever has disappeared, commencing with meat the seventh day. At the slightest indication of recurrence of fever the exclusive milk diet is resumed. He gives a tepid bath twice a day during the febrile period and then once a day. The last week before dismissal a gram of salol is administered three times a day.

Therapie der Gegenwart (Berlin), October.

Extrabuccal Feeding. C. A. EWALD.—The mixture preferred by Ewald for rectal feeding is made by stirring two tablespoonfuls or 40 gm. of flour in 150 c.c. tepid water, adding one or two eggs and about 3 gm. of salt and 50 to 100 c.c. of a 15 to 20 per cent. solution of grape sugar and possibly a glass of red wine. This represents about 450 calories, but not all of it is utilized. Subcutaneous injections of oil are painful and fail to supply the moisture needed by the system. In feeding through a gastric fistula, the opening should be made as close to the pylorus as possible in case of a malignant neoplasm, and predigested food preferred. But in case of a benign cicatricial stenosis the digestive function is not materially disturbed and these precautions are unnecessary.

Influence of Oophorin on the Transformation of Albumin. L. THUMM.—The experiences and research described in this communication demonstrate that larger doses of oophorin can be administered with impunity than hitherto have been considered advisable. The albumin metabolism was at its highest point during the administration of oophorin in the tests and it is asserted that it does not produce the slightest destruction of the nitrogenized elements of the tissues.

Janus (Amsterdam), October 15.

Heat-Melancholia. A. DAVIDSON.—Among other varieties of heat-diseases Davidson thinks that we are entitled to include a heat-melancholia which often leads to suicide. This form appears to be peculiar to temperate climates and is most common when a high temperature suddenly sets in. It is doubtful if sunstroke in tropical countries is more destructive to life than this heat-melancholia. There were sixty suicides in London during the two weeks of unusually high temperature last June succeeding a cold May.

Gazzetta Degli Ospedali (Milan), October 21.

Present Status of Our Knowledge of Tuberculosis. E. MARAGLIANO.—This recapitulation of what is known in regard to the etiology, pathogenesis and cure of tuberculosis, states

that the variations in the gravity of tuberculous infection are in direct proportion to the number and amount of the means of defense possessed by the organism, as can be demonstrated by investigation of the blood; also that to combat and neutralize the infection it is as necessary to annihilate or neutralize the toxins which result from the vital action of the tubercle bacilli as it is to destroy the latter. He concludes with the statements that tuberculosis can be cured, but phthisis never. Physicians must not wait for physical symptoms and bacilli in the sputa. The process is then too far advanced. The diagnosis should be based on the tuberculin test, on the demonstration of tuberculous toxins in the urine and in the blood, on the agglutinating power of the serum, and on the demonstration of the typical disturbances in the metabolism of nitrogen. In respect to the physical signs, it should be borne in mind that any anomaly detected at, and restricted to, the apices is an indication of pulmonary tuberculosis.

Revista de Medicina Tropical (Havana), September.

Gangrene Consecutive to Yellow Fever. E. MARTINEZ.—One case of gangrene of the scrotum consecutive to yellow fever is entered in the records of the Havana Hospital Mercedes, and one of the leg, terminating in recovery, has occurred in Bango's long experience there. With these exceptions, Martinez can find no record for many years of gangrene after yellow fever. In 1896 he attended a young woman with the disease. The tenth day a patch of gangrene appeared on the thigh, which rapidly spread until the entire limb was involved and death ensued the twelfth day. The symptoms indicated thrombosis of a branch of the femoral artery, later involving the main trunk. The older writers—Rush, Moultrie, Devèze and Lefort—mention a few cases of this complication. Martinez suggests that the custom of blood-letting, so common in those days, may have contributed to the greater frequency of embolism and gangrene in earlier practice.

Vratch (St. Petersburg), September 28.

Remarkable Success in the Treatment of Eclampsia. V. V. STROGANOFF.—Out of ninety-two cases of eclampsia which Stroganoff has had occasion to treat during the last three years, only five patients have died, and two of these were moribund when received. The third died from sepsis twenty-seven days after termination of the eclampsia, the fourth from pneumonia and the fifth from atonic hemorrhage four days after the eclampsia was over, the delivery being complicated in this case by a ventrofixation done four years previously. Seventy-nine out of the ninety-eight infants were saved. He considers eclampsia a self-limited, infectious disease, the contagion air-borne, but so slightly virulent that no one except a woman in the puerperium is affected by it. His views have already been mentioned in THE JOURNAL, xxiv, pp. 735 and 1257. He treats it with a combination of morphin and chloral, the former for its influence on the sensory centers and the latter to control the convulsions. By this means he arrests the attacks in twenty-four to forty-eight hours: the urine increases in quantity and the secretion of mucus diminishes. He has evolved the following system, which he urgently advocates: First, a subcutaneous injection of .015 gm. morphin hydrochlorate during the first attack, or when first seen, repeated in one hour. The third hour a rectal injection of 2 or 3 gm. of chloral hydrate is administered and repeated the seventh hour. The thirteenth hour a similar rectal injection of 1.5 to 2.5 gm. chloral is given and repeated the twenty-first hour. The twenty-ninth hour another rectal injection of 1 to 2 gm. of chloral is administered and repeated the thirty-seventh and forty-fifth hours. If the comatose condition still continues, with headache, especially if delivery is not terminated, the patient is still kept narcotized with small doses, .015 to .03 gm. of morphin and 4 gm. chloral for the following twenty-four hours. Systematically proceeding in this manner, the recurrence of the attacks is prevented and delivery occurs normally or can be hastened without danger to mother or child. His tabulated statistics show that the number of attacks in all his cases averaged only 2.4 to 3.3 per patient, while in other institutions they ranged from 6.9 to 9.5 during the same periods. He lays great stress on the importance of relief

ing the heart and lungs of every source of irritation, mechanical, physical or mental. The heart-action becomes very much depressed during an attack. Continuous reclining on the left side should not be allowed, nor even the pressure of the hand or arm on the heart or lung region. The clothing, blankets, nor pillows should not be allowed to bind or weigh on the thorax in any way to impede the action of the heart or lungs. The mouth and nose must be kept free from obstruction from mucus. Fluids should be supplied by subcutaneous injection of 150 to 200 c.c. of salt solution or rectal injection of a liter in four or six parts during the day. Warm milk can be substituted for the salt solution in case of protracted eclampsia. Digitalis, inhalation of oxygen and other measures as indicated will also be found beneficial. The patient should be turned from the right to the left side and back again every hour or hour and a half, and other measures should be applied to loosen and favor the expulsion of mucus. If the lung symptoms become alarming and edema is threatened, great benefit can be derived from dry cupping. These minor points are all of great importance, but the chief aim in treatment is the suppression of the convulsions which can surely be accomplished by the system of administering morphin and chloral outlined above.

New Patents.

Patents of interest to physicians, Oct. 16 to 20:

660,042. Powder insufflator. Wm. F. Barry, Woonsocket, R. I.
659,640. Disinfecting composition. Henry S. Blackmore, Mount Vernon, N. Y.
659,642. Clinical thermometer case. Albert F. Blagdon-Richards, Swansea, England.
659,846. Truss. Decatur D. Dennis, Chicago.
660,014. Ice bag. Daniel Hogan, New York City.
659,574. Massage apparatus. Benjamin F. Hutches, Jr., Chicago.
659,978. Antiseptic broom. Oscar S. Kulman, Savannah, Ga.
659,820. Making persulfate of sodium. Auguste and L. Lumiere, Lyons, France.
659,685. Truss. Wm. S. Miller, Maryville, Mo.
659,755. Invalid-bedstead. Austin Moulton, Montpelier, Vt.
65,842. Design, pessary. Richard H. Vesey, Denver, Colo.
660,568. Hermal truss. James D. Day, London, England.
660,212. Syringe. Emanuel E. Ertsmann, Chicago.
660,388. Catamenial appliance. Charles A. Moberg and J. E. Brady, Portland, Me.
660,233. Apparatus for treating diseases of the ear. Robert Watson, Washington, D. C.
33,447. Design, surgical stocking. Charles J. Sadler, St. Louis, Mo.
660,885. Ankle-brace. Arthur J. and R. T. Brauer, St. Louis, Mo.
660,895. Truss. Joseph Pandey, Los Angeles, Cal.
660,859. Making soluble compounds of quinin and caffeine. Aisik Kraidmann, Altona, Germany.
660,994. Sterilizing-case, James G. Mastin, Chicago.
660,781. Pessary. Horace M. Paine, Newton, Mass.
660,972. Diagnosing belt. Fortune R. Ryan, Memphis, Tenn.
660,739. Saife-box. Augustus C. Taylor, Washington, D. C.
660,874. Bandage. George Voellner, Elizabeth, N. J.
33,456. Design, catheter. Wm. W. Harris, New York City.

Change of Address.

L. Anderson, Biloxi, to Port Gibson, Miss.
Earl V. Adams, Topeka, to Birmingham, Kan.
L. E. Blattner, 1219 Washington Ave., to 418 S. Jefferson St., St. Louis, Mo.
G. S. Heardsley, Washington, D. C., to The Holmhurst, Atlantic City, N. J.
R. H. Born, Washington, D. C., to Montoursville, Pa.
F. A. Butterfield, Chicago, Ill., to Lawrence, Mich.
E. Birney, Greene, to Nora Springs, Ia.
S. J. Coyne, Aberdeen, S. D., to Dayton, Minn.
F. R. Dwyer, 358 Lincoln Ave., to 3035 Michigan Ave., Chicago.
J. C. Dodds, Tolono, to Champaign, Ill.
Henry Febr, Chicago, to Homestake Hospital, Lead, S. D.
B. C. Fry, Jeffersonville, Ind., to Jennings, La.
B. Getzloff, 368 Larrabee St., to 314 Roscoe Boul., Chicago.
R. L. Gallaher, English, to Popo, Texas.
F. H. Hacking, Chicago, to Raymond, Minn.
W. A. Jaquith, 5713 Buxel Ave., to 2242 Calumet Ave., Chicago.
H. E. Kalpff, 523 Scott St., to N. W. Cor. Fremont Ave. and Lanvale St., Baltimore, Md.
R. C. Kaylor, Naperville, Ill., to McLeod, O. T.
P. LeMoine, Pittsburg, Pa., to Box 63, Port Hope, Canada.
P. P. Lytle, Branch Dale, to Birdsboro, Pa.
J. J. Larkin, 95th and Commercial, to 92nd and Commercial, Chicago.
E. E. Martin, Gambell Iowa, to 4935 Indiana Ave., Chicago.
A. B. Matthews, Savannah, to Elberton, Ga.
W. M. McCoy, Clinton, Iowa, to 625 Washington Boul., Chicago.
C. A. O'Quinn, Mayday, to 312 McIntosh St., Augusta, Ga.

J. H. Oakley, Evansville, Ind., to Marine-Hospital Service, Philadelphia, Pa.
J. H. Peeler, Henderson, to Griffith, N. C.
J. J. Pierron, 945 5th Ave., to 353 5th Ave., Chicago.
P. B. Schofield, Luling, Texas, to Newark, Mo.
F. J. Shook, 291 Ogden Ave., Chicago, to 9 Calwell Bldg., Ottawa, Ill.
H. J. Tillotson, 5039 Grand Boul., to 84 Dearborn St., Chicago.
J. S. Wallingford, Newport, to Paris, Ky.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the navy for the week ending Nov. 3, 1900:

Surgeon A. M. D. McCormick, commissioned surgeon from Nov. 11, 1899.
Asst.-Surgeon R. E. Ledbetter, ordered to the *Constellation*.
Surgeon C. Biddle, detached from the *Texas*, when put out of commission, and ordered home to wait orders.
Medical Director C. M. White, detached from the naval museum of hygiene, Washington, on reporting of relief and ordered home to wait orders.
Medical Inspector G. P. Bradley, ordered to duty in charge of the naval museum of hygiene, Washington, Nov. 15.
Surgeon H. E. Ames, detached from the *Kearsarge* and ordered to the *Massachusetts*.

Marine Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital service for the seven days ended Nov. 1, 1900:

Asst.-Surgeon J. A. Nydegger, relieved from duty in the Philippine Islands, and directed to return to the United States at once.
Asst.-Surgeon L. E. Cofer, relieved from temporary duty at Philadelphia, and directed to proceed to Washington, D. C., for examination for promotion.
Asst.-Surgeon G. M. Corput, to proceed to Cairo, Ill., and assume temporary charge during absence of medical officer.
Asst.-Surgeon W. W. King, to proceed to San Juan, P. R., on special temporary duty.
Asst.-Surgeon J. M. Holt, granted leave of absence for seven days.
Asst.-Surgeon J. S. Rogges, relieved from duty at Chicago, and directed to proceed to Philadelphia, Pa., and report to medical officer in command for duty.
A. A. Surgeon B. W. Goldsborough, granted leave of absence for four days.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Nov. 2, 1900:

SMALLPOX—UNITED STATES.

Colorado: Arapahoe County, Oct. 10-13, 2 cases; Costilla County, Oct. 15, 1 case; Ouray County, Oct. 9-16, 10 cases; Wild County, Sept. 1-30, 2 cases.
Indiana: Indianapolis, Oct. 20, 1 case.
Kentucky: Lexington, Oct. 27, 2 cases.
Michigan: Detroit, Oct. 20-27, 1 case; Delta County, Oct. 14-20, 1 case; Maple River Township, Oct. 14-20, 21 cases.
New Hampshire: Manchester, Oct. 27, 1 case.
Ohio: Cleveland, Oct. 20-27, 27 cases.
Utah: Salt Lake City, Oct. 20-27, 9 cases.

SMALLPOX—FOREIGN.

Austria: Trieste, Oct. 6-13, 1 case.
Bohemia: Prague, Oct. 6-13, 5 cases.
England: Liverpool, Oct. 6-13, 3 cases; London, Oct. 6-13, 1 case.
France: Paris, Oct. 6-13, 6 deaths.
Germany: Solingen, Oct. 1-7, 1 case.
India: Karachi, Sept. 23-30, 1 case.
Mexico: Mexico, Oct. 7-14, 2 cases, 1 death.
Russia: Moscow, Sept. 29-Oct. 6, 3 cases; Odessa, Oct. 6-13, 17 cases, 1 death; St. Petersburg, Sept. 23-Oct. 13, 18 cases, 4 deaths; Warsaw, Sept. 29-Oct. 6, 13 deaths.

YELLOW FEVER.

Cuba: Havana, Oct. 1-27, 274 cases, 67 deaths.
Mexico: Oct. 7-21, 4 cases, 2 deaths.

CHOLERA.

India: Bombay, Sept. 26-Oct. 2, 54 deaths; Karachi, Sept. 17-23, 4 cases, 3 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Oct. 14, 1 death.

PLAGUE—FOREIGN AND INSULAR.

China: Hongkong, Sept. 1-8, 4 cases, 4 deaths.
India: Bombay, Sept. 26-Oct. 2, 86 deaths.
Japan: Osaka, Sept. 11-29, 26 cases.
Madagascar: Tamatave, Oct. 16, reported present.
Philippine Islands: Manila, Sept. 7-15, 1 case.
Scotland: Glasgow, Oct. 13-19, 14 cases, 1 death.
West Australia: Perth, April 7-Aug. 11, 6 cases, 3 deaths.

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Original Articles.

APPENDICITIS.*

JOSEPH PRICE, M.D.

PHILADELPHIA.

For a number of years my experience differed from that of many operators in the fact that the trouble occurred 16 in the male to 1 in the female. An operation on a female, young or old, was uncommon; in boys and young men, very common. In the work of Hunter McGuire the proportion was precisely the same.

In the last three years my experience has wonderfully changed—the proportion now is about the same.

Coincident with increasing numbers of young females, I had a group of old women—some five or six, 60 to 72 years old—with severe attacks of appendicitis, most of them gangrenous.

In young women and children it has occurred in working girls and in young women fond of field sports. This has also been so in young men, about all of them have followed trades or some professional sport. It is simply surprising the great number of athletes—ball players and professional swimmers—requiring the removal of the appendix.

Young surgeons seem more prone to the disease than any other class of medical men. Three-fourths of the surgical staff of one of the prominent hospitals in our city have had their appendices removed.

The disease has been very common in Pennsylvania throughout the last grip epidemic, and has also been more common in females than ever before in my experience. In some villages and towns it has occurred in two and three female members of the same family. In the practice of a prominent western New York physician he saw three girls, aged 13, on the same day, and from all he promptly removed the gangrenous appendix; one of the three was his granddaughter.

I am satisfied the error of treating appendicitis for typhoid fever is more common in the female than in the male; the pain and tenderness is at a lower level in the female than in the male. The suppurations in the male are higher and quite commonly extend to the kidney—in a good number of cases recently in my own experience I found large quantities of pus and filth from the head of the cecum to the kidney, disorganization of the ascending colon with perforation or multiple perforations. Some few of these cases have occurred in the post-puerperal period, in a few during gestation. The pelvic complications in the female are sufficiently common in suppurative forms of tubal and ovarian disease to influence us in the adoption of the suprapubic route in all cases. In about

9 per cent. the appendix and the head of the cecum are involved, and require removal with the diseased tube and ovary.

You all remember, while students, how common psoas abscesses were in clinics and in the hospital wards; such cases at present are scarcely ever found in the hospitals. I have questioned large numbers of hospital residents and ex-residents as to whether they had had any of those cases during their term of service, and they have all answered, "None."

Perinephritic abscesses quite commonly have their origin in appendicitis. None of the cases in females have been mild and the original attacks have been severe, and but few of the patients have waited for subsidence or recurrence. In all that have waited for subsidence, the recurring attacks have resulted in sloughing, perforations, extensive adhesions and large abscesses.

Fortunately for patients, the general practitioner has not as much confidence in therapeutics and delay as he had a few years ago. It seems impossible to educate the profession up to the importance of prompt, early interference. Occasionally, we see a patient the seventh, eighth, or tenth day of his illness, distended and vomiting, and the consultants holding out for another day for the trial of croton-oil. Localities seem to have something of a causal nature in them. The disease is very common in Norristown, Pa.; also in West Chester, and in a broad district between there and Philadelphia, in both children and young people.

The diagnosis in girls or females is more difficult or doubtful than in males. The mortality is also higher; this, I am satisfied, is due to the delay and the delay to a doubtful diagnosis. The mortality in little children is also increased by the delay and dread the laity and profession have to operate on children.

The results from early operative interference are always favorable. If we made it a practice to operate when the trouble is first recognized, without the delay of a day or more for consultations and for therapeutical treatment, the deaths would be very few. The fashionable and popular practitioner in small cities and towns is commonly a so-called very conservative man and claims that about all these cases can be cured by remedies, and gives us the ugly abscess class of cases and the virulent, perforative cases at the eleventh hour.

A great number of teachers are undecided as to when and how these cases should be treated. But few have decided there is only one treatment and that it can not be applied too early—the diagnosis being made.

Deaths are numerous all about us in good subjects that could and ought to be saved. Surgical interference, early, and never late, would save them all.

Recently a good and safe operator saw four patients two or three hours before dissolution—recognizing that they would die in a few hours without adding a feather to depress the beam.

Nothing can be sadder in our experience than the

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

last hours of many patients dying of appendicitis, the result of an error or a late diagnosis and prolonged medication, with the final suggestion that surgery is all that will avail.

DISCUSSION.

DR. WILLIAM R. PRYOR, New York City—The remarks I have to make bear on the relation of adnexal disease on the right side, to appendicitis. I have performed 173 vaginal hysterectomies for pelvic inflammatory lesions, and in only one case have I seen the appendix slough off, the patient being saved by operation thirty-six hours after vaginal hysterectomy. So much for the influence of removal of the diseased adnexa on the vitality of the appendix which may be adherent to it. In only two other cases have I had to do a laparotomy for the removal of an inflamed appendix some time after I had performed a vaginal hysterectomy. So much for the relation between chronic appendicitis and removal of inflamed adnexa through the vagina. These observations are somewhat important because it has gone out from a great many sources that if we find the appendix adherent to the diseased adnexa we may know that appendicitis exists. What I have seen convinces me that such is not the case, but that the perfectly normal appendix may become united to the diseased adnexa just as the intestines, etc., may be. Dr. Price is entirely right; the new athletic craze among young girls is responsible for the increase in appendicitis in them. Many of my cases were in golfers. The exercise is exceedingly violent and is generally sharply taken up by a girl who has never had much exercise before.

DR. G. T. HARRISON, New York City—I am on record as having operated on the youngest person for appendicitis. I operated the other night at the New York Infant's Asylum on a baby 17 days old. I found the intestines tied down in the neighborhood of the appendix and there was some suppuration. I do not believe that it was a case of appendicitis at all. It probably was an infection through the umbilical cord, which may be the cause of a good many of our cases of appendicitis in infancy.

DR. F. WARNER, Columbus—I would like to ask Dr. Price a question, one which is prompted not only by the title of the paper, but by a case which presented itself to me recently. The young lady had pains for twenty-four hours, and along with this pain there was rigidity of the muscles, vomiting, colic and tenderness over the region of the appendix. I operated and found a perforated appendix, together with much pus. In another case I operated on the second day, found no pus, but a decidedly inflamed appendix. The question at once presents itself: "When should we operate." Having seen a number of cases in my own practice as well as in that of others, I have been forced to the conclusion, irrespective of the opinion of many men, that if we are going to operate for appendicitis we must do it early. There are no reliable symptoms which will enable you to judge when it is safe to let a case run on for a while. I want to ask Dr. Price how are you going to know that there is a sloughing appendix or one undergoing gangrene. Oftentimes the symptoms will subside and suddenly a peritonitis sets in, due to the condition of the appendix. I believe that we will get much better results if we do our operations early rather than to temporize, hoping to get along without an operation. When people do not agree to an operation it is another matter, but when they do I am in favor of an immediate operation.

DR. EDWIN RICKETTS, Cincinnati—I saw a patient recently who had an attack of appendicitis five weeks before I saw her. I was called in great haste, and when I reached the house she was gasping; her lips and finger-nails were blue. She had been blistered over the region of the appendix. Finding dullness at the base of the right lung, I plunged in an aspirator, and drew out nearly a pint of fluid. The abdomen was hard and firm, and after a few days we opened it over the appendix, and took out two quarts of pus, showing that the pus in the pleura had perforated from the abdomen. This patient eventually recovered, but I had a difficult case on my hands. I have a record of 8 deaths out of 88 cases. The earliest possible diagnosis followed by the earliest possible operation, is the only thing to do.

DR. I. S. STONE, Washington, D. C.—The symptoms of appendicitis in young people are not often directed to McBurney's point. I remember one case very distinctly where there was no pain in the region of the appendix. I saw two cases where the pain was in the epigastrium, due to intestinal distension probably. In another case the symptoms were all on the left side, and I found the appendix nearly in the center of the abdomen. In regard to what Dr. Pryor said, a vaginal operation would surely have resulted in the death of the patient. The appendix was found torn off when I took out the pus sac. In late years I have made it a habit to look at every appendix before I close an abdomen. The last hysterectomy death I had was from a long adherent appendix.

DR. A. H. CORDIER, Kansas City—There is a remarkable mortality in cases occurring in young children, which I think is due to this reason. The great majority of cases of appendicitis in young girls are of a variety known as appendicitis gangrenosa, in which the symptoms come on very suddenly and on operating fifteen hours afterward the appendix is gangrenous. I think that in these young girls the ovarian artery has not developed fully and the blood-supply is deficient. Later in life the appendiculo-ovarian artery becomes better developed and we have fewer cases of appendicitis. In nine cases out of ten the first symptom these cases will present is a pain in the epigastrium, in the region of the solar plexus, which is due to the irritation of the sympathetic fibers. While the pain is located over the solar plexus the tenderness in the great majority of these cases is in the region of the appendix. The appendix early in life is not at McBurney's point. The cecum is high up in the abdomen and does not descend until later, hence we expect to find the appendix high up in the abdomen early in life. The least blocking of the single little vessel running up into the appendix cuts off the blood-supply and causes the death of the appendix and that variety of disease so fatal in early childhood.

DR. F. F. LAWRENCE, Columbus—I wish to emphasize the necessity of prompt and positive interference. I was called to see a young man who had been ill fifty hours. His bowels had moved and he was apparently all right. I was not inclined to operate, but stated to the father of the boy that it was only a matter of time as to whether we operated then or in interval. The father agreed to have the operation performed at once. I removed the appendix, which was so foul that two physicians who were in the room became sick and had to go out. Another case in which every danger seemed to be past, I operated on because the patient lived a distance from surgical relief. The appendix was removed, and in handling it to a by-stander it dropped into a basin of water and immediately ruptured. I do not believe that any human being is safe after having had an attack of appendicitis unless that appendix is removed.

DR. ROBERT MORRIS, New York City—I did not hear all of the paper, but there is one point connected with the question of appendicitis being dependent on athletic exercises which I wish to discuss. Place a patient on his back, then ask him to flex the leg so as to contract the psoas muscle, it will be readily seen that it rises in a hard firm ridge, hard enough to produce a traumatism if applied suddenly to any vulnerable appendix. A bicyclist riding a wheel up a hill contracts the psoas muscle so firmly and in such a hard ridge that the appendix is rolled over the edge of the hard psoas muscle with every stroke of the leg. This may no doubt be continued many times without producing any injury, but there is a definite cause for traumatism readily discoverable and one which I am sure causes a break in the mucosa of the appendix, and an infection atrium that produces the disease. A number of my cases have given the history of violent exercise, which included the firm constant contraction of the right psoas muscle. The young women of to-day are engaging in athletic exercises more than in years gone by, and this fact is certainly worthy of consideration. We can easily palpate the psoas muscle and satisfy ourselves that the appendix must be injured by it, producing a break in the mucosa and you have the best kind of an infection atrium.

DR. JOSEPH PRICE, closing the discussion—I am very thankful to you for your kind discussion. It has been a more scien-

tific one than we are accustomed to have on this subject. Deaths from appendicitis are much more common than they have been in the past. Even medical men seem to be especially afflicted with it. All through the country people are dying from appendicitis. A young lady, who had gone to Virginia Beach for the benefit of her health, developed appendicitis, and her physician recognizing it, gave her a note to me. I examined her carefully and told her to have her appendix out. She wanted to see her mother in New York first, and while there Dr. Boldt operated, and she made a beautiful recovery.

Tubercular appendicitis is common. About 2 per cent. is my own experience. You will find that where you have a tubercular appendix you have a localized patch of tubercular bowel, which you may have to remove. I find that a tubercular peritoneum is very much like a fine baby, the rougher you are with him the better he enjoys it, and the better he thrives. Separate the bowels, split the mesentery on both sides, expose it to the air, look at the right side, then at the left of the mesentery. The dry treatment is the most successful. If you can free all the adhesions without injury to the bowel they all get well. Injuries to the bowel rarely heal and the cases end fatally.

Dr. Pryor gives us a series of 173 operations and recoveries for diseased viscera, in which it was necessary to remove the appendix two or three days later. I found the appendix involved and primarily affected in 69 per cent. of cases of disease of the pelvic viscera. I remove the appendix at the time of operation because there is very little additional inconvenience to the patient. Some years ago, I removed the appendix of a nursing infant. It was a midnight operation, and the resulting peritonitis was general and fatal.

A man was admitted recently to some hospital for a stab wound. He also had appendicitis. The surgeon on opening the abdomen found the appendix perforated and removed it. I allude to this to show you how common it is. Some few surgeons, and I am satisfied the few I allude to ought to play with their grandchildren, always stand on two stools. On opening the abdomen before his class he will always say "gentlemen, this is a case of no appendix"; when he can not find it.

When to operate depends wholly on the diagnosis. I think it should be, and it can be made early. The methods of operating are too numerous. A simple, rapid and safe procedure is that of cutting the appendix from the head of the cecum as you would a rotten apple. You can simply cut it out after introducing three or four ligatures and then close up the wound. Transfixion or circular ligation, the canterly and carbolic acid are unsurgical. I have noticed that it is very easy indeed to recognize the condition after anesthesia; much better than before. If you are in doubt about the operation etherize the patient and inform the family that additional efforts of the therapeutic sort are wrong and dangerous. I would rather operate 99 doubtful cases than to lose one that should be saved. None of your appendicitis cases should die.

POST-OPERATIVE TREATMENT OF ABDOMINAL SECTION IN WOMEN.*

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The closing of the abdominal incision is worthy of careful consideration, first as to the material, second as to the method of its use. As to material, choice may be had between silkworm-gut, silk and silver wire, for through-and-through suturing, any of which fulfill the needful requirement of a good suture. They should be introduced from within outward, thereby lessening

in some degree the liability of infection and resulting stitch-hole abscesses.

If layer suturing is followed, catgut or kangaroo tendon should be employed. The cost of the latter practically excludes its use in general practice, but as to its tensile strength and slow absorption there can be no question.

Now that we have improved methods in the preparation of catgut from the standpoint of sterility, chromicized catgut for such use is practically an ideal suture. If this method is adopted its introduction should be dexterous and rapid, as the element of time is too important to be disregarded. Nicety of coaptation should mark every step in the procedure, and special care should be exercised that this apply in particular to two structures, the peritoneum and the transversalis fascia, as the latter gives most important support to the abdominal wall.

If through-and-through interrupted sutures are employed, they should be sufficiently near to carefully approximate the structures. Too often they are tied too tightly. This undue constriction of tissue tends to ulceration and cutting through of the suture. Even though layer suturing is followed, it is better to give it support by silkworm-gut sutures at intervals of three-quarters of an inch running down to the peritoneum.

Buried unabsorbable sutures ought never to be employed, first for the reason they are not required, and second they are foreign bodies, and as such contrary to good surgery from every standpoint. The line of incision can be dusted with iodoform or boric-acid gauze applied and secured in position by strips of adhesive plaster placed transversely. Unless the dressing is moistened by exudation it should remain a week or ten days. The stitches can well be left for ten to twenty days. In the through-and-through suturing case I usually remove the alternate sutures first, allowing the others to remain a few days longer for support.

Position.—Unless for reason I fear hemorrhage or undue traction on sutured intraperitoneal structures, I give my patients as much latitude of position (after abdominal section) as is conducive to their comfort. The rigid rules which many operators enforce, that the patient must remain on the back for days, and even keep the legs extended, is not only unnecessary, but harmful. Especially does change of position facilitate peristalsis and help relieve flatulence.

Treatment of Shock.—It is well just before the close of an abdominal section to give a high enema of a pint of hot normal-salt solution, containing an ounce of whisky, if evidences of shock are present. Should this be inadequate, intravenous or interstitial injections of warm (105 F.) salt solution may be administered with positive advantage, associated or followed by strychnin, spartein, caffeine, nitroglycerin or atropin, according to the indications. Care should be exercised to maintain the bodily temperature by application of dry heat to the cutaneous surface, which is often diminished from wetting the patient during the operation, and by lowering the head and trunk sufficiently that the arterial current to the brain be aided by gravity.

Treatment of Hemorrhage.—Hemorrhage after laparotomy is a most unfortunate and perplexing occurrence. The differential diagnosis between the symptoms from hemorrhage and shock are of the highest importance, but time will not permit a discussion of the points of difference to any length. Shock and hemorrhage are both attended with rapid pulse. In hemorrhage the

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face is blanched. It may be to a less extent in shock. The symptoms of hemorrhage are usually sudden in their appearance, and progressive in their development, while the tendency in shock is likely to be toward improvement. Hemorrhage is usually attended with restlessness, while absence of this symptom is usual in shock. The efficiency of filling the blood-vessels with saline solution in the relief of hemorrhage covers one of the most brilliant chapters in conservative surgical procedure. While the adage remains true "that blood is thicker than water," the fact remains that water is better than no blood. Doubtless the depletion of the circulation is responsible for the intensity of thirst following laparotomy; at all events the leaving of a pint or quart of hot salt solution in the peritoneal cavity at the time of closing the abdomen diminishes this distressing symptom, and unless reason exists for leaving the peritoneal cavity dry it is good practice. Occasionally hemorrhage ceases spontaneously and nature seals the leak, but if serious, and the state of the patient threatening, no waiting is permissible. Nothing remains but to secure the bleeding vessel. Occasionally if space has been left for abdominal drainage the removal of the gauze may reveal the source of the bleeding, and the vessels may be secured either by ligature or compression. If the abdomen had been closed it must be opened. Under conditions like this when a few moments may determine the result, there is no time for delay or elaborate preparation; even the moving of the patient to the operating-table might imperil the results. Under such conditions when possible—which is usually practicable in hospital cases—do the work in bed, as suggested by Ricketts. By so doing you will save valuable time and perhaps your patient.

Drainage.—To drain or not to drain, is the question. This is a feature in pelvic surgery which constantly confronts the operator, in which only general rules can be formulated. Every surgeon deprecates the necessity of drainage, but recognizes its necessity in certain cases. It is a common statement now-a-days, that drainage after laparotomy means imperfect surgery. I desire to take issue with this theory as illogical and dangerous, and I do not hesitate to affirm that only the surgeon who is capable of discriminating when drainage is indicated, is to be trusted. True, the improved technique of these later days makes the necessity for drainage far less frequent, but every case must be judged by its own merits.

The truth of the saying that "he who hesitates is lost," finds no more ample field for demonstration, than in the faulty reasoning and reckless uncertainty which characterizes the vacillating and timid operator in deciding his course under conditions like these. If drainage is decided on, care must be exercised that neither too little nor too much material be used, and that it be dispensed with at the earliest possible moment. It is equally needful that it be so arranged that it shall not be incarcerated in the peritoneal viscera. Failure in this particular has led to awkward and disastrous consequences. If an area of some extent require drainage the gauze may be included in a Mikuliez bag, so that it can be removed at pleasure, and in such amount and from such portion of the bag as seems needful. Usually gauze with a coarse mesh, iodoform or plain, or the two in combination meet every indication. In some cases where considerable areas have to close in by granulation, or sinus remains, rubber tubing can be used later on to advantage. Occasionally, through-

and-through drainage is to be recommended with manifest advantage. This is applicable in septic conditions, when a drain can pass from above into the pelvic cavity and down into the vagina or out through the flank from the pelvic cavity. The position and its bearing on the results in septic peritonitis has of late received attention. Fowler claims if the upper portion of the pelvic cavity be on a higher plane than the more dependent portion, the drainage is thereby greatly facilitated and recovery follows in what would appear to be otherwise hopeless cases. The further results of such procedures will be watched with interest, and the profession will not be slow to utilize any advantage such procedure confers.

Flatulence, Nausea and Vomiting.—In my individual experience the most common annoyance after laparotomy is flatulence, and that in spite of the most thorough preparation of the patient. In nausea, if occasioned by the anesthetic, that will disappear as the system eliminates the drug. If due to reversed peristalsis, and associated with bilious vomiting and diminished peristalsis, the use of salines is indicated.

Nutrition.—From twelve to twenty-four hours after the operation, according to the condition of the patient, teaspoonful quantities of hot mutton or chicken broth are given, at intervals of an hour or two. If acceptable, the quantity may be increased. If the stomach tolerates these, give beef-juice expressed from cooked beefsteak, milk with equal quantity of lime-water—if it is known that milk is well digested by the patient—at longer intervals of two or three hours. Nothing in my experience gives more discomfort to the patient than imperfect digestion of milk, extending to the whole length of the alimentary canal. Early feeding as is consistent with the patient's condition is advocated.

Urinary Secretion.—Unless some contraindication is present, allow the patient to micturate if she can. If she can not, have a catheter used four or six hours after the operation. This will give some suggestion whether the urinary tract has suffered injury during the operation and assist in determining the status of the renal secretion and the amount voided, which should be made a matter of exact clinical record; any marked decrease in the elimination of urea or other toxic agent should receive immediate attention. If there is a marked deficiency or suppression of the urinary secretion no time should be lost in re-establishing it. The agents to be employed are persistent dry cupping over the kidneys, the administration of salines by the mouth or by high rectal enema until brisk catharsis is established, assisted by calomel; copious drafts of pure water if admissible; the establishment of diaphoresis; and if the blood-pressure is diminished, the use of digitalis, together with the application of hot poultices to the back alternated with dry cupping. Under such management the secretion is usually restored.

The Pulse.—As a guide to diagnosis, prognosis and treatment in pelvo-abdominal surgery, the condition of the pulse is of great value. As an indicator of change and complications it serves as a barometer. As is the pulse so is the patient, is especially applicable in these conditions. In all cases the pre-operative pulse must be taken as the standard for comparison. If there is vital depression, the pulse becomes accelerated. Shock, hemorrhage, sepsis, all manifest their influence to modify its rhythm and power, and as a rule its rapidity and volume determine the status of the patient. To this rule there is one exception which should always be noted, that of over-stimulation of the inhibitory

cardiac nerves, in which case atropin is the remedy par excellence.

Usually in cases which do well, the pulse falls in frequency during the first twenty-four hours after operation, while rapid rise suggests the presence of some complication.

Temperature.—Closely allied with the causes which induce rapid pulse are those which manifest themselves in connection with rise in temperature. It may be safely assumed that a proper appreciation of the causes which lead to a variation of pulse and temperature will be the key to their management. Subnormal temperature means vital depression, and occurring soon after an operation indicates the presence of shock or hemorrhage. With the appearance of these symptoms there is usually absence of a hot face. Sudden rise of temperature during the first two days is regarded with suspicion. If due to nervous disturbances it will not be long maintained, but if persistent it is ominous of grave conditions. It may mark the advent of sepsis, either intra-abdominal suppuration or that arising from stitch-hole abscesses. If the latter, there will be localized pain; so also pulmonary complication, from either. Peritonitis and abdominal effusion produce fever, though the last condition usually occurs during the second week. A persistent temperature of 100 to 101 F., extending over a week, is occasionally present without assignable cause. Another form of fever which occurs in certain patients has, in my opinion, not received the consideration which its importance demands. I refer to malaria. This fact was profoundly impressed on my mind within the past few months, after operating on a lady from the south for the extirpation of an axillary growth, from a malarial development attended with high temperature and alarming weakness which nearly resulted fatally. A recent experience of a temperature of 106 F., complicating an operative case of appendicitis, from malaria tended to emphasize the necessity of discriminating it from other causes of hyperpyrexia. I have, therefore, made it a rule in all selected operative cases to ascertain whether the patient has ever suffered from malarial attacks, to the end that antimalarial treatment could be instituted prior to operation. If doubt exists as to the malarial origin of the attack, blood examination will reveal or exclude the presence of the plasmodium.

The treatment of stitch-hole abscesses consists in removal of the stitches, evacuating the pus, and providing for drainage. Abdominal distension—by causing pain and spasm—is sufficient to cause elevation of temperature. The presence of septic processes, whether local or systemic, or both—one being a sequence of the other—are the severest complications which confront the operator. If they are due to local pus accumulation the indications are plain and unmistakable; if to local or systemic infection which are not amenable to surgical interference a clear discernment as to indications for treatment must be formulated.

The rapid pulse and feeble cardiac movement, associated with low fever or subnormal temperature, resulting from overpowering septic peritonitis, must be differentiated from depression and slow exhaustion. The symptom of intestinal perforation or evacuation of pus into the peritoneal cavity is so grave a matter as to demand immediate attention. If any surgical aid is to be rendered there can be no delay.

Hyperpyrexia due to intraperitoneal infection usually requires the prompt exhibition of salines. As to the hyperpyrexia itself, the extraction of bodily heat by the

application of cold promises most for the patient. Cutaneous sponging and the head and abdominal coil offer the most efficient measures for its relief. Under such conditions the use of the coal-tar derivatives to reduce temperature is never admissible. In profound systemic poisoning the heroic use of alcoholic stimulants, with supporting doses of quinin and appropriate heart tonics offer the best hope for the patient.

Pain.—The pain following laparotomy clamors for relief, and from whatever causes can not be altogether ignored. It is not to be assumed that all pain demands the use of anodynes; in fact their administration is a choice of evils. If due to intestinal distension by gaseous accumulation, the remedy should be found in the escape of the gas and the arrest of its formation. That the results of a laparotomy should be attended by pain is to be expected, but that often abates within the first twenty-four or thirty-six hours.

The nervous perturbation, from prolonged pain, is not only a source of irritation but may be sufficient to cause fever. The wise surgeon will so interpret the causes which lead to pain and the injury associated with it, that his remedies shall not only be timely in their exhibition but those which shall not unduly perturb the patient by their after-effect.

In most cases after laparotomy I find no need for giving anodynes, and for some years I have almost never resorted to morphia or opium.

When necessity makes needful some anodyne I give codein from $\frac{1}{4}$ grain up as is required. Most patients are tolerant of it, both as regards unpleasant after-effect on the nervous system and its comparative innocence in checking secretion and diminishing peristalsis, two very important considerations. Compound spirits of ether exercise some influence in the control of pain, while bromid of quinia acts both as a support and sedative.

Exhaustion.—Among the many unmentioned complications following laparotomy, the only other I shall refer to is exhaustion. In serious cases its degree and persistence mark the limitations of possible convalescence and its appropriate preventive treatment will antedate its positive development. Prudent but well-sustained feeding, stimulation and appropriate nursing will not be overlooked. When for any reason stomach digestion is impossible, early resort will be had to rectal alimentation and stimulation.

Tonics, like quinin, strychnin, and iron will find their appropriate field of usefulness, while the individual professional attention, untiring and persistent, will conserve to the fullest extent the strength of the patient and her chances of recovery.

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DISCUSSION.

Dr. I. S. STONE, Washington, D.C.—Dr. Chase has given us a most valuable paper. I want to congratulate him that he has written something which is reliable. I often find that papers read before this body advocate a variety of treatment which if applied would be followed by disastrous results. Many of us have come to the conclusion that these cases get well without a great deal of after-treatment if the operation has been properly performed. When we close the abdomen it is about all we can do in many cases as far as saving the life of the patient is concerned. In regard to the use of morphia, we all agree that it is rarely necessary. I have heard many men say that it should never be given, never should be in reach for fear it might be used. I have rarely used morphia in my private hospital, but there are some cases where patients' lives have apparently been saved by it. The other day a lady was brought to my hospital, and although she was

a morphin fiend her physician did not mention it to me. This is decidedly wrong, as we should always be informed of it. The lady was operated on, and suddenly grew very pale, with cold, clammy skin, although there was little hemorrhage. Salt solution seemed to have no effect, other than slightly increasing the volume of the pulse. This condition continued for some hours. Finally we gave $\frac{1}{2}$ grain of morphin with 1,200 grain of atropin, and that patient's condition changed for the better in the twinkling of an eye.

In closing an incision I used for years the serial, or layer, suture, but I now condemn it because the through-and-through sutures closely approximate the entire length of the incision in every direction, while the layer sutures leave spaces between the different layers which can not be approximated. After using the through-and-through suture, we put fine catgut suture in the fascia, and it is a rare thing to have a case of suppuration after that method.

With regard to preliminary stimulation, my experience has shown me that it is best to leave your patient alone for some days prior to the operation. Do not use digitalis or nitroglycerin or any other thing which young hospital physicians and family physicians do. The family will bring much pressure to bear on you to do something, but you will get better results if you will carefully avoid excessive stimulation and medication.

DR. REED, West Virginia—Dr. Stone has covered the point I was just about to make. We can not get along without through-and-through sutures, as we must perfectly approximate the different layers of the wound. After the suture has been placed we can use in addition some fine catgut, and you will rarely ever have a case trouble you because of suppuration. Suppuration will only occur when the catgut has not been sterile, and there is no way of being absolutely sure of that fact. The introduction of a stitch into the fascia, which can be removed at the same time that the through-and-through sutures are removed, seems to me desirable. That can be done by using silkworm gut and drawing the fascia together by a running stitch. By introducing a silkworm-gut from one end of the wound down through the skin, through the fascia, picking up the fascia on one side and on the other side one-half inch in advance, and so on, you have a continuous suture. When you draw on either end you bring the fascia together and the ends can be anchored by shot. It is re-enforced by through-and-through sutures so that there is no possibility of any yielding. If the fascia is in perfect apposition the silkworm-gut can be removed at the end of two weeks with perfect ease. There is no suture material left in the wound and consequently no possibility of infection.

DR. W. E. B. DAVIS, Birmingham, Ala.—I wish to say a few words in regard to the closure of the abdominal incision. I referred to this subject in my address. The tier suture with absorbable material has a just and high place in surgery and is practiced by many of the best surgeons, but the majority close the wound by the interrupted through-and-through suture of non-absorbable material. The method which I practice combines some of the advantages of both, and obviates some of their objectionable features. I use interrupted sutures of silkworm-gut, uniting the aponeurosis, recti muscles and peritoneum, and secure the sutures by means of very small silver tubes, corresponding in length to the thickness of the skin and subcutaneous fat, through which the ends of each suture are passed, and then through a perforated shot. After the aponeurosis has been well approximated, each tube is pressed well down and secured by the compression of the shot at the distal end of the tube. After all sutures have been secured, the skin is brought together with a very small size suture of silk or catgut. The sutures should be very superficial or subcuticular. The little tubes with shot project just beyond the wound. Compresses of gauze are placed on the sides of the incision to approximate the subcutaneous fat. The silkworm-gut sutures should remain from two to three weeks, and can be removed by clipping the ends of the suture between the tube and shot, and after the tube is removed the suture comes without difficulty. By this method the wound is freed of all

foreign material before the patient is discharged, there being nothing left to cause subsequent trouble.

DR. A. H. GOELET, New York City—I agree with many of the points brought out by Dr. Chase, whose paper I have listened to with much interest, but I think the after-treatment of laparotomy should begin before the operation. I think it is of the greatest importance to prepare the patient thoroughly for operation. We must understand that patients who require these operations are not usually in good physical condition. The whole system is out of order. The digestive apparatus and the liver are not working properly, and I think that when we come to spend a few weeks in the preparation of our patient for operation we will have less trouble with the after-treatment. My experience has taught me this. The only cases where I have had trouble have been those where I left the preparation of the patient to the man who sent me the case. Where I have prepared the patient myself I have had no trouble.

Pain is one of the principal things we have to contend with in the after-treatment of laparotomy, and intestinal distension is responsible for the pain to a great extent. That can be, and should be, gotten rid of by thorough preparation of the patient before the operation. This is particularly important whenever an anesthetic is given, and when the abdomen is to be opened.

I was glad to hear Dr. Stone speak in favor of some anodyne after operation when the patient is suffering from pain. I think it is our duty to give morphin when the pain is excessive, and I have never seen any bad results from it when combined with atropin. It does not interfere with convalescence when judiciously used.

In regard to closing the abdominal wound, I think the objection raised to the buried suture comes not so much from the spaces left, because a good operator would not leave such spaces. It is because knots are left buried in the tissue and they act as foreign bodies. When I use a layer suture I never make a knot. I start with a slip-knot and make one continuous suture close all the different layers without tying at the end, and I avoid taking sutures through the skin, using the subcuticular suture. Where I have used deep interrupted silkworm-gut sutures I avoid the pain produced by the cutting of these sutures by putting a layer of several thicknesses of gauze below the knot on top of the line of incision, tying the sutures over the gauze. I have often relieved intestinal distention and pain satisfactorily by using asafetida, sometimes in the form of a suppository and sometimes in the form of a high enema of the milk of asafetida.

DR. EDWIN RICKETTS, Cincinnati—The after-treatment of many of these cases depends greatly on the ante-operative method. I wish to call your attention to the fact that if you will look into the history and life-work of Mott, of New York, and Blackman, of Cincinnati, and take into consideration that they were rapid operators, I am sure that many valuable lessons can be learned from these men. Blackman amputated the hip-joint in 28 seconds. I want to say to you that recently I saw a patient under an anesthetic 20 minutes while the operator was washing his hands. I object to this because it has a most damaging effect on the after-treatment of these cases. In regard to the closure of the abdominal incision, my friend Stone had been taught the lesson of the through-and-through suture and he departed from it only to come back to it again. I have never departed from it because you can not improve on the through-and-through suture. Put your sutures in alcohol instead of hot water and you will have very few stitch abscesses. Over-training is over-doing. Over-doing in the after-treatment of these cases means to lessen your patient's chance. Do your work well while you are doing it. The best men we have are the rapid operators. The men who give their time to this special work and do nothing else are the rapid operators. Any man who takes up 30 minutes of time for an ovariectomy is not worthy of the name of specialist. Ten minutes is long enough when there are no adhesions. Many operations are done in 45 minutes when 15 minutes would be amply sufficient.

Digitalis is a much over-estimated remedy, so, too, is nitroglycerin. The old-fashioned remedy, strychnin, can not be improved on.

DR. F. F. LAWRENCE, Columbus—So far as the lives of our patients and the reputation of the men of our section are concerned, this is one of the most important papers we have heard. The remote as well as the immediate results depend more on proper preparation of our patient before operation and judicious after-treatment than on anything else. Many of the renal complications following laparotomy are simply due to the conditions present which compress or irritate the bladder and ureters. We frequently find albumin. This may be relieved if prior to the operative work you fill your patient full of hot water for two or three days. In reference to the length of the operation and the amount of manipulation of the viscera, I wish to say that nausea, vomiting, shock, peritonitis, septic infection and obstruction of the bowels occur exactly in inverse proportion to the rapid manipulation of the operator. Infection will be in relation to the length of the incision. The peritoneum is a lymphatic covering; the upper part has the greater number of stomata and the lower part the lesser number, hence, we have so few cases of infection following tubo-ovarian abscess. Open the abdomen wide, soil your fingers and get them in contact with the upper part of the peritoneum and your patients will surely have sepsis. Short incisions, little manipulation, rapid work, short anesthesia are the keynote to the entire situation. Dr. Ricketts emphasized short anesthesia. The man, who will start his anesthetic before he begins the preparation of himself, is exposing the patient to unnecessary risk. I prepare myself before I have the patient anesthetized, and even prepare the sutures first. Whether we have stitch abscess depends on how the sutures are tied and the sterile condition of the material rather than on whether it is silkworm-gut, catgut or anything else. Stitch abscesses are more frequently due to devitalizing the tissue within the stitch by too tight tying than from infection.

The use of morphin has been emphasized. If pain demands it, give it before your patient comes out from under the anesthetic. The cases in which we will have infection are those brought into the hospital to-day and operated on to-morrow. The greatest question is when and how to operate.

DR. C. L. BONFIELD, Cincinnati—There are two or three points which I wish to refer to. Patients after abdominal section suffer a great deal from thirst, which is very much increased if purgation, preparatory to laparotomy, is done with salts. I think it is a great mistake to do this. This intestinal tract should be thoroughly clean, but other agents than the saline should be used to accomplish this. I favor the compound extract of colocynth for this purpose. I also urge my patients to drink water freely for two or three days prior to the operation. Then they do not suffer so much from thirst and are better able to stand the loss of blood during the operation.

Regarding the use of morphin, we have been taught not to give it under any circumstances. We all realize that this was an exaggerated statement. It is a good thing to impress the fact on us that morphin is dangerous. It has been my custom for two or three years, when patients are suffering, are restless, can not sleep, to give a rectal injection of phosphate of codain and chloral. The combination acts better than either drug alone. Codain relieves pain and chloral quiets the nerves. It may be objected to by some that chloral is a depressant, but I have never found it so in this connection. If the patient is robust I give 3 grains of codain and 30 of chloral. This dose may be repeated in a few hours, but I rarely have to do so. Of course, we are more apt to have pain when the operation includes the removal of appendages that are nearly normal.

As to stimulants, Dr. Stone spoke very wisely on that subject. Because the patient is operated on is no reason for giving stimulants. If the patient requires stimulants, give them, but not otherwise. If you give stimulants when not needed, you have nothing to depend on when you do need them.

As to suture material, I wish to advocate the layer suture. I am surprised to hear it said that we have no catgut at present that we can depend on. I have been using it for a number of years, but do not remember the formula how the hospital prepared it. I have used it in all sorts of cases and have never had any trouble. My experience leads me to believe that the trouble which has caused operators to return to through-and-through suture comes from not using enough sutures and the presence of serum or capillary hemorrhage between the layers. That has led me to adopt two measures to prevent it. The peritoneum itself is particularly apt to be separated from the tissue immediately above it. After closing the peritoneum, I carry the next row of sutures through thin-muscular tissue and in every alternate stitch I take a little bite of the peritoneum, so as to maintain it in contact with overlying structures. I close the fascia and if the subcutaneous fat is thick I put in an extra row of catgut here. The skin is closed with a continuous subcuticular suture of silkworm-gut.

Dr. Ricketts has emphasized the necessity for speed in operating, but the necessity for speed is not so great now as when the illustrious Blackman, the most noted surgeon west of the Alleghenies, performed his operation. We have more perfect asepsis than he had and therefore we do not have to make up for that deficiency by speed, as he had to do. Asepsis should never be sacrificed for the sake of speed in the present state of our knowledge.

DR. P. A. HARRIS, Paterson, N. J.—Much stress has been laid on the condition known as "stitch-hole abscess" by the various gentlemen taking part in this discussion. I would advise not to allow the first dressing to remain more than six or seven days without lifting it up and examining the incision. I not only look at it, but I palpate it to see if there is any place where there might be an accumulation of serum or where an infection may have started up. I have also made it a practice to inspect the wound every second day after the removal of the first dressing, until about the twelfth day, for the purpose of promptly discovering any collection which may be forming. You may find a little accumulation of fluid or pus, and if you do, it is well to take a pointed trocar, probe, or tissue dissector and open the incision at that point and let the fluid out. In a certain number of cases, in which the patient has not complained and where there has as yet been little or no rise in temperature, a small quantity of serum, blood or pus may thus be discovered and evacuated, and the extent of the suppuration limited.

DR. A. H. GOELET, New York City—I would like to say a word in regard to the preparation of silkworm gut; if it is boiled for half an hour in a 1 per cent. solution of lysol it becomes just as pliable as catgut. It is, of course, preserved in the same solution until used.

DR. G. T. HARRISON, New York City—I wish to mention one very important complication that occurs after laparotomy, namely, ileus. The best way to avoid that is to handle the intestines as little as possible. It is one of those things where prevention is a great deal better than cure. Our cures are very few, but we nearly always have it in our power to prevent this complication. I do not know anywhere in the whole domain of surgery where the surgeon's sagacity is put to a more severe test than where this complication occurs. I had such a case not long ago, and the question was what to do? I decided not to open the abdomen, and the patient died. I believe now that I made a mistake, as I think it best to open the abdomen again, as a cure may be effected by ascertaining the cause of the pathological condition.

DR. C. C. THAYER, Clifton Springs, N. Y.—I think it is unfortunate, as well as unphysiological, to give remedies when preparing the patient which have a tendency to reduce the fluids of the body. The compound licorice powder is better than any saline compound. The fluids of the body are needed during the operation and during the convalescence. In regard to sustaining the patient, it has been said that strychnin is one of the most important drugs. I would also mention oxygen when there is a tendency to collapse. We should never operate

on a patient without having a can of oxygen and plenty of strychnin on hand.

In preparing a patient for abdominal surgery the alimentary tract should be not only evacuated, but disinfected, and functional disorders corrected. We should remove a pathological, and secure a physiological, condition by beginning earlier the process of preparation, making it more thorough, and thus avoiding many complications which often arise from their neglect. It is unphysiological to use, just before a surgical operation, evacuatants that tend to reduce the fluids of the body. Compound licorice and castor-oil are among the best intestinal evacuatants, with which some disinfectant or germicide may be happily combined. Any preliminary disturbance, general or local, should be overcome, rather than added to the effects of the operation. The stomach and bowels being set in order and the colon thoroughly washed just previously, best prepares the patient, not only for the operation, but for the convalescence. In regard to restoratives, as whisky is often worse than useless, and digitalis, strophanthus, nitroglycerin, and ammonia are often unreliable, strychnin is the most potent motor and vasomotor stimulant and must stand at the head of drug restoratives in surgery. Oxygen is far superior to all, being the quickest, safest and surest. If used intermittently, with the anesthetic, collapse may be averted. We never think of using anesthetics without a cylinder of oxygen ready at hand.

DR. GEORGE J. ENGELMANN, Boston—I have lately studied the pulse and find a normal variation of from 30 to 40 beats; this teaches us that if we are to understand and appreciate danger-signals we must study the pulse of the individual patient beforehand, and this is too generally neglected. I have been surprised that a normal, thoroughly healthy pulse may drop to 68 or 60 and may rise to 94 after taking food, that it may vary 20 beats in different portions of the body and more with emotion. I want to call your attention to a suture with which I must confess I have had no practical experience. You may be familiar with it. It is advocated by Jonnesco, a brilliant young surgeon of Bucarest, who uses an aluminum or silver wire suture. The suture is not buried, yet it is a tier suture and helps sustain and hold the various layers in position. The lowest suture, including the peritoneum, is placed two centimeters from the edge of the incision and goes entirely through. The suture which takes in the next layer and all above it is a little nearer the incision, and so on. No suture is tied, every wire is laid out until all are in place so that the tissues are not distorted and the field is a normal one. When all are in place they are tied, beginning at the highest and nearest one. Dr. Davis' idea of using a little silver tube is a good one and worthy of consideration.

DR. F. F. LAWRENCE, Columbus—Sutures should be taken out on the seventh day. I never leave sutures in longer than one week, as there is absolutely no use of their being there after that time.

DR. CHASE, closing the discussion—I am confident that our individual experience should to a large extent control us in our work, although we should not be entirely oblivious to the experience of other men, nor underrate what they do. We must be guided largely by our convictions and individual opinion. By so doing we shall retain all that is best in our own method. We all deprecate rapid changes, jumping from one extreme to another in the work we do. Unless it is an emergency case, there is no excuse for operating until we are ready, no matter whether it takes one week or six weeks. There should be no hesitancy on our part to apply honest criticism, as it tends to good results and we also by so doing, affirm the reasons for our belief.

Experience has taught us that there are patients who are extraordinarily susceptible to morphin. A single dose producing nausea, etc. I can admit that anodynes must be given in some cases, but not as a routine practice. We get just as much benefit from codein given hypodermically in most cases as from morphin. If we increase the dose of codein we get the same good results as from morphin, minus the bad effects. I think when it comes to giving stimulants, a great deal of care should be exercised. Much depends on circum-

stances and we should thoroughly understand the physiological effect of drugs. No two of them act alike and the therapeutic result, to a great extent, depends on the condition of the patient. It is my practice to fortify my patients by strychnin, but not unless they need it. If there is great nervous depression, there is nothing that will compare with strychnin, but I am sure that Dr. Ricketts and others of my friends here, have given so much strychnin in an individual case that no more could be given. Then spartein or caffein can be given, but they are evanescent in their effect. The conditions under which digitalis should be given are those in which there is diminished arterial pressure attended with vital depression.

THE VALUE OF BLOOD EXAMINATION FOR DIAGNOSTIC PURPOSES.*

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If we pause for a moment to consider what a valuable aid to diagnosis, differential diagnosis and prognosis is afforded by the microscopical examination of the blood—in itself a comparatively simple procedure—we can not fail to wonder at the indefiniteness of information to which most medical men must confess in regard to the subject. The cause of this shortcoming, however, need not be far sought, and lies in the fact that it is only within a short period that the medical institutions of this country have provided instruction and laboratories for study in this important branch. Indeed, the entire subject is still in its infancy of investigation.

There are many important and practical instances in which this method lends a valuable aid in the establishment of accurate and scientific diagnosis, as well as assists in determining prognosis. Little is required in the way of apparatus, and only a moderate degree of skill is necessary to master the technique.

DISEASES IN WHICH BLOOD EXAMINATION IS ESSENTIAL TO DIAGNOSIS.

1. Chlorosis. In this disease, by numerical count, there is found to be an oligocythemia; the number of red cells average, however, as high as 4,000,000 per cubic millimeter, although in many cases the count is much lower. There is also an oligohemoglobinemia wherein the cells look paler and smaller than normal. The presence of poikilocytes, microcytes and macrocytes is detected, and in very severe cases a few nucleated erythrocytes of the normoblast variety are found; in such cases degenerative changes also occur in the red cells, such as a tendency to accept more than one stain, the appearance of hyaline spaces in the cells, the loss of the entire hemoglobin and the absence of the tendency to form rouleaux. The blood plaques are increased. There is no leucocytosis, but a lymphocytosis occurs at the expense of the polymorphonuclear forms. In the average case, by test, the hemoglobin is found to be about 40 per cent. of the normal, thus causing the color-index to be considerably less than normal.

2. Secondary anemia. Here we find a decrease in the number of red cells and in the percentage of hemoglobin, which diminish more in proportion to each other than in chlorosis, though the hemoglobin always suffers more severely; the number of erythrocytes sometimes remains approximately normal, while the hemoglobin is often sufficiently affected to cause the color-index to descend as low as that of chlorosis. According to the severity of the disease occur microcytes, macrocytes, poikilocytes

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and other degenerative changes in the red cells, normoblasts and megaloblasts. A leucocytosis is usually present.

The following two points, characteristic of the blood of children, should be borne in mind.

A leucocytosis, polycythemia and increased percentage of hemoglobin are characteristic of the blood of the new-born, but gradually disappear, the last in fact reaching below the normal within a very few weeks, where it remains during the rest of childhood. Any influence which retards the development of the child—e. g., rickets—has a like effect on the blood, thus causing a leucocytosis, of which a large percentage are lymphocytes, and the appearance of nucleated erythrocytes without necessarily the coexistence of an anemia.

Again, in the anemias of infants and children the red cells are destroyed to a greater extent, and degenerative changes are more marked than in like cases in adults. Nucleated erythrocytes, especially normoblasts, are more frequent, and often show mitotic figures and fragmentations of their nuclei, and, finally, myelocytes are more common than in anemias of corresponding severity in adults. In very severe infantile anemias a condition is encountered in which the white cells present all stages of degeneration, no two looking alike.

3. Pernicious anemia. In this there is a marked oligocythemia, the number of red cells averaging about 1,000,000, or slightly over, per cubic millimeter. The hemoglobin is reduced to an average of about 25 per cent., thus causing each erythrocyte to contain an increased amount of hemoglobin, or, in other words, the hemoglobin-index to be greater than one. The existence of microcytes, macrocytes, degenerative changes of the erythrocytes and of nucleated erythrocytes of both normoblast and megaloblast type, is observed; and the presence of the giant nucleated cell in greater numbers than that of normal size is a characteristic of this disease. The number of blood plaques is diminished. Finally, there is no leucocytosis, or even a hypoleucocytosis, the proportion of lymphocytes, however, being increased. Not all cases of pernicious anemia observed in infants have shown a color-index increased above the normal, some have shown a slight leucocytosis.

4. Leukemia—myelogenous. The characteristic feature of the blood in this disease is an enormous leucocytosis, amounting to an average of 400,000 white cells per cubic millimeter, of which myelocytes constitute one-third or more. The lymphocytes are increased in absolute number, but decreased in percentage in proportion to the normal, and the same is true of the multinuclear type, which show signs of degeneration such as loss of neutrophile granules, paleness, irregular shape and hydropic swelling of the nuclei, etc. The percentage of eosinophiles is slightly increased. The large mononuclear leucocytes are characterized by the absence of ameboid movements, and Flemming and others have called attention to karyokinesis occurring in the leucocytes, especially in the form just mentioned, namely, myelocytes. The changes of a secondary anemia, of a severe type, always occur, including diminution of the hemoglobin, oligocythemia, microcytes, macrocytes, degenerative changes, normoblasts and megaloblasts; the normal-sized nucleated erythrocyte is especially numerous in this disease, and frequently shows fragmentation of the nucleus.

5. Leukemia—lymphatic. Here, again, the characteristic of the blood is a considerable leucocytosis, averaging about 150,000 white cells per cubic millimeter, of which 90 per cent. are lymphocytes, the polymorpho-

nuclear form being diminished in proportion and myelocytes very scarce. A secondary anemia, with all of its changes, co-exists, though nucleated erythrocytes are rare excepting in children. In diagnosing this disease from the blood examination it must be remembered that an extensive lymphocytosis may be the result of various causes in children.

6. Hodgkin's disease. This presents early only normal blood, and later the alterations of secondary anemia.

7. Anemia infantum pseudoleukemia. In this interesting affection the number of erythrocytes always falls below 3,000,000 per cubic millimeter, and sometimes as low as 820,000. Microcytes, macrocytes, poikilocytes and other marks of degeneration characteristic of severe anemia are in evidence. Nucleated erythrocytes are numerous, and many of the normoblasts show karyokinesis, which is a feature considered by Luzet to be characteristic of the disease. The hemoglobin suffers, as it does in any severe anemia. A leucocytosis invariably occurs, and is stated as varying between 40,000 and 114,000 cells per cubic millimeter. Some observers report the multinuclear variety as being particularly increased, while others state it to be the uninuclear forms which are principally multiplied. Von Jaksch found the number of eosinophiles decreased, while Luzet and Zappert report them increased.

8. Malaria. The important point here is the discovery of pigment, flagella and the plasmodium malariae in the blood. A secondary anemia is regularly present, ordinarily marked by a reduction of the red cells, which is proportional to the diminution in the hemoglobin, causing the color-index to be about one. No leucocytosis occurs.

9. Relapsing fever. A microscopic examination during the course of the fever will reveal the presence of the spirocheta obermeieri, which is the pathognomonic sign here. An oligocythemia and an oligochromemia occurs during the paroxysm, but return to the normal in the apyretic period, and a leucocytosis follows the same rule. Large protoplasmic bodies resembling leucocytes, but of larger size, many of them containing fatty granules, are discoverable in the blood during the existence of pyrexia; finally, there must be mentioned the occurrence of free, dull-colored granules, and of fatty, degenerated endothelium, the latter from the blood-vessels.

10. Filaria sanguinis hominis. The finding of the parasite in the blood is the diagnostic point in this affection. An eosinophilia offers confirmatory evidence in suspected cases. A secondary anemia is an ordinary accompaniment.

And lastly, under this heading, let me call attention to the fact that, in certain cases, the finding of the causative germ in the blood has rendered the diagnosis of the following diseases positive: typhoid, tuberculosis, tetanus, ulcerative endocarditis, anthrax, grippe, glanders, septicemia, pyemia, pneumonia, and undoubtedly others which I have neglected to mention.

DISEASES IN WHICH BLOOD EXAMINATIONS ARE AN IMPORTANT AID TO DIFFERENTIAL DIAGNOSIS.

1. Chlorosis from secondary anemia. The differential diagnosis, by means of an examination of the blood, often presents great difficulty in these two diseases; for, while we are more likely to find normal erythrocytes among the small, paler ones of secondary anemia, and although the hemoglobin-index is apt not to be as low as it is in chlorosis, still the only feature that we can depend on is the occurrence of a leucocytosis, which is

pretty regular in symptomatic anemia, but absent in chlorosis.

2. Chlorosis from pernicious anemia. The reduction of red cells and hemoglobin is rarely as great in the former as in the latter, and the degeneration of the erythrocytes is more severe in pernicious anemia. The color-index is less than one in chlorosis and greater than one in pernicious anemia. Myelocytes and megablasts are regular features in pernicious anemia, but their occurrence in chlorosis is extremely rare.

2. Pernicious anemia from the anemia of malignant disease. From the anemia of malignant disease, as well as those that follow syphilis, typhoid fever and malaria of severe type, the following points serve to distinguish pernicious anemia: the large number of megablasts; the greater size of the erythrocytes, and the color-index greater than one; the absence of leucocytosis.

4. Leukemia from Hodgkin's disease. In the latter disease the blood shows, at most, a secondary anemia, which is easily distinguished from the blood of leukemia.

5. Leukemia from tumors of the spleen or kidneys.

6. Leukemia from tubercular, syphilitic or malignant adenitis. In 5 and 6, the blood examinations of the affections contrasted with leukemia do not show the changes of the blood of that disease.

7. Syphilitic from tubercular or malignant disease. As stated by Cabot, in adults a leucocytosis, marked by an increased percentage of young leucocytes and eosinophiles, points to a diagnosis of syphilis as against tubercular or malignant disease.

8. Typhoid fever from malaria. 9. Paroxysmal hemoglobinuria from malaria. 10. Pneumonia from malaria. In 8, 9 and 10, the finding of the plasmodium malariae settles the diagnosis.

11. Malignant liver disease from other liver disease. 12. Puerperal sepsis from puerperal mania. 13. Renal or cardiac from bronchial asthma. In regard to 11, 12 and 13, according to the teachings of Neusser and his followers, an eosinophilia would point to the presence of the second as opposed to the first of the diseases in each couplet.

14. Hysteria and neurasthenia from many of the diseases which they simulate. The finding of normal blood where we could expect to encounter certain pathological changes serves readily to make the distinction here.

15. Gastric ulcer from gastric cancer. The occurrence of a digestive leucocytosis points to the former.

It is obvious what an aid may be rendered by blood examination in obscure abdominal cases, for the presence of a leucocytosis would point to: 16. Appendicitis as against typhoid. 17. Appendicitis as against intestinal, biliary or renal colic, or floating kidney. 18. Peritonitis as against tubercular peritonitis. 19. Malignant disease of the liver as against catarrhal jaundice. 20. Perinephritic abscess as against cyst of the kidney.

In doubtful pelvic cases the absence of leucocytosis excludes the presence of pus or hemorrhage, and, in general, the mere existence of a leucocytosis would suggest the first as opposed to the second of each of the following couplets: 21. Pneumonia and typhoid. 22. Pyemia or septicemia and typhoid. 23. Meningitis and typhoid. 24. Meningitis and brain tumor, lead encephalopathy, diabetic coma, sunstroke, narcotic or alcoholic intoxication. (Cabot.) 25. Pneumonia and uncomplicated grippe. 26. Scarlatina and measles. 27. Empyema or pneumonia and serous pleurisy.

In the last disease, however, there is usually a mild leucocytosis during the febrile period, but it is not as great as that of the contrasted affections. An important point is an increase in the leucocytosis as indicating a change from serous pleurisy to empyema. It must be kept in mind that serous pleurisy, as well as all other serous inflammations in children, causes such a high leucocytosis that this point can not be depended on as a mark of differentiation between serous and purulent inflammations in them.

To continue, the same sign serves to differentiate: 28. Serous pericarditis from cardiac dilatation or hypertrophy. 29. Osteomyelitis from neuralgia or "growing pains." 30. Malignant from benign tumors. 31. Purulent from catarrhal otitis media; as well as all suppurative from non-suppurative processes. 32. Suppurative processes from tubercular processes.

PROGNOSIS AS DETERMINED BY BLOOD EXAMINATION.

1. Pneumonia. In this disease the absence of leucocytosis in any but the mildest cases is a bad sign, and points toward a fatal issue; while its presence merely assures us that the system is reacting, but does not suggest the outcome.

2. Diphtheria. Here, again, the absence of leucocytosis in any but the mildest cases is a bad sign, and the degree of leucocytosis keeps pace roughly with the severity of the infection. Engel considers the presence of large percentages of myelocytes as characteristic of fatal cases, and Ewing finds the staining reaction of the leucocytes proportional to the severity of the disease.

3. Chlorosis. The prognosis, of course, is regularly good, but the chances of rapid recovery or the reverse depend on the severity of the blood-changes existent at the time treatment is begun. For instance, we can expect an early return to the normal, where the only change is a loss of hemoglobin, while the course would be proportionately slower where oligocythemia, changes in the shape and size of the red cells, degenerative changes, etc., are added. Neusser finds eosinophilia a favorable sign in chlorosis, as it shows an active regeneration of the blood, and, for the same reason, he considers it a good prognostic sign in the:

4. Anemia following hemorrhage. 5. Pernicious anemia. In this disease, too, Neusser states that the occurrence of an increased percentage of eosinophiles is a good sign. The prognosis, however, is always bad, and it can only be said that cases are not so rapidly fatal in which remissions occur, and in which the blood-changes enumerated above are not so severe.

6. Scarlatina and scarlatinal nephritis. Here, again, is eosinophilia a good sign, according to Neusser, while its absence is bad. The leucocytosis is proportional in degree to the severity of the disease in scarlet fever.

7. Appendicitis. In this inflammation, as in pneumonia and diphtheria, mild and very severe cases may show no leucocytosis. As Cabot states, an increasing leucocytosis may be the only thing to suggest an extension of the process.

8. Septicemia and pyemia. The occurrence of leucocytosis in these diseases follows the same rule as in several of the diseases already mentioned, that is, marked leucocytosis in most cases, and no increase in the leucocytes only in the mildest or in those cases in which the outcome is sure to be fatal.

9. Malignant disease. The recurrence of a leucocytosis which has disappeared with the removal of a malignant neoplasm indicates a return of the tumor.

10. Phthisis. Neusser points out that, in certain cases of this disease, some of the large uninuclear and multinuclear leucocytes contain perinuclear basophilic granules which, as the mark of a uric-acid diathesis—a tendency which is antagonistic to the development or spread of tuberculosis—suggest a favorable prognosis.

And, lastly, Neusser is also responsible for the statement that in deciding whether a case of hysteria, neurosis or psychosis would be benefited by castration, the presence of an eosinophilia suggests the affirmative.

DIFFERENTIAL DIAGNOSIS BETWEEN
ABDOMINAL TYPHOID AND APPENDI-
CITIS BY MEANS OF IODIN REAC-
TION. REPORT OF A CASE.*

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The clinical value of the iodine reaction of the blood has an established place among the clinical methods of examination since the investigations of Czerny, Livierato, Weiss and Goldberger. The following case will illustrate its value in the differential diagnosis between purulent perityphlitis and abdominal typhoid:

The patient, H. N., is 9¾ years old. The mother died of pulmonary tuberculosis. A younger brother died of scarlet fever. Two other sisters and the father of the patient are in good health. The child has had, until now, nothing but rubella; the present illness began the last week in November, 1899. On the 25th of that month the child was troubled with cough, and on the 28th had a temperature of 38.3 C. She also complained of abdominal pains, which appeared spontaneously, like colic, and pressure on the abdomen did not seem to intensify the same. Along with it watery stools occurred, alternating with constipation, and no vomiting.

Status presentis: The child is well-developed; its bones show slight rachitic thickening; the cutaneous surface shows a marked pallor; moist, mucous membranes appear slightly injected. The pharynx shows nothing abnormal; the tongue is reddened, and has a slight whitish coating; the ears are clean. On the left submaxillary region a glandular swelling, of the size of a pigeon's egg, and not sensitive, is found. In the region of the submaxillary joint a deep shining atrophic scar is found. The sensorium is clear. The temperature 38.3 C.; the lungs have a dry catarrh, with harsh breathing, and numerous dry rhonchi. Heart dulness is not increased; the sounds are clear and regular. Arteria radialis is soft, well filled, with normal tension and frequency of 130. The abdomen in the neighborhood of the thorax is soft, not tense, and somewhat tympanitic; at the navel it is sensitive on pressure. Constipation exists; the liver is not enlarged. Dulness of spleen begins in the eighth intercostal space, in the middle axillary line, and extends backward to the scapular line, and forward to the border of the ribs; it is not palpable. The urine is free from abnormalities.

Calomel was given in doses of .1 gram. The diet consisted of milk and soft moist food. On November 29 her temperature was 38.7 C., and pulse 130. The abdominal pains were increasing; three liquid stools occurred. Tannalbin, .3 gram, was prescribed. On the 31st, no change was noticed.

On December 1, severe subjective symptoms of illness are apparent. Temperature is 37.8, pulse 120; sordes appear on lips; the tongue has a white coating; the diffuse catarrh over the lungs continues. The splenic tumor is enlarged and extends over the border of the ribs, and can be palpated. Constipated condition remains unchanged from the 2d to the 5th.

December 6, the temperature is 38, and pulse 120. The splenic tumor becomes plainer; in the left hypochondrium five to seven rose-spots are visible. Abdominal pains continue; one stool daily, slightly bile-stained. The urine gives a positive diazo-reaction. Blood examination shows a positive Widal reaction, in the dilution of 1 to 50 in one-half hour. A specimen stained with the iodine gum solution does not show an increased leucocytosis; one-half of the leucocytes show a positive and diffuse reddish brown stain, and an iodine sensitive deposit, which is oak-shaped. Extracellular they are single and in masses of reddish brown granules.

December 7, no change. On the 8th, in the ileocecal region there is a diffuse resistance, hard to palpate, and slight meteorism; three liquid stools; roseola getting paler.

On December 9, the border of the tongue is cleaner, but a distinct fur in the center of the tongue; there is a resistance in the ileocecal region, pointing backward and downward. The pains are described as being in the umbilical region. The iodine reaction in the blood is positive; the same also of the Widal test 1 to 40. Treatment is tinct. opii, 15 drops; ice bag applied.

December 11, pain decreasing; temperature 37.2; no resistance on palpation; slight gurgling; one slimy stool; large doses of opium continued.

December 12, appetite and general condition good. Pain is in the ileocecal region on pressure; no fever.

December 14 to 20, general condition improved on a strict milk diet. Blood shows no iodine reaction, and no agglutination.

In this case there seemed to be at first a type of influenza with a form of bronchitis, and intestinal symptoms—constipation, diarrhea and colicky pains. When, however, typhoid symptoms, such as splenic tumor, roseola, typhoid tongue and lips, besides the Widal reaction 1 to 40, and also the diazo-reaction in the urine appeared, then the diagnosis of abdominal typhoid was made. The fever showed a remitting, subfebrile character, but it is well known that typhoid symptoms in children are either atypical or irregular. The diagnosis was questionable when the iodine reaction was found in the blood, and this latter showed the presence of pus. The existence of the tumor spoke against the existence of typhoid, and the disappearance of the same was certainly peculiar. Thus, it seemed that we were dealing with a suppurative local perityphlitic inflammatory condition, with adjacent peritonitis, which subsided in the course of a few days. With the disappearance of this tumor, the iodine reaction also disappeared. The rapid convalescence following the disappearance of the swelling, and the negative appearance of the Widal reaction speak against typhoid, so that the iodine reaction was the determining factor in establishing the diagnosis of suppurative perityphlitis as against abdominal typhoid.

The staining solution used was:

R. Iodin sublim.	5
Kal. iodati	15
Aqua destil.	50
Muc. acacia ad consist. syruposam.	

Misce.

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DISCUSSION ON PAPERS OF DRs. BRANDEIS AND WEISS.

DR. JOHN LOVETT MORSE, Boston—The attitude of the profession at large seems to me to be rather different from that stated by Dr. Brandeis. A few years ago we knew little or nothing about the blood; now, too much is expected from blood-examinations. The paper of Dr. Brandeis is a very able contribution to the blood diseases of the adult, but what he said applies very little, it seems to me, to blood-examination in children. The blood diseases in children are decidedly dif-

* Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

ferent from those in adults, and the classification of the blood diseases of adults does not apply in the differentiation of the blood diseases of children. For example, it is only in older children that we have chlorosis, although the chlorotic type of blood is very commonly observed in all the anemias of children. In children, the hemoglobin is almost invariably lower than the red blood-corpuscles. I am extremely doubtful about pernicious anemia occurring in children. I am inclined to think that many of the cases called pernicious anemia in children are really examples of severe secondary anemia. The blood of secondary anemia in children is not the same as in adults. It may show any and all forms of anemia, mild and severe, with and without leucocytosis, and any or all of them may or may not be associated with enlargement of the spleen. This blood condition is not paralleled in adults. As to the importance assigned to different forms of corpuscles in childhood, I should say that the nucleated red cells, and others, do not have the same significance as in adult life. The tendency in children's blood is to revert to the fetal type with a preponderance of megaloblasts, and this reversion does not have the serious significance in children that it does in adults. We are not justified in making the diagnosis of pernicious anemia on the excessive proportion of megaloblasts in children.

The number of leucocytes and their proportions are very different. The increase in the number of leucocytes is very much greater in children than in adults, under similar conditions and is not of the same significance.

As to the count of the white cells, I think that it is one of the most important parts of blood diagnosis. To be of use however, it should be used intelligently on broad general principles. It is not the absolute count that is of value. It is the fact that some diseases have a leucocytosis, while others do not, that makes it useful. In making the diagnosis between two conditions, if one of those conditions has a leucocytosis, and the other does not, the blood count helps; if both conditions have, or do not have, leucocytosis, the blood count does not help.

Dr. Brandeis stated that there was slight leucocytosis in serous pleurisy. For the last two years I have had counts made of the white blood-cells in every case of pleurisy in my wards every day, and there has not been any leucocytosis in any case. The blood count in these cases appears to be of no use whatever as to the amount of fluid or as to whether it is increasing or diminishing. A possible explanation is that the great proportion of serous pleurisy is tuberculous, and, as is well known, pure tuberculosis does not show a leucocytosis.

DR. LOUIS FISCHER, New York City—I thoroughly agree with Dr. Morse regarding the care that should be bestowed in making the diagnosis, but I think he will agree that if we have a case showing a series of symptoms of typhoid fever, and the spots are not defined and the spleen is not enlarged, and other important signs and symptoms are absent, it is well to resort to other diagnostic tests, such as the Widal and the Ehrlich reaction. I am very sorry that the paper of Dr. Weiss has not brought out a larger discussion, for the paper is the result of a very large amount of labor and consideration, and has been very much quoted abroad. Dr. Weiss certainly does not wish it understood that the diagnosis of perityphlitic abscess should be made by the examination of a drop of blood solely and singly, but, given a child showing a series of symptoms corresponding with an appendicitis, and added to this there is a glyco-genic reaction of the blood, this last reaction would strengthen the opinion that there was present a suppurative process. I have been greatly impressed with the remarks made by Dr. Morse regarding the great number of leucocytes existing in children. I believe the paper of Dr. Brandeis has been presented with a view to bringing out the opinions of those present concerning the necessity for more frequent resort to blood-examinations. I know that in hardly one case in ten of those seen by me in New York City has a blood-examination been made, although there are decided reasons for utilizing this aid as a valuable diagnostic adjunct.

DR. EDWIN ROSENTHAL, Philadelphia—I should like to ask Dr. Morse if, in the examination of blood for leucocytosis in

typhoid fever, the differential diagnosis could be established when other suppurative conditions besides the Peyer's patches, as for example, of the bile duct, were present, and what influence such examinations would have on the treatment.

DR. MORSE—Pure typhoid does not have an increase in the number of leucocytes, and the presence of leucocytosis would point to some complication. The same is true of pure influenza. I do not wish to be understood as saying that I do not believe in the serum reaction or in examination of the blood for malaria, nor do I wish to be understood as wishing to diminish the value of blood examinations, but I do wish to insist on the point that the examinations of the blood should be made systematically and with a definite object in view, and not in a haphazard manner.

MODES OF INFECTION OF THE MAXILLARY SINUS.*

M. H. CRYER, M.D., D.D.S.
PHILADELPHIA.

There are various modes by which the maxillary sinus is infected, among them being diseased teeth, diseases of the ethmoid cells, of the frontal sinuses, of the sphenoidal sinus, syphilitic necroses, etc.



Figure 1.

The general impression in both the medical and dental professions is that the maxillary sinus is infected through diseased teeth more than from any other source. Some claim that three-fifths of the diseases of the antrum are brought about in that way. From study of the anatomical relations and from my clinical experience, I conclude this is a mistake. In order to demonstrate this more clearly, it is necessary that the anatomical relations of the maxillary sinus with the teeth and internal structures of the face should be thoroughly understood. The development of the teeth and face, with their great variations, should also be considered.

The development of the sinus begins about the fourth month of gestation by an invagination of the lining membrane of the nose, from the hiatus semilunaris into the body of the maxilla. From the time of the invagination until the eruption of the permanent teeth, the greater portion of the maxilla is occupied by the dental organs. As the invagination progresses the cancellated portion of the bone undergoes resorption. This absorption of the internal portion of

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the maxilla is continued, in a variable degree throughout life, until in old age the walls usually become exceedingly thin.

As this process goes on the roots of the premolar and molar teeth are encroached upon by the walls of the sinus, until in many cases the points of the roots are covered only by a thin lamina of bone. Even this, in rare cases, may be lost, leaving only the muco-periosteum as a root covering. By the resorption of the bone and the enlargement of the sinus, it may occasionally be extended into the malar bone. The frontal and sphenoidal sinuses, the ethmoidal and other air-cells of the face are developed in a similar manner; i. e., from an invagination of the mucous membrane of the nose into various bony structures, through which the cells and sinuses derive their names. Therefore, these sinuses and cells are associated with the nasal chamber

chamber, the middle ethmoid cells, and the developing maxillary sinus also show to what extent the maxillary bones are taken up by the developing tooth organs.

In Fig. 6 of the same article, a good illustration is given showing how the floor of the antrum descends between the roots of the molar teeth, a condition much more common among the white race than among the negroes. I also said in that paper, that it is a generally admitted fact that pus or infected matter will pass in the direction of the least resistance; we might suppose by the close approximation of the apical foramina of the roots of the molar teeth that when an abscess is formed at their points, the infected matter would pass into the antrum instead of through the alveolar

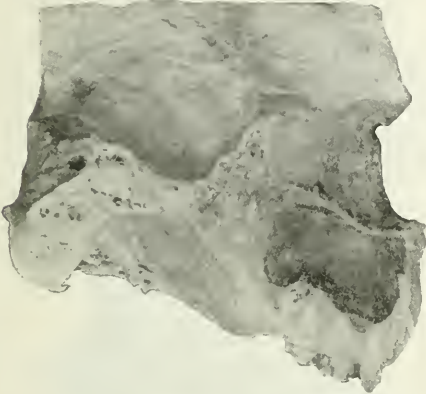


Figure 2a.

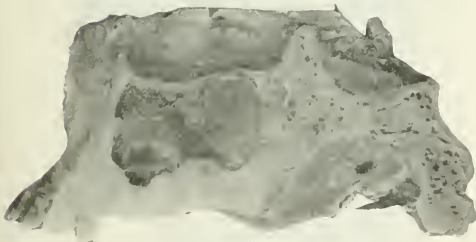


Figure 2b.

and consequently are closely related to each other. As one is affected by disease, the other is liable to become so affected in proportion to the relative position of the sinuses or cells to each other.

The teeth are developed by an infolding of the mucous membrane of the mouth. Diseases of the teeth have influence within the mouth, and diseases of the mouth affect the teeth, the causes of these diseases being more or less common to both.

In a paper entitled "Anatomical Variations of the Nasal Chambers and Associated Parts," read before this Section last year, and published in *THE JOURNAL*, Oct. 14, 1899, I gave some illustrations to which I here refer.¹ Fig. 5 showed a transverse section of both jaws from a skull of a seven months' fetus. The nasal

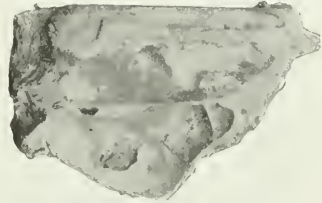


Figure 3.



Figure 4.

process into the mouth. My clinical experience teaches otherwise, i. e., an abscess from an infected tooth usually makes its fistula opening into the mouth. The only reason I can give for this is, that nature usually protects apparently weak, though important points, in various ways. In this case I believe the muco-periosteum lining of the sinus takes up its defense, and through its osteoblastic layer builds and protects its walls against absorption and perforation.

In another paper, read before the Section in 1897, published in *THE JOURNAL* of April 2, 1898, I gave an illustration (Fig. 5 of that article) of the left superior maxilla, where, through the death and decomposition of a pulp of a molar tooth, there has been first irritation and constructive periostitis on the floor of the antrum, which has caused a thickening of the bone over the apex of the root. At a later period, suppurative inflammation has occurred, and an abscess has perforated the floor of the antrum.

The following illustrations are from new sections. The first few demonstrate the manner in which impacted or diseased teeth have or may have been a source of infection to the maxillary sinus, and through the sinus being infected, the other spaces belonging to the nose are also liable to become diseased.

Fig. 1 is a transverse vertical section of a face, made in the region of the first molar teeth. Besides the other interesting points, it will be noticed that the crown of the canine tooth has penetrated the palatine surface of the mouth and that the root is within the anterior



Figure 5a.

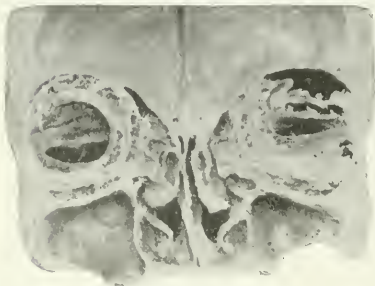


Figure 5b.

portion of the antrum. Before the dissection was made, the root was covered by a thin lamina of bone. Similar conditions are often found, not only with the canine tooth, but also with the third molars, and occasionally with other teeth, which often remain in such positions for years without giving any trouble whatever, until after middle life, when by natural resorption of the bone the crown and root become exposed within the antrum or nasal chamber. At such times these teeth are liable to cause irritation in the antrum. Occasionally impacted roots of various kinds are found in the floor or walls of the nasal cavity.

Fig. 2 is a sagittal section made through the middle of the orbit, the antrum and the roots of the molar teeth. The retarded development of the third molars has caused an irritation of the floor of the antrum, in the region of the palatine root of the first molar the

lining membrane of the sinus has been elevated, which is due to the first molar tooth being abscessed.

Fig. 3 is a view of the floor of the left antrum and nasal chamber. It will be noticed in the middle of the antrum that there is a conical elevation with an opening in the center exposing the apex of a tooth.

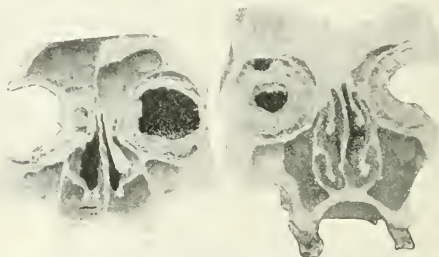


Figure 6.

Fig. 4 is a transverse section of the sinuses and nasal chamber. In the floor of the right antrum it will be noticed that the conical portion of bone covering an infected tooth has been cut through its center, exposing the end of the root in the infected region.

In these cases the muco-periosteum has endeavored to protect the invasion of the antrum, but at some sub-

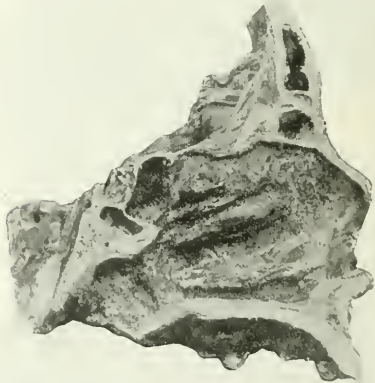


Figure 7a.

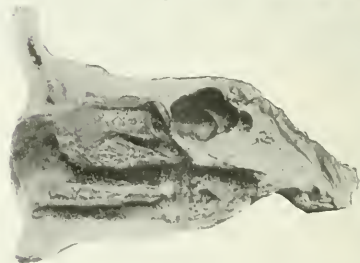


Figure 7b.

sequent time the bone has broken down and the antrum has become infected. From the foregoing illustration it is evident that the impacted and diseased teeth can and sometimes do cause infection of the antrum. Nevertheless, the writer believes that they are exceptional and not the general cause of the diseases of the maxillary sinus. The relation of the maxillary sinus with the nose and its various ramifications, with their com-

mon variations and malformations, more often cause infected antrums, and by these infections the teeth are subject to interference through their nerve and blood-supply being disturbed as they pass along the floor and wall of the sinus.

In the two papers the writer read before this Section in 1897-99, he demonstrated the great variations of the sinus, and of the cells and sinuses associated with the nose. He also demonstrated how the hiatus semilunaris could be closed by the enlargement of the bulla ethmoidalis, this enlargement being posterior to the osteum maxillæ, thus the fluids from the frontal sinus will be forced directly into the maxillary

much smaller sinuses than the shorter-faced picture below. The septum is deflected and has a spur extending outward until it comes in contact with the inferior turbinal. The sinuses pass well down below the level of the center of the orbits. There is also a marked cell in the crista galli which opens anteriorly into the frontal sinus. The existence of a cell in the crista galli was demonstrated last year.

Fig. 6 was made in the same manner as Fig. 5, representing sections in two different skulls cut in about the same position. There is again a great difference in the depth of the face. The maxillary sinuses in the right picture are small and high up,



Figure 8.

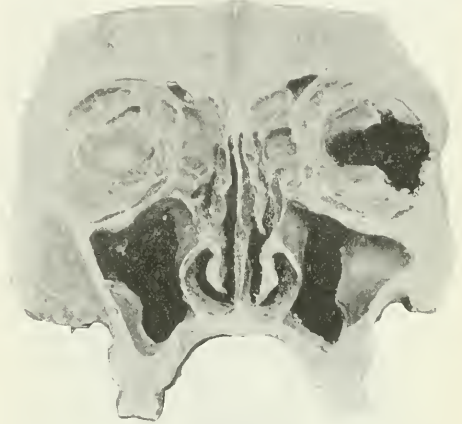


Figure 10.



Figure 9.

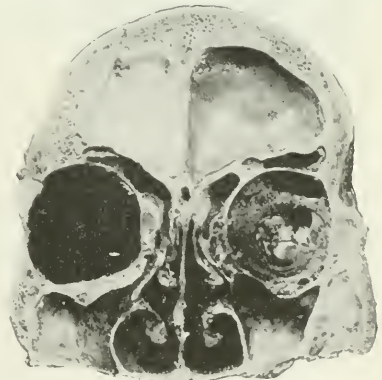


Figure 11.

sinus, causing disturbance within this cavity until the fluids would pass out through the wall where the least resistance could be found. He likewise showed how fluids could pass directly from the frontal sinuses and ethmoidal cells into the antrum, even if the hiatus semilunaris were not obstructive. Variations were given in the individual skulls. Since writing those two papers, sections have been made, further demonstrating other variations not spoken of heretofore.

Fig. 5 is from two transverse vertical sections made from different skulls. They show great variations as to the depth of the face, the size, shape and position of the maxillary sinuses; the one above having

allowing the lower portion of the nasal chamber to extend outward over the alveolar process. In the left picture the sinuses are large and their floors extend downward below the floor of the nasal chamber, and pass over the roof of the mouth, leaving but a small nasal chamber. The one above gives a good illustration of the four meatuses and a partial fifth.

Fig. 7 is made from two sagittal sections taken from different skulls, showing variations in the depth of the nasal chambers. The one above gives a good illustration of the four meatuses and a partial fifth.

Fig. 8 is a transverse vertical section. The anterior cut is made in the region of the premolar teeth. It

will be noticed that the septum of the nose is deflected and the spur comes in contact with the right turbinal. The frontal sinuses are large, extending outward over the orbits. They also extend down below the middle of the orbit. Between the two frontal sinuses there is an interfrontal cell extending backward into the crista galli, which is shown in Fig. 9. It will be noticed that a wire passes from the right frontal sinus downward and is again seen in the antrum.

Fig. 9 is a posterior view of the same section as Fig. 8. It shows where the section has been cut vertically in the region of the second molar tooth. The frontal sinuses will be observed passing well over the orbits, and the cell in the crista galli is clearly shown. The inner surfaces of the anterior walls of the bulla ethmoidalis will be observed extending inward toward the middle turbinate bones, the wire marking the infundibulum, the hiatus semilunaris, and the ostium maxillæ into the maxillary sinus, the last named being small in proportion to the size of the skull.

Fig. 10 shows a section cut anteriorly to the second molar teeth. In this case the maxillary sinuses are almost cuboidal in shape and extend down below the level of the nose, and upward into the region of the middle ethmoidal cells. The inner walls are not straight,



Figure 12.

as they are in a typical skull. Beginning at the floor of the antrum, almost over the center of the dome of the mouth, the inner wall extends upward in a convex manner to the point at which the inferior turbinal projects into the nasal cavity. There is a direct communication with the anterior ethmoidal cells and the frontal sinuses.

Fig. 11 affords a good view of the skull of an aged person. The floor of the maxillary sinus, the nasal fossæ, and the lower border of the alveolar process are almost on a horizontal line. The left maxillary sinus extends upward until it passes into the frontal sinus. In the crista galli is shown a small sinus which extends forward into the frontal sinus, as shown in other figures.

Fig. 12 is an anterior view of a section cut in the region of the molar teeth. Between the orbits are the anterior ethmoidal cells, and also a sinus in the crista galli. It will be noticed that both antra extend upward and become common with the ethmoidal cells and the frontal sinuses.

These illustrations, as well as those shown in previous papers, demonstrate how great the variations may be in the nasal chamber, the maxillary, frontal and

sphenoidal sinuses, as well as in the cells of the orbital process of the palate bone and the ethmoidal cells.

The treatment and surgical manipulation of disease in these regions will vary, of course, to as great an extent as the variations in the anatomy.

The writer believes that it is through the common communication between the frontal sinuses, the ethmoidal cells, and the maxillary sinus, that infection is generally conveyed to the antrum from the cells and sinuses above it, recognizing, at the same time, that the posterior ethmoidal and sphenoidal cells and the cells of the orbital process of the palate bone, can also infect the antrum by the resorption of the partition between these cavities. The writer also believes that there are more cases in which teeth are lost through diseases of the antrum, than cases in which the teeth are primarily diseased, causing infection of the antrum and associated cells.

DISCUSSION.

DR. E. S. TALEOT, Chicago.—The members of the Section on Stomatology are quite familiar with the work of Dr. Cryer. The illustrations shown this afternoon are very interesting. From original research of the last twenty-four years, I can confirm the work here presented. Dr. Cryer, owing to his connection with the University of Pennsylvania, has a better opportunity for studying recent specimens than I have. My investigations have been made principally on the skulls. I have made an examination of about 20,000 skulls, and have seen just such conditions as the Doctor explains. I do not see how it is possible for any specialist to practice on the nose, throat and sinuses without a thorough understanding of the anatomy of the parts. The anatomy as laid down in the textbooks is worthless so far as diseases of the nose and maxillary sinuses are concerned. Owing to the limited time, I will confine my remarks to etiology. The early races, such as the Indian and the Eskimo, rarely have these diseases. They are common with the higher races. To understand the causes of these diseases embryology and evolution must be studied by two different methods. The early races have protrusion of the face and jaws. A line dropped perpendicularly from the superciliary ridge demonstrates that the jaw extends beyond; the lower in evolution, the farther the forehead recedes from this line. With the advance of evolution the forehead protrudes, the jaws recede. A few years ago I made a special study of the evolution of the face. I visited every country in Europe and studied the people, not only the soldiers, policemen and cab-drivers, but also the individuals in public institutions, insane hospitals, prisons, etc. Most of the Latin races have protrusion of the jaws, but in the Scandinavian and English peoples, etc., the jaws recede and the forehead protrudes. In the examination of 5000 people in Stockholm I found 2 per cent. outside, 14.70 per cent. on the line, and 83.30 per cent. had jaws inside of this line. In the examination of 10,000 people in London I found about 83 per cent. of the jaws were located inside of the perpendicular line. In 3000 school children I found about 93 per cent. had jaws inside of this line, or some 10 per cent. more than grown people. About the same statistics obtain in this country. The rapid evolution of the facial angle is shown in the faces of the American negroes. In New Orleans, among the lowest type, 83.57 per cent. were found to present protrusion, 15.95 per cent. on the line, and 1.13 per cent. recession; in Chicago, 51 per cent. protrusion, 31 per cent. on the line, 16 per cent. recession; in Boston, 45 per cent. protrusion, 39 per cent. on the line, and 15 per cent. recession. There is one factor in this evolution. In the evolution of the face from childhood to manhood arrest of development of the face may take place at any period, since these tissues are transitory. If after the sixth week of fetal life there is malnutrition arrest of development of the face occurs. If at any time after birth a child should have any of the constitutional diseases, marked arrest of development of the face takes place. Among the criminal classes arrest of development of the face is often seen, either a hollowing out of the face or a

protrusion of the jaws, and it is in such cases that we have abnormal development of the jaws, frontal sinus and the maxillary bones. In regard to disease of the antrum from diseased teeth, I agree with Dr. Cryer in every respect, because I have noticed about 367 cases in which the death of the molar pulps has taken place. There is only about 2 per cent. in my practice of disease of the antrum from these conditions of the teeth. In an examination of 3000 skulls, which were broken so I could get into the antrum, making 6000 antra, there were about 21 per cent. with abscessed molar teeth. Of this number 6 per cent. discharged into the antra. The percentage of these diseased antra, therefore, as the result of disease of the teeth, is very small.

DR. GEORGE L. RICHARDS, Fall River Mass.—This is the third time that I personally have had the pleasure of hearing Dr. Cryer before the AMERICAN MEDICAL ASSOCIATION demonstrate the anatomy of the antra and the other accessory sinuses, and I move that a vote of thanks be extended to him this year, as we did at Columbus last year, and at Philadelphia two years before, for the illustrations given us. Those of us who do much nasal work must become more and more alarmed every time he addresses us because of the anomalies he presents. I move that a vote of thanks be extended to Dr. Cryer, and also to Drs. Stout and Talbot.

SYPHILIS OF THE UPPER AIR-TRACT.

SOME REMARKS ON ITS DIAGNOSIS AND TREATMENT.*

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Otologist and Laryngologist, Fall River and Emergency Hospitals;
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FALL RIVER, MASS.

The present paper is based on observations of such syphilitic patients as I have had in my private practice during the last four years, some forty in number. No attempt has been made to figure out the percentage to total number of patients treated; the number is too small for such figures to have any value. No case of primary syphilis of the upper air-tract has been met. They must be quite rare, especially so if primary chancre of the lip be excluded from this analysis and we confine ourselves strictly to the upper air-tract. Secondary and tertiary manifestations are common, the areas most frequently involved being the pharynx and tonsillar region, the nose and larynx. The sore throat of the secondary stage is one of the most common of syphilitic lesions, yet in my experience is less often seen by the specialist than the tertiary. This condition is usually seen and treated by the general practitioner who is treating the disease as a whole, since it is one of comparatively slight discomfort and soon passes away. The upper air-tract lesions of the tertiary are sooner or later referred to the specialist, and not infrequently the first correct diagnosis is made by him. Most of my cases have been of the tertiary variety.

The primary chancre is usually found on the tonsil and soft palate. Buckley reports 307 cases of chancre of the tonsil out of 9058 cases of syphilis, and Schadek found 34 cases of chancre of the tonsil out of a total of 68 cases of extragenital chancre. The lesion is an indurate ulcer, and can be so slight as to escape notice. Students of Hajek's clinic in Vienna will recall a case of primary chancre of the nose he was wont to describe. The victim was a physician who had examined a woman per vaginam, not knowing at the time that she was syphilitic; subsequently he picked his nose with the finger and inoculated himself with syphilis, the insufficiently cleaned finger nail carrying the virus. Dr. W.

Freudenthal, of New York, has observed a similar case. The lesson from this is obvious, and the physician in all his relations to syphilis must never forget that it is possible for him to become infected. Primary affections of the soft palate and tonsil are mostly from pipes and drinking cups, but have doubtless also occurred from congress per os.

The secondary manifestations occur in the upper air-tract from three to nine months after the primary lesion, and are at first those of a simple catarrh with no particular diagnostic characteristics apart from the history, except that recovery is much slower than in ordinary simple inflammation of the region. This stage is usually passed unnoticed by the physician unless the patient is under treatment for other syphilitic lesions. Following this, appears the mucous patch; it involves the sides of the mouth, tonsils and faucial pillars, pharynx, nasopharynx, nose and larynx, and base of the tongue. They appear as slight elevations of the mucous membrane, flat, round or oblong in shape, from 3 to 7 mm. in diameter, and grayish-white in appearance, looking as though the surface had been lightly touched with nitrate of silver. If the superficial epithelium is denuded, the covering of the patch will be a thin, yellowish mucopurulent one. When the tonsil is affected it is considerably swollen and has a boggy appearance. Some difficulty in swallowing is complained of, and little pain. In one of my cases one tonsil was greatly swollen, the other slightly, and the patient stated that previously there had been no tonsillar enlargement whatever; he sought relief from a specialist because his sore throat had lasted five weeks without improvement. A history of a "soft" chancre three months previously was obtained and improvement under appropriate treatment was immediate. A sore throat, or laryngeal, or pharyngeal irritation coming on without apparent cause, lasting for weeks without improvement, with the mucous surface of a coppery glazed look, and covered with a thin secretion, is to me very suggestive of a secondary syphilis even in the absence of any confirmative history. It can be premised that an angina lasting longer than four weeks, and in a practically stationary condition, may safely be considered as probably syphilitic, especially so in the absence of any sufficient cause. When the mucous patch is on the surface of the pharynx, buccal surface of the tongue or soft palate, it is less likely to be seen by the specialist than when on the tonsils or palatine arches. When in the nose it will usually be entirely overlooked unless the person seeing the case examines the nose as a routine measure. I have not found enlargement of lymph-glands a very reliable sign by itself alone, though confirmatory. It is more apt to be an accompaniment of the secondary, is occasionally in the tertiary, and may be present in hereditary. More cases of enlarged lymphatic glands are non-syphilitic than syphilitic. Occasionally one will be in doubt between this stage and the tertiary, and some authors, as Schrötter, describe the manifestations of syphilis only and do not divide the upper air-tract lesions into stages. In one of my cases I was much in doubt as to whether I was dealing with an ulcerative mucous patch or with an ulcerative gumma. There was one swollen edematous cord and thickened papillae at the base of the tongue, while the pharynx was as above stated. He improved under mixed treatment, so the exact stage was a point of no special import. The treatment of this stage is the general treatment of the disease. Beyond keeping the surfaces absolutely clean, I do not believe that any local treatment materially in-

*Presented to the Section on Laryngology and Otolary, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

fluences the disease. I apply a weak solution of nitrate of silver, order an alkaline wash and prescribe mercurials, and sometimes iodid of potassium as well. Hydrargyri protoiodid has been my mainstay in doses of $\frac{1}{4}$ grain, but latterly I have been using mercury by inunction. This has always been recommended by European writers, but has not been used as extensively in America owing to the disagreeableness of the treatment. In no other way, however, is the system so rapidly brought under the influence of the mercurial. One dram is rubbed in every other day for two weeks and then a cessation for a week; then begin over again, lengthen the interval as symptoms will allow, watch for salivation and keep the mouth very clean. Omit when salivation demands, though a moderate amount of salivation is readily borne.

The manifestations of the tertiary stage appear from three to fifty years after the primary lesion; in two of my cases, thirty-five years had elapsed without symptoms, during which time healthy children and grandchildren had been born. Owing to the long time which has elapsed since the primary lesion the symptoms are frequently wrongly interpreted or entirely overlooked. The patient himself has frequently forgotten about the original trouble, or at least places no causative relation between the two, and in women they may never have known what the original cause was. Syphilis is a disease whose past or present it is usually desirable to conceal; hence all histories are in the main apt to be unreliable, and a diagnosis should never hang on the presence or absence of a satisfactory history, but should be made on the symptoms as positively as though a clear history were obtainable. Moritz Schmidt says: "It is sufficient when the physician has recognized the affection. The knowledge of how it was obtained does not hasten the healing." Nevertheless, I always try to obtain a history.

In typical cases the diagnosis is clear enough; in others it may be very difficult, due to the lapse of time since the primary sore and to the well-known trait which syphilis has of simulating nearly every one of the more chronic affections of the body, no part being exempt from its ravages. I have elsewhere reported a case of perichondritis of the larynx where a history of syphilis thirty-five years before was obtainable, where rapid improvement took place under large doses of iodid of potassium. The final course and the histologic examination showed the perichondritis to be carcinomatous. It is not at all improbable that both conditions were present. A syphilitic person is as likely to suffer from carcinoma or tuberculosis as any one else, in fact more so, since the syphilitic condition lowers the powers of bodily resistance. The early manifestation of the tertiary is the formation of the gumma, a round-celled infiltration of all grades of severity and affecting the superficial and deep layers of the mucous membrane, elevated above the surrounding tissue and later breaking down in the center from insufficient blood-supply. The periglandular tissues and the vascular tissues are pressed upon, their caliber markedly diminished and an endarteritis obliterans set up. The extent of the gummatous deposit and the rapidity of its destruction are an index of the virulence of the virus. No portion of the upper air-tract is exempt from the gummatous deposit. I have observed it principally in the pharynx and nose, and in nearly every case ulcerative changes have begun before the case has come under observation. In the nose the gumma attacks the septum at the junction of the bony and cartilaginous portion, ulceration

soon follows, and destruction of a greater or less portion of the bony and cartilaginous wall with necrosis of the bone, and accompanied frequently by an abundant formation of foul crusts. This feature is frequently a marked one, and in an early stage may be mistaken for atrophic rhinitis. The resulting destruction may result in saddle-nose, but if the side walls are uninjured, saddle-nose will not take place, as this condition is brought about only when the interstitial tissue that binds the cartilage and skin of the nose to the bone is involved in the syphilitic process.¹ I have a patient now under observation with complete destruction of the anterior one-half of the bony septum and of a large part of the cartilaginous as well, but none of the saddle-nose deformity. Primary infection in this case occurred thirty-five years previously. In addition to the destruction in the nose there was a small gumma on the tip of the tongue. This case was at first supposed by me to be one of atrophic rhinitis, but the removal of a piece of necrosed bone from the septum confirmed the diagnosis of syphilis. It may be stated as practically an absolute rule that necrosis of the bony framework of the septum, in the absence of history pointing to phosphorus or some irritant poison as a cause, is of syphilitic origin. I was once led astray by another case simulating an atrophic rhinitis. A young woman, previously under care of two physicians, was referred to me by one of them for atrophic rhinitis, and told me in answer to inquiries that he was very sure that syphilis was not a factor in the case. I treated it as a case of atrophic rhinitis without making much headway. There was a perforation in the cartilaginous septum and some necrosis of the edge of the bony septum, and many foul crusts. After a while I began to get away bits of necrosed septal and turbinal bone, and a saddle-nose appeared. I sought for a syphilitic history, asked some leading questions and began an antisyphilitic treatment. In the midst of this she became pregnant, was delivered of an apparently healthy baby and disappeared from observation. Later she returned, I continued antisyphilitic treatment and told her what the trouble was. She again disappeared from treatment, but returned one day with a gumma at the margin of each ala and with the process attacking the skin and cartilage between the two. This extension does not agree with the observation of Bosworth that syphilitic disease shows a marked hesitancy to transgress anatomical boundaries. She stated that she had absented herself because she was angry at my telling her she had syphilis, but the conditions becoming so desperate she had again sought me that I might save the external nose if possible. The process rapidly subsided under the mixed treatment in large doses, and the external nose and ala were saved from destruction. In this case valuable time was lost by my allowing an absence of history to stand in the way of a proper diagnosis.

In a young man referred to me for septal operation I found a broken-down gumma and almost complete ulceration through the septum at junction of the cartilage and bone. I easily obtained a history of a syphilis which the patient supposed was cured. Operation was postponed until several weeks of syphilitic treatment could be carried out, and healing was prompt. Operations on these cases during the active stage of a gumma do badly and healing does not take place; instead the fresh wound may be involved in the process. In another case, elsewhere reported in full, I found the tertiary lesion involving the ethmoid cells high up and producing head-

ache of such severity as to simulate a true meningitis, which it probably would have led to had he not been etherized and the offending necrosed bone entirely removed. Perhaps I have been led astray oftener than is the rule. I imagine, however, that we all occasionally go astray on this subject. An elderly man with no syphilitic history, denying, in fact, anything of the kind whatever, was referred to me for difficulty of hearing and an obstruction in the nostril. I started to remove with a saw what was apparently a large cartilaginous spur, only to find it soft and easily cut; on examination I found it to be wholly granulation tissue. I feared it might be sarcomatous, but the bleeding was slight and there was no especial pain or tendency to extend very much. It showed, however, a tendency to recur. At the same time he complained of the throat and of rheumatism. Distinctly rheumatic treatment did not do much good. Under the antisyphilitic treatment all symptoms have cleared up, and he recently told me that he was never better in his life.

In my experience the pharyngeal lesions have been the most troublesome, especially when occurring high enough up on the pharyngeal wall to result in adhesions between the pharynx and the pillars. In that case the cavity of the pharynx may be completely shut off from that of the nose through the resulting contractions. The syphilitic pharyngeal ulcer is quite characteristic, being irregular in shape, of various sizes, with an elevated ulcerated border and a gnawed, mouse-eaten appearance, and with ridges and little hillocks of granulation tissue on its borders. It is covered with a gray exudate, and shows no tendency to heal until antisyphilitic treatment is begun. On the contrary, it is as destructive at times as rodent ulcer. I have several times tried antisyphilitic treatment as a diagnostic measure when it seemed in the individual case as though syphilis could not be present. Local and cleansing treatment was of no avail until this treatment was begun. The tonsils and both sides of the epiglottis are frequently the seat of the gumma. All the laryngeal cartilages may be affected by perichondritis occurring as a late and destructive result of the gumma, and life be endangered, or even destroyed, as a result. One of my patients reported that he had been told by an eminent expert on syphilis that he was cured. I found a broken-down gumma of one tonsil and the adjacent pharyngeal wall. Another patient had an ulceration of the left side of the pharynx, with mouse-tooth excretion, raised borders, a dirty gray mucous deposit and a cup-shaped ulceration of the lingual surface of the right side of the epiglottis. This whole condition had been laid at the door of a dentist who had worked on her teeth, as due to infection from improperly cleaned instruments. Careful questioning revealed that she had been keeping company with a man who had been treated for some constitutional affection, probably syphilis, some three or four years before, but was reported cured. Improvement under proper remedies was rapid. As in the secondary, even more so here I regard the presence or absence of pain as important in the diagnosis. In syphilis there is little pain, whereas in carcinoma and tuberculosis, the diseases most likely to be confounded with syphilis at this stage, there is considerable pain, while the disturbance of nutrition and general constitutional dyscrasia is very marked.

Treatment: While authors usually recommend iodid of potassium only for this stage, I have had much better results with it when mercury was given at the same time. Cases which were not doing well under the iodid prompt-

ly improved when mercury was added. I have not usually given the iodid in large doses—5 to 10 grains three or four times a day, though I have given as high as 70 to 80 grains per dose three times a day. As a mercurial I have mostly used $\frac{1}{4}$ grain of the protoiodid. Both of these are given until the disease is under control and then one is given one week and the other a week, and later the entire treatment is intermitted every other month. Such treatment should be kept up two years. Mercury by inunction can be given if the above fails, and I am now using it in this form in a tertiary where the other seemed insufficient.

Thompson advises inunctions of 1 dram of mercurial ointment per day. Twenty-five to thirty inunctions are given and the treatment then intermitted for six months. At Aix-la-Chapelle daily inunctions are given by an experienced rubber together with sulphur baths, the mercury forming with the sulphur a sulphid of mercury which is easily eliminated. For local treatment of the ulcerated area I apply solid nitrate of silver stick as often as the case is seen and alkaline antiseptic washes.

It remains briefly to consider the hereditary type, the late manifestations of which in the upper air-tract have been variously described as syphilis congenita tarda, latent syphilis or occult syphilis, and occurring about the age of puberty, are substantially of the tertiary variety so far as appearances and symptoms go. The gumma seems usually to appear some time between puberty and 20 years of age, though syphilitic symptoms may appear at any time from birth on. In one case I was unable to determine whether it was a late congenital or a straight tertiary, as absolutely no history fitting either hypothesis was obtainable. When first seen, the characteristic pharyngeal ulcerations and granulations were present and beginning adhesions to the soft palate with accompanying contractions. I found she had been treated by an ophthalmologist for an iritis which he regarded as syphilitic, although as much in the dark as to the cause as I. The most searching questioning of the girl and both parents threw no light on the subject, yet the case was undoubtedly syphilitic. A good example of delayed hereditary syphilis was in a 17-year-old girl who came with her mother. The father's history was uncertain; the mother had a perforated septum and a saddle-nose. The girl had a perforated septum, saddle-nose, and cicatricial contractions and adhesions of the pharyngeal wall and soft palate, there being an opening into the nasopharynx only large enough to admit a probe. The history was that the throat conditions had been growing worse for several years; the condition probably began to develop somewhere around puberty. Improvement was rapid under treatment, but the adhesions and contractures remain. I once had a case of hereditary syphilis in a child referred to me, recovery of which took place promptly on removing a shoe-button from the nose.

What can be done for the relief of the deformities and interferences with bodily functions which result from the cicatrization and contraction following the healing of the ulcerations? When of soft palate and pharynx, the cavity of the mouth may be entirely cut off from that of the nose or its movements so affected as to prevent the natural action of the parts. This causes regurgitation of liquids during the act of swallowing and permanent mouth-breathing. The destructive process may ulcerate through the hard palate into the floor of the nose or vice versa. One of my cases had left as the only evidence of having had the disease a perforation of the hard palate into the floor of the nose; this I tried in

vain to cover over. Operative measures such as dilatation and cutting away the adhesions seem to be of little avail. The tissue is very fibrous and does not stretch, while after cutting operations the contraction may be greater than before. It is my opinion that there is not much we can do that offers much chance of real improvement. The worst adhesions are those between the soft palate and pharynx. In general, syphilis is a disease to be treated with constitutional measures and not with the knife or curette, though I have occasionally cut away with snare or scissors a little of the elevated granulation tissue of the pharyngeal ulcer.

DISCUSSION.

DR. EMIL MAYER, New York City—I am reminded of the injunction of a French writer to think always of syphilis, and when you are through think again of syphilis. We have all ways to bear that disease in mind when we have any one of these cicatricial conditions present. But I must take issue with the writer when he says that every destruction of the septum in the absence of history to the contrary should be considered syphilitic. If that were the statement of the writer I must disagree with him, because we have a number of destructions of the cartilaginous septum that are not syphilitic.

DR. RICHARDS—I referred to the bony septum.

DR. MAYER—Well, then the statement is correct. There is a condition in the pharyngeal wall that is most difficult to describe, but which at once presents the picture to our minds as being due to syphilitic disease. That was shown recently in a case presented by Dr. Quinlan before the Academy of Medicine. The very moment I glanced at the pharynx in that case it gave the picture of syphilis, and shortly after Dr. Quinlan arrived and said it was one of his syphilitic cases. To say that our patients lie to us when they deny a syphilitic history is putting it pretty strong, for we do not know how long syphilis will carry. I myself have seen syphilis in the third generation, being able to trace it back to the grandmother. In one man who came to me the pharynx had that indefinable appearance that led me to suspect syphilis, but in the absence of a specific history I was forced to believe him. His brother had been operated on for genito-urinary trouble, a stricture being cut, and he promptly died, to the astonishment of his physician. The physician was severely blamed by the family, but it would seem to me that he probably also had syphilis, and if that had been known the defense of the operating surgeon would have been strong. My patient progressed nicely. The man's story was true. He never had an initial lesion, but later the father of my patient came to see me regarding the son. I then saw that the father had almost total destruction of the nose. In answer to my inquiries he said that he had had a fall in childhood, and in response to further inquiries said that a sister of his also had a similar deformity. So my patient had inherited a specific taint from his father, who had congenital syphilis and my first suspicions proved to be true and yet the statement of never having had syphilis was true enough as far as my patient knew.

DR. G. F. CORR, Buffalo—Dr. Richards has mentioned the transmissibility through the drinking-cup. How many cases are transmitted in that way it is impossible to tell, but that there are many of them I do not doubt. I know of a young girl who had an attack of tertiary syphilis, which was believed to be diphtheria, by her attending physician. It finally healed without any special treatment, leaving considerable scar tissue about the throat. This girl went from one physician to another for seven years, until finally she drifted into the dispensary and was treated for syphilis. Tracheotomy had to be done to save the girl's life, and finally gastrostomy to permit food to enter the stomach. That case was due to the use of the drinking cup. Too often we have a common public drinking-cup. Dr. Richards spoke of using mercury and potassium iodid, but I do not think that is the best treatment. In the secondary stage no doubt mercury is the best drug to use, but in the tertiary stage potassium iodid is the proper drug. But when mercury has not been used in the secondary stage you must then use it before you can get the best results from the iodid.

Sometimes the patient is very much run down and then he or she will improve under tonic treatment, and afterward you can use the mixed treatment with much better result. The poison to be eliminated in the third stage is quite different from that in the second; the one is innocuous while the other, that of the second stage, is violently contagious, hence the difference in treatment and results.

DR. C. W. RICHARDSON, Washington, D. C.—I consider syphilis one of those diseases in which we should not only be charitable to the patient, but also to our fellows and to ourselves. There is hardly any disease in which one can be so well excused for making errors of diagnosis as in syphilis. We all find at times cases of syphilis in which we can scarcely make out the clinical history of syphilis until the case has been under observation for some time. Almost all the great syphilographers agree that in some cases it is almost impossible for one to make a differential diagnosis between syphilis and other ulcerative lesions in the same situation. The writer has given us a most excellent paper, and it seems impossible to find any point with which we can take issue; of course it is impossible for any writer to consider the subject in its entirety in a meeting of this kind. I shall refer to one or two points that the essayist neglected to touch on and which seem to me quite important. One of these is the frequency of syphilis of the postnasal cavity and the frequency with which it is overlooked, not only by the general practitioner but occasionally by the specialist. I refer to tertiary lesions in this region. This is not an infrequent form of syphilis of the pharynx and I have seen extensive infiltrations and broken-down gummatous areas in the vault, the posterior wall and on the posterior surface of the velum. An ulceration on the posterior surface of the velum is almost the clearest pathognomonic symptom of syphilis that we can find. Syphilitic lesions in this area are the ones that usually give us the greatest difficulty in the after-treatment, on account of adhesions forming and causing attachment between the velum and the posterior surface of the pharynx, resulting in those cicatricial contractions which render the life of the patient almost unbearable. At times formations of syphilitic lesions or infiltrates on the anterior surface of the velum and palatine arch are extremely difficult to differentiate from tubercular infiltrates. Of course such a differentiation is not always difficult. Last year I saw one of this type of ulcerations situated just above the tonsil, covering an area of considerable extent, ragged and presenting all the superficial appearance of a tertiary lesion of syphilis. The only thing which would lead me not to believe it was syphilis was the intense pain on swallowing. In order to clear up the diagnosis I put the patient on antisyphilitic treatment and the lesion healed and cleared up in about ten days. The patient was a splendidly nourished man from the mountainous district of Virginia. He returned in about a month with a freshly involved area just in front and below the area formerly affected, and with the first evidence of tubercular manifestation of the lungs, in the way of cough and expectoration. The diagnosis was then clear. The bacilli were found. Therefore, I say in these cases we should be extremely charitable, not only with ourselves, but with others. We meet also a large class of cases in the female, both in the married and in the single female, in which we have to depend to a large extent on the appearance of the local lesion. We can not scrutinize these cases too closely. We must put them on general treatment if we think they look like syphilis and clear up the history if possible in that way. You all know what I mean by going carefully into the examination of these cases. If we feel around we may elicit evidences of secondary symptoms. Often we will find none. We can not always confront the patient, and sometimes it is better not to go too far into the history. The differentiation of syphilitic conditions is sometimes easy and sometimes attended with considerable difficulty. Syphilitic lesions of the larynx usually involve the epiglottis and they are usually single, while the tubercular lesion is usually situated on the posterior wall of the larynx and the aryepiglottidian fold. But there comes a class of mixed cases in which no signs hold and there again we are thrown back on the effect of treatment. Dr. Richards, in his paper, spoke of the

treatment of adhesions between the palate and the posterior wall of the pharynx and the difficulty of getting good results. Of course they are difficult to manage. But if an eyelet be made on each lateral wall between the attachment of the velum with the posterior pharyngeal wall, by the passing of a ligature through and letting it stay there long enough to form a thorough cicatricial border, then the separation may be gradually made between this eyelet and the centrum and you will usually find the result will be more or less permanent.

DR. C. F. THISEN, Albany.—Dr. Richards' paper has been so exhaustive that it is almost impossible to add anything. There is, however, one condition which has not been considered, the primary tumor which occasionally occurs on the nasal septum of a syphilitic subject. The condition is certainly rare, and when it exists it is almost impossible to make a differential diagnosis clinically. A few years ago a gentleman came to my office who admitted having had syphilis. He could not breathe through one nostril. I found a growth about the size of a strawberry on the septum, left nostril, and I at once jumped to the conclusion, because of the fact that he had had a chancre, that it was simply a syphilitic condition. I gave him potassium iodid, but he got constantly worse. I then removed the tumor with the cold snare, thoroughly curetting the seat of attachment, and later for some time lactic acid was applied. The nose got entirely well, and there has been no recurrence. Later he was again given antisyphilitic treatment. On examination the tumor was found to be a granulation growth, containing thousands of tubercle bacilli and some typical necrotic tubercles. One other point occurs to me with regard to the treatment. Dr. Richards says he used potassium iodid in combination with mercurials. I have not had good results with this method of treatment in tertiary syphilis. I use potassium iodid only, and very large doses if necessary. This has always given me the best results. In the secondary stage, of course, nobody will question the value of mixed treatment.

DR. J. O. ROE, Rochester.—Whenever you are in doubt in regard to the nature of any ulcerative condition of the nose and throat, always suspect syphilis. A lady past middle life came to me with ulceration about the throat and a large growth in the fauces just below and behind the velum. There was also ulceration of the velum. This being a lady from a family above reproach, and having an unquestionable character herself, nobody had suspected syphilis. As soon as I examined her I was satisfied as to the nature of the trouble. In ascertaining the history of the case, I found she had been under the care of an excellent surgeon, who had not suspected syphilis because of her social standing. He regarded the case as one of epithelioma. The outcome of the case was that large doses of potassium iodid cured the "epithelioma," and in less than six weeks it entirely disappeared. This lady had lost her voice, had great difficulty in swallowing and many clinical characteristics which would confirm the opinion that it was an epithelioma. The case illustrates the fact that we should always suspect syphilis even in cases where we might believe the disease to be something else. At the present time I have three other cases of syphilis occurring in persons regarded as above reproach. The patients are females, in families where syphilis would not be suspected. It is not even necessary to seek a history of the infection and especially for one familiar with the manifestations of the disease; and furthermore, the treatment will confirm the diagnosis, if the disease be of specific origin. The presence of syphilis, however, does not necessarily implicate the person, for if not hereditary it is often contracted in a most innocent manner, without even the knowledge of the patient.

DR. F. J. QUINLAN, New York City.—One or two points struck me as the essayist interested us in his recital. One is in reference to the secondary manifestations of this disease, namely, in those erosions which later on appear as condylomata. I have for a long time been at sea for some method which would relieve these conditions that are obstinate, resistant and I may add rebellious. In conversation with an eminent syphilographer he asked why I did not try the ordinary black wash. I can recommend it to you in the cases where

there is breaking down. After thoroughly cleansing the surface, apply the black wash. This gives great activity and stimulation. Now, in regard to the use of mercury, I have given the protiodid of mercury and my patients have not received any benefit from it. I think the form of the medicine often is important. I have resorted to a French pill which I find one of the greatest adjuncts to this treatment. The tablets disintegrate almost in the mouth and the mercury readily gets into the circulation. When a patient appears I question him as to the presence of syphilis and if there is any doubt I put him on antisyphilitic treatment. I do this because several years ago I had a very lamentable experience. I went away from the city, and in a few days a patient from whom I had removed a spur was taken with alarming, and it was feared at the time it would be fatal, hemorrhage. It was controlled. Some wise head suggested potassium iodid, and the trouble entirely disappeared. Where there is the slightest suspicion of syphilis I at once introduce the antisyphilitic treatment before resorting to any surgical measures. This not only aids the tissue to recuperate much better, but it gives an additional reactionary power.

DR. R. C. MYLES, New York City.—Some one has said that syphilis is always surprising us. I do not know that it is necessary to impress this on specialists so much as on semi-specialists and the general practitioners. I have had many patients present themselves with gummatous processes who had been treated previously, apparently without the condition being recognized. Potassium iodid always removes the doubt in the diagnosis. I have seen several patients who had received 15 or 20 grains of the iodid without any effect, when within ten days 80 grains caused complete healing and stopped all the symptoms which before had constantly increased. In the diagnosis of incipient gumma we can not pay much attention to the history. Often there is no history obtainable until you find one for them, possibly dating back, as the Doctor says, from three to thirty-five years. We should try to impress on those in general practice the importance of early recognition of the gummatous manifestations of the upper respiratory tract, and if they can not diagnose the condition, to refer the case to some one who can, even if the case must be referred back to them.

DR. OTTO JOACHIM, New Orleans.—I wish to call attention to two factors. Mixed infection has been called attention to because of its difficulty in diagnosis. I have had recently two cases in which there appeared what seemed to be a mucous patch on the soft palate, in one instance extending to the tonsil. Upon inquiry, primary infection was denied. No evidence to the contrary could be found in the history of the patient after diligent and careful examination, nor from physical examination. I withheld constitutional treatment from the case, as I did not think we were justified in launching such a patient on a course of treatment that extends from two to four years. I do not think, unless we have absolute corroborative symptoms of syphilis of some sort, that we should make a diagnosis from a mucous patch in the throat alone. In these two cases the trouble disappeared in two weeks and no secondary or other symptoms have since appeared. The patients have been and are under continual supervision. In the treatment of syphilis, many cases have come under my care which have been in the hands of excellent practitioners and have received adequate treatment without benefit to the local condition. In these cases I could almost always find some gastro-enteritis or some catarrh of the digestive tract, which to my mind interfered with the absorption of the otherwise proper medication. In these cases I have resorted to theunction treatment, and by giving the stomach a rest these patients have done, usually, excellently well: In some cases the progress of the disease is remarkable. I remember one case in which the gumma broke down, leaving a hole in the soft palate the size of a quill, which increased to one the size of the end of your finger by the next day, and to insure quick action I was induced to use intramuscular injections. I used the salicylate of mercury in oleum petrolati. This is of value when the disintegration is rapid and the treatment must be pushed. Laterly I have added orthoform in 1 per cent. to relieve the pain that usually accompanies these injections.

A PLEA FOR GREATER SIMPLICITY IN THERAPEUTICS.*

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The tendency in development of the physical world is toward complexity. Evolution pictures animal life progressing from the simplest atom to the most complex animal. In the world of science, on the other hand, the greatest steps have been always toward simplicity. The greatest attainments of the intellect have been in the discovery of the principles and laws governing complex nature. So, while the accumulation of knowledge is constantly going forward, we find science, which is an application of mind to matter, always simplifying.

In scientific therapeutics the same process is seen. The accumulation of observations has been great. They must be simplified and brought under straightforward laws and applications. The first step must be the selection of a few drugs that represent the activities of their class. The advantage of such classification to the physician will be that the great amount of labor in the attempt to master an elaborate pharmacopœia will be saved. Such an attempt, as a rule, stifles efforts toward a clear understanding of the principles of therapeutics. The habitual handling of a small number of drugs tends to a clearness of thought and a definiteness of purpose that makes the treatment of disease more scientific, and a delight to the practitioner and to all who take part in its study. Nor are the advantages less to the patient than to the physician.

Single drugs are more easily administered. When it has been decided to use the product of a certain plant it is but a step to the use of its active principle. In this way the number of disagreeable physiologic symptoms is diminished even further than by the use of a single drug. If the patient is more susceptible than is expected, this fact is immediately discovered, and a change of plan can be instituted without delay. When many drugs are given at a time, it frequently happens that a single ingredient of a complicated nature causes injurious effects that are attributed to the course of the disease. How frequently this may happen is easily appreciated by those who have noted the violent symptoms that sometimes accompany a full physiologic dose of a single drug. Such an instance is a patient of my own, who is so susceptible to potassium in any form that she is made violently ill by it. How many ordinary prescriptions containing a small amount of potassium might she have taken, and suffered from the taking, without this idiosyncrasy having been discovered! A patient may not be able to take the smallest quantity of quinin without it producing violent symptoms. There is hardly a drug that has not its person who can not take it in any form or quantity. I do not maintain that every case can be treated by a single drug, or by any particular number, but that drugs should be added to the therapeutic plan one at a time, and that the component parts should be so planned that they can be withdrawn one at a time if necessary.

In this connection the claim for the ready-made mixtures, of which so many hundreds are advertised, must be examined. Medicine has been blessed at long intervals by the discovery of remedies which have a specific power to cure particular diseases. These remedies can

be counted on the fingers of one hand, but so satisfactory are they that an intense desire for more has been awakened. The introduction of mixtures under specific names is founded upon this craving of the profession for specific remedies that can be used as direct antagonists to particular diseases. It is pleasant to forget the fact that most diseases must be treated indirectly, and that it is nearly always necessary to treat the patient and not the specific disease. Most medication is administered with the immediate object of obtaining a physiologic effect of the drug, with the expectation that this effect will have a beneficial influence on the morbid process. In this light it is an absurdity to give a patient a large number of drugs mixed up together, no one of which is in large enough dose to produce a definite result. It is far more philosophic to arrange the plan of medication for each case as indications arise.

It is necessary to speak of proprietary mixtures in this connection, because many younger men, even those who are hospital trained, who have not the technical knowledge to construct complicated prescriptions, fall into the habit of using certain mixtures. Some of these mixtures almost rival, in the number of ingredients, the original formula of Warburg's tincture, and it is impossible often by the most careful examination to analyze the effects, since the proprietors, for their own commercial protection, conceal the quantities of some of the ingredients.

Simple prescribing is much facilitated by the use, as far as possible, of the active principles of drugs, though the fact must be carefully kept in view that not all drugs, even the most important, are satisfactorily represented by a single element that can be isolated. Notably is this the case with digitalis and aconite.

Another great disadvantage of complicated prescriptions is that when used with an intelligent conception of the action of their component parts the chances are few of meeting cases that they exactly fit. This applies particularly to the so-called "favorite prescriptions" that are often spoken of. The use of these ready-contrived mixtures is no less cumbersome than it would be if an artisan had a separate box of tools for every different piece of work. How clumsily would the tools be used, and how inferior this workman to the one who had a small number of tools, each of which he was able to handle with skill. Medicine will gain in accuracy when therapeutics becomes less obscure, by requiring every physician to know, as far as possible, the complete natural history, not only of disease but of the drugs with which disease is to be combated. The old notion, perpetuated in that abominable word "allopathy," whereby each drug or a mixture of drugs was supposed to have the power of meeting and destroying a disease, is not longer held by men of scientific attainments. It is known that there are powers inherent in the body itself which tend to the cure of disease. It is also known, that drugs are sometimes capable of removing the active cause of disease, by destroying the infection and modifying the secretions; that they have the power of assisting the tissues in their mutual reconstruction where the course of disease has been checked, and of modifying physiological processes whereby the body is rendered more able to resist disease. All these things are brought about by the application of suitable remedies to certain conditions and is best accomplished by a few simple and well-known drugs. Our plea is for an open hand-to-hand contest with disease, seconded by the use of well-tried, strong and clearly understood weapons, instead of a contest carried on in

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obscurity, like ancient battles fought with poor weapons, obscured by the fumes of black powder.

Thus the idea of the prescription as a formula constructed at the time to cure a disease under the precise conditions present must not be lost sight of. The active agent in the prescription may be less conspicuous than the adjuvant, the corrective or the vehicle. The older art of therapeutics needs to be brought into line with modern practice or else dropped altogether. It is painful to see students who have been taught only the use of alkaloids, serums and tablet triturates, attempting, when they begin practice, to prescribe according to the demands of an average family practice. Some fall into the iniquitous habit of ordering in a routine way copyrighted formulæ. Others buy a pocket formulary, which is often a poor conglomeration of prescriptions, and copy such that seem to them suitable for the case. Few are able to construct satisfactory formulæ to suit individual cases. A student should be taught how to prescribe drugs; to know what may be expected from their use, and what other drugs will facilitate their action or render their administration more easy.

A true education in the use of drugs should commence like a training in music, or any other art or science, in the use of a few simple elements and the gradual acquisition of power to combine them and use them in groups. In hospitals and teaching institutions a student is too often taught the treatment of disease by the use of an established formulary. This is a constant menace to therapeutic education. You see the hospital interne experimenting upon the patient of Dr. D.'s "antibilious"—or "anagout"—triturate without any definite comprehension of which of the various elements in the combination are the active ones. I have often seen men, so trained, regarding as different therapeutic agents formulæ differing only in the vehicle. Students taught to build up their therapeutic plan from simple indications would not be subject to any such absurdity.

The plea for a greater simplicity in therapeutics is directed particularly to those men who have reached what might be called the confusional stage of knowledge and whose medical experience has crowded upon them with such a flood of therapeutic suggestion that they are smothered by a sea of vague promises. It often requires a profound knowledge of medicine and much self-confidence to adhere to a simple and straightforward therapy in a case that is not doing as well as one might wish. There is a spirit of the gambler in him who would try an experiment with some complicated or secret remedy because it is backed by the certificates of inaccurate observers, implying that the case in hand is exactly like one that was cured by this wonderful combination. It can not always be said that a combination is no better than one of its active ingredients, but it can be said that there is no mixture that would not be better for having been confined to as few as three or four ingredients. A prescription that contains a dozen or twenty drugs is of use only to the one who wishes to take the gambler's chance that some one ingredient will do more good than will all the rest do harm. Like all gambling, the game is against the player in favor of the house—the house being in this instance the manufacturer of the medicine, who, whether there is success or failure, always gets his profit.

If a young physician, or an older one for that matter, only understands a few drugs thoroughly, it would be

better for him to use them in appropriate cases and rely on hygiene in all others. What we need is a reconstruction of our therapeutics, whereby knowledge and experience will be built up, brick by brick, each one being solidly in place before another is added. The younger men would in all probability become most familiar with the newer drugs and use them to the exclusion of the older ones. This is only natural, and older men must not feel that it is their duty to use every new thing. Their old tools are often better, and it is time enough to adopt new ones when their usefulness is thoroughly proved. Nitre may be a better drug than nitroglycerin in the system of practice of many a good practitioner, still the young hospital graduate knows but little of the former most splendid remedy, but can talk by the hour on the use of the latter.

More definite and simple therapeutics are an advantage to science in that the scientific method of inductive reasoning can be applied. True logical reasoning as to cause and effect are found when either the premises are within the grasp of the intellect or the intellect is large enough to grasp the premises. The premises in therapeutic reasoning comprise exact knowledge of diseased conditions and a comprehensive understanding of the probable action of any treatment under the circumstances present. When a complicated pathology forms a composite picture with the not less complex physiology of even a single drug, how difficult is the analysis! Who is to understand such a picture when confused by twenty active therapeutic elements? What wonder is it that we hear of therapeutic nihilism; that many a strong mind abandons the serious study of therapeutics for the more definite and interesting field of clinical and microscopic pathology, or that the surgical specialties so far occupy public attention? Science demands that there shall be a re-study of each drug by itself and that its place shall be definitely settled. How attractive are even false systems, when their supposed principles are such as are easily grasped by the mind! May we not look forward to a time when scientific medicine shall be so clearly worked out that it will be possible to define its claims by explanations as simple as those of systems constructed for the purpose of deceiving the public? It is utterly impossible to meet by popular argument, based upon therapeutics in their present complicated state, such simple propositions as that all disease is imaginary, or that all disease is to be cured by the restoration of a dislocated ligament. The apostle of any faith who has a simple, definite proposition to present has often more advantage with the masses from its simplicity than disadvantage from its falsity. So not only for the sake of science, but for the dissemination of medical truth, methods must be simplified and results clearly defined.

54 West Fifty-fifth Street.

THERAPEUTIC PROGRESS.*

J. TRACY MELVIN, M.D.

SAGUACHE, COLO.

It seems particularly appropriate at this time, when so much attention is being given to the decennial revision of the National Pharmacopœia, to take special notice of the progress which we have made along therapeutic lines during the past ten years, and try to note some of the lines along which future progress will

*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

probably occur, and some of the reasons why our progress has not been more rapid in the past.

We are obliged to confess at the outset that scientific therapeutics is to-day far behind all other branches of medical science. The cause is not far to find. The almost farcical teaching of *materia medica* and therapeutics, even in our best medical schools, gives us every year thousands of men appallingly ignorant of the physical and therapeutic properties of our most common drugs, yet well versed in other branches.

Again, our progress has been retarded because of the great mass of comparatively worthless and poorly-understood drugs which compose a large part of our present Pharmacopœia. Of the thousand titles in that work, not one-tenth are remedies whose action and effects have been definitely worked out and placed on a scientific basis; and if this is so of official medicines, what can we say of the thousands of non-officials which are being so freely prescribed?

Of the thousand official titles not more than one-fifth will be encountered in checking over tens of thousands of prescriptions from every section of the country. Why, then, should we continue to carry this load?

Another serious bar to more rapid progress is the marked credulity which physicians have, in common with ordinary people, toward the most transparent therapeutic humbug, if its virtue be only impressed on them by the repeated iteration of skilful advertisers. The most irrational combinations, the alleged properties of which are weekly impressed on the physician's mind, soon efface the memory of slightly taught official therapeutics.

If we turn to our works of reference, where the leaders of the profession are supposed to point out the way, how frequently do we come upon complicated prescriptions whose ingredients are known to the junior pharmacist to be incompatible, physiologically and chemically! And what a vast majority of the formulæ published in some of our medical journals are simply unutterable abominations, therapeutically and pharmacologically!

Trousseau says: "The practice of medicine is the art of curing, and it is nothing more than that; to cure is its object, and all our plans must culminate in medico-surgical therapeutics." If this be so, and surely the great body of our profession will acknowledge the correctness of the definition, how far have we at times wandered from our true aim! How little space is taken up in our journals by contributions which directly attempt to increase our knowledge of the exact effects of remedies which we prescribe so freely?

Another bar to therapeutic progress is that even our best known and most used remedies, of whose value there can be no shadow of doubt, are of uncertain and indefinite composition, as at present most commonly prescribed. Let us take, for example, *digitalis*. This is officially described as consisting of the second year's leaves of the biennial plant, collected when the flowers are two-thirds opened and from the wild plant grown in England. We are further told that the leaves rapidly deteriorate in strength, and those more than a year old should be destroyed. Now this description may have been a most valuable guide to the druggist of one hundred years ago, but of what practical value is it to the druggist or physician of to-day, who depends wholly on the wholesale houses for his supply, and perforce must accept whatever is sent him? Even the last suggestion for destroying old stocks of the drug is very seldom followed. Far more frequently are they

converted into tinctures and infusions. Yet the sole point of interest to the physician in regard to this drug is simply how much of the active principle does a given dose contain? Yet on this one vital point the Pharmacopœia is as silent as the grave. In passing, permit me to remark in this connection that it is surprising that the seeds of this plant, which are far more uniform in strength and deteriorate very little and yet average ten times the strength of the leaves, are not made official in their place.

The entire discussion in regard to the relative merits of the whole drug, the powdered, the extract, the fluid extract, the infusion and the tincture can easily be dismissed, and should be, if only the physicians of to-day would recognize what it is they really want, to-wit, that minute amount of active principle which alone gives to the drug its value for his purposes. It seems to be one of the most difficult matters for the most careful physician to clearly discriminate in regard to exactly what effect he wishes to produce in giving any drug, and equally hard for him to observe with scientific accuracy the exact effect, if any, which he really produces by administering it.

This element of uncertainty as to just what effect a given dose of any of our galenicals will produce, is, I believe a defect inherent in the form of the drug of itself and in our blind way of administering it. Why? Because it is practically impossible that any two samples of any of our active vegetable drugs will contain exactly the same amount of active medicinal principles, be they alkaloids, glucosids or others.

We too often forget that it is not the sole object of any plant's existence to produce those particular principles which we happen to desire and which constitute their value to us as crude drugs. The amount of these active principles present must depend in any given case on a hundred external circumstances beyond the control of man. Heat and cold, moisture and drouth, the richness of the soil, the length of the season, all these and many more incidentals determine whether a single given plant shall prepare and store up .85 per cent. of aconitin or only .25; and yet in giving the tincture of this most powerful drug, we complain of the lack of uniformity in the effects of a given dose when two specimens prepared from two equally good-appearing plants must vary over 300 per cent.

Gentlemen, is it not sarcasm to speak of the scientific practice of medicine while such anomalies are a part of our system? Yet far wider variations than these are reported by undeniable authority, and by those who handle great quantities of these, our trusted weapons of warfare.

Again, we are often confused in the process of our investigation of drugs at finding that one and the same plant often produces at the same time two or more active principles whose medicinal effects are diametrically opposed to each other along a greater part of their spheres of action.

The ancient and honorable opium is a well-known example of this fact, where the convulsive and exciting narcotin and thebain exist side by side with the sedative and narcotic codein and morphin, yet both would be constantly given together if we had not learned to abandon the crude drug so largely and give only the pure alkaloids for the special indications which we desire to meet. Jaborandi is another marked example of this fact. Of its alkaloids, pilocarpin is relaxant and diaphoretic to a remarkable degree, while jaborin is myotic and convulsant second only to atropin. Now,

in using the crude drug or any of its preparations, what possible means have we of knowing just what proportion of these antagonistic alkaloids are present in any particular specimen? Consequently it is impossible for us to arrive at any exact dosage for exact effect. We know that usually pilocarpin greatly predominates, but both the actual percentage of pilocarpin and its relative proportion to jaborin is extremely valuable. For this reason the profession has of recent years been driven to almost abandon the crude drug and its preparations, and use only the alkaloid pilocarpin to obtain the specific effects desired. What has been done in these instances, I believe, must be done with all.

The widespread interest which is being manifested to-day by the great mass of our profession, outside of the large cities, in the so-called alkaloidal plan of therapeutics, is, I believe, one of the most important steps in scientific therapeutic progress which has ever been made, although perhaps largely influenced at present by commercialism; yet I believe that the next ten years will see it established as the only recognized method of securing galenic drug effects on the human organism.

Along the line of progress must also be noted the universal adoption of synthetic remedies of definite composition and exact therapeutic effect. While it is hardly to be expected that the vision of a few years past will ever be wholly realized, that is, that the chemists will be able to present to us remedies whose properties can be exactly foretold by their chemical composition, and may therefore be prepared to exactly meet any and every desired therapeutic indication; yet they have already done more than in all the years that went before, in giving us remedies which will definitely control suffering in many of its forms.

It would be folly for me to attempt more than an allusion to the crowning achievement in scientific therapeutics, namely, the production of immunizing serums which will definitely combat definite disease processes, thereby approaching closely the ideal of an absolute specific, and the allied products or so-called organic extracts, as for example, suprarenal extract and thyroid extract. The marvelous effects of the latter in cases of cretinism and allied conditions, we believe, have never been paralleled by the discovery of any one therapeutic agent for any pathological condition since the science of medicine began. This one achievement marks an epoch in therapeutic progress.

Let us also acknowledge that the high tide of therapeutic nihilism which threatened for a time to sweep away all reliance on therapeutic drugs, has served a most valuable purpose in stimulating real therapeutic progress. It has roused the profession to demand scientific proof of the efficiency of each and every agent to accomplish the purpose for which it is advised. It has led them to observe more clearly and reason more closely in ascertaining in the first place just what effects it wishes to produce in a given case, and then to discriminate more thoroughly as to just what agent, if any, will in the simplest and most nearly physiological manner accomplish the effect desired. In short, the present tendency of the profession to sweep away the vast mass of accumulated trash from the Pharmacopeia, to adopt simple alkaloid medication where needed, to relieve immediate and unnecessary suffering by definite synthetic compounds, to apply the physiological specific of animal origin whose efficiency is unerringly proved by the clinical laboratory, and to employ no remedy whose beneficial action can not be accurately demon-

strated—all constitute a great stride toward scientific therapeutics which marks the doom of the old-time drug shop, it is true, but at the same time shows that the profession at last is making true therapeutic progress.

DISCUSSION ON PAPERS OF DRs. BISHOP AND MELVIN.

DR. N. S. DAVIS, JR., Chicago.—There is no question of the desirability of using exclusively, or almost exclusively, simple preparations of drugs in place of complex formulae. It is preferable to use alkaloids and active principles of drugs whose composition is known and definite, where it is possible to do so, in preference to combinations of uncertain value. There are some drugs whose effects are known, but whose active principles have not yet been determined. These must be used in their pharmacopoeial preparations, especially in the form of fluid, or solid extracts. As regards standardization, I think that it is not possible, on this account, to standardize all preparations at the present time. Much advance has already been made in this direction, but as it depends on the work of trained investigators, pharmacists and expert chemists, it is necessarily expensive and slow in its progress. I do not feel, as many do, that we should always adopt the rule of prescribing only one drug at a time. We obtain a much better effect, in some cases, from a combination of drugs. For instance, if we wish to utilize only a part of the effect of the drug opium, such as the anodyne action of it, and wish to avoid the constipating effect, we may accomplish this by combining with it a laxative. The fact is well known that most of these crude drugs have more than one effect on the human body and act on different organs. They have several distinct actions and produce a complex effect; we can not get a simple effect from them. By our combinations, however, we can get a more simple effect by concentrating the action on certain organs and diminishing other undesirable effects. He expressed the hope that our profession would act harmoniously with the pharmaceutical profession in this important work of determining the active principles of all remedies and establishing their physiological effects so that prescribing may be rendered more exact, definite and scientific.

DR. FRANK WOODBURY, Philadelphia.—The enterprising manufacturers of pharmaceutical specialties, in their desire to introduce new remedies, not only publish enthusiastic reports of the new agents, but also try, both directly and indirectly, to discredit the older remedies which physicians are using. This deliberate attempt to create dissatisfaction with the materia medica is often successful and is responsible for a great deal of therapeutic skepticism, for when patients see their medical attendants willing to "try" all the new remedies, it breaks down their confidence in the judgment and skill of their physician. The speaker suggested that new remedies should be used exclusively by hospital physicians until their value or worthlessness is fully established by clinical and laboratory investigation, and that, as the rule, the profession at large should stick to the pharmacopeia.

DR. T. B. GREENLEY, Meadow Lawn, Ky.—Patients often think that they can not take certain remedies. A man with malaria, to whom I wanted to give quinin, absolutely refused to take it. I had some blue mass with me and I made up several pills, each containing 2 grains of quinin. The patient took the pills, one every two hours, and did not know that he was taking quinin: the chills did not return. In another case, which was that of a lady, who also said that she could not take quinin, I thought that the symptoms she spoke of might be psychologic, so I prescribed it in some combination and did not let her know that she was taking quinin. The next day, however, I found her broken out with a rash of urticaria, and she requested me to stop the remedy. In a case of typhoid fever that needed quinin, but could not take it by the mouth, I employed the hypodermic method of administration of bisulphate with much better results, and the patient did not know that he was taking quinin. We should not rely too absolutely on the statements of the patient with regard to the effects of a remedy, but if it is required, it should be given in some other form, without the patient's knowledge: at the same time we should watch for any ill results.

DR. O. T. OSBORNE, New Haven—One thing that has caused some delay in the progress of therapeutics is the need of the clinical study of cases while taking little or no medicine, so as to determine the cause of the disease if left to itself. Secondly, therapeutists frequently give drugs which mask the disease. The path of progress lies between these two. Therapy does not mean drugging, but we must know the pathology of the disease and the effect of our remedies, and then make a scientific application of the remedy to the condition. With regard to simplicity in prescribing, he approved of the plan of giving drugs in as simple a form as possible. He did not think it polypharmacy to give several drugs, which work together in the same line, each one assisting the other. Polypharmacy is giving combinations of various remedies with contrary effects, and arises from uncertainty in the prescriber's mind as to what remedy is the best to give; it is unscientific and should be condemned in favor of scientific simplicity in therapeutics.

DR. C. C. FITE, New York City—Something has been said about the recent great increase in the demand for nostrums. I think that it is often due to the fact that the physician does not give the patient the prompt relief that he desires, and he accordingly goes to a drug store and asks for a nostrum which will relieve his symptoms without delay. He thought that there is a tendency toward too much scientific study of the disease and not enough attention is paid to the therapy of the case by many physicians.

DR. WARREN B. HILL, Milwaukee—The reader of the paper advised teaching a few drugs to students at our colleges, and teaching them well. He would say, teach many drugs and teach them all well. The trouble is that not enough attention is given to this important department in our colleges; less money is spent for teaching drugs than for the other branches. One difficulty with the text-books is that they do not systematize the information as they should. It is a fact that it is better to know a few drugs and to know them well than a greater number imperfectly, but it is better to know many well. There should be greater discrimination between remedies with similarity of action. The busy physician falls into routine prescribing and is too apt to say: "This is a case of heart disease, therefore give digitalis." This remedy should be appropriate to the physiology and pathology of the case.

DR. A. B. LYONS (delegate Am. Pharm. Ass'n.)—I appreciate fully the importance of the principles laid down in the papers just read. At the same time, I wish to insist that we are not now in a position to assay a great many of our drugs, such as ergot, aconite and so on; and we really have no scientific data as to their use. We know that one manufacturer will obtain what he calls aconitin and another makes something very different, which he calls aconitin. These vary greatly in their physiological effects. The crude drugs will vary a great deal more than the proportion stated, of 25 and 85 per cent. If standardization, as advocated by the author of the paper, should be carried out at present we should be led into the greatest possible confusion, while apparently making a scientific advance in our therapeutics. The revisers of the pharmacopoeia have given this subject much discussion and still have it under consideration. I think that they have done the best that could be done under existing conditions.

DR. J. N. URSHUR, Richmond, Va.—The student of medicine should be taught at college, and should make it the axiom of his life, not to prescribe any drug unless he has a good reason for prescribing that particular drug, and not to combine drugs unless he could give equally good reason for combining them. The greatest difficulty in the study of medicine is with the materia medica. In teaching this complicated and difficult subject, I advocate commencing with drugs that are comparatively simple in their structure and definite in their action. Following these, should be gradually introduced the drugs that are more complicated. The physician should not close his materia medica when he leaves college and lay it aside, but should make it his daily study. I like the method, generally, of giving single drugs and of simplicity in prescribing. While we are under great obligation to the manufacturing pharmacist for many excellent preparations, I would say that the

greatest menace to our profession to-day is the multitude of proprietary products with which our offices are filled by these enterprising manufacturers. These are often attractive preparations and physicians are urged to prescribe them. The misfortune is that we know nothing about their real composition or about their physiological action. I recall a case of failure of the circulation in a patient with inflammation of the kidneys. Several physicians were in consultation on the case and they had recommended diuretin. I advocated strychnin in preference, as diuretin contains salicylate of soda, which is a heart depressant, and should not be given, but I was overruled and the patient had diuretin and died. I think it full time that an effort should be made to impress on the profession the necessity of paying more attention to this subject.

DR. GEORGE J. LOCHBOEHLER, Washington, D. C.—Why should we allow ourselves to be insulted by these men who leave their samples of drugs at our offices? An agent left a preparation at my office last week; it was a combination of pepsin and pancreatin, and he had the impudence to ask physicians to use it for indigestion, although we all know that pepsin requires an acid solution in order that it may act and pancreatin an alkaline solution. And yet physicians use this preparation or it would not pay the manufacturers to send out their representatives to push it. These men know nothing about therapeutics and they come to our offices to tell physicians how to treat cases of disease. One of these did not know what strychnin is, and when asked, said that "strychnin is the active principle of arsenic." I call attention to the impudence of a firm which sends out men to teach physicians to use drugs; ignorant men, who do not know more than to say that strychnin is the active principle of arsenic.

THE PHYSICIAN AS A SCIENTIST.*

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CHICAGO.

The sentiment to which I have been invited to respond on this pleasant occasion is a timely and important one. My friend and colleague, Professor Fenger, who is our honored guest this evening, has reached his sixtieth birthday, and we are assembled around this festive board to tender our congratulations and to wish him many years of usefulness in the interests of our profession and humanity.

It is an easy matter to eulogize the dead, it must be a source of great and lasting satisfaction to receive the recognition and encomiums from competing colleagues during the prime of life, as in the case of our guest.

Professor Fenger needs no introduction. His name and fame are known wherever modern surgery is practiced. Although a general surgeon, the sentiment "The Physician as a Scientist," applies to him as he is a physician in the broadest sense of the word, and his scientific researches have for the last forty years graced and enriched medical as well as surgical literature. Science is an exacting and jealous mistress. She detests pretension and illogical, immature conclusions. She loves and honors the truth. She ignores nationality, creed, politics, and social position. She plucks her golden treasures from all available sources. She demands from her devotees earnestness, honesty, perseverance, unselfishness. She is exacting, always ready to criticize, but just in her final decision. She is reserved in the distribution of honors, and when honors are received at her shrine, it always means that they have been dearly bought, not with gold or through outside influence, but by hard and unselfish work. Science has little sympathy with what is regarded by the world as amusement. The span of human life is so short and the field of science so vast

* Response to a toast at the Testimonial Banquet to Professor Christian Fenger, Nov. 3, 1900.

and rich, that those who explore and cultivate it have but little time to spare for their own recreation and amusement.

How I envy the men whose vocation in life consists in the pursuit of science, unobstructed by the hardships and anxieties of a professional career! What a source of pleasure and satisfaction it must be to devote the energies of a lifetime to scientific investigations and research! How different with the physician as a scientist! From morning until night, and from night until morning, he must spend most of his time in the care of his suffering patrons, and there is not an hour he can call his own. And yet what has the physician done for science? The healing art rests on science, and the physician is the one who built the foundation.

SCIENCE THE FOUNDATION OF TRUE PRACTICE.

Without science the practice of medicine and surgery of to-day would be what it was four hundred and fifty years before the birth of Christ, crude and empirical. The light of science began to illuminate the temple of medicine with the classical writings of Hippocrates, and it has shone brighter and brighter until at the present time its effulgent rays are penetrating its remotest nooks and corners. What gems of wisdom and erudite teaching can be found in the writings of the great physicians in the distant past! Who can read the works of Hippocrates, Celsus, Galen, Avicenna, and their contemporaries, without being thrilled by the spirit of scientific investigations which they contain? Then came the dark ages which inhibited scientific progress, followed by a rekindling of the light of medicine by the epoch-making labors of Harvey, Vesalius, Morgagni, Haller, and a host of co-workers who paved the way to make medicine what it is to-day—a science and an art. I need not tell you what medicine owes to the scientific work of John and William Hunter, Schwann, Johannes Mueller, Ludwig, Helmholtz, Virchow, Rokitansky, Rindfleisch, Sir James Paget, Billroth, Thiersch, Pasteur, and a host of earnest investigators of more recent date and of to-day in clearing up the mysteries of life and disease. Their work stands as a living monument of the Physician as a Scientist.

SCIENTIFIC WORK AND THE BUSY PRACTITIONER.

Permit me to cite a few instances which will prove that some of the very best scientific work has been done by the busy practitioner. Virchow, the founder of modern pathology, accomplished what he did untrammelled by the daily routine work of an active practice. Robert Koch, the father of the new science of bacteriology, has immortalized himself by the bacteriologic researches which he made when a general practitioner at Wollheim, a provincial town in Germany. Nothing he has done since in the well-equipped laboratory, as a professor in the University of Berlin, can ever equal what he accomplished during the spare hours as a struggling village doctor. Billroth, for many years the star of the medical faculty of the University of Vienna, did science the greatest service in the preparation of his wonderful book on "Cocci Bacteria Septica," published in 1873. His work on "Surgical Pathology" passed through many editions during his lifetime; was translated into nearly all of the living languages; is familiar to every medical student and practitioner, and has been in use in almost every medical college in the world, is but the shadow of his work on bacteriology which foreshadowed the subsequent revelations of the new science upon which is based the modern progress in medicine and surgery. It is a book that has never received the appreciation it de-

serves, and, I dare say, but very few copies could be found in this country. I have always regarded it as the most important contribution to science by the great surgeon whose name is identical with modern surgery. This book was written soon after he left Zurich for Vienna, a change which brought with it a greatly increased demand on his time by teaching and an enormous private practice.

The success of von Langenbeck as a surgeon and teacher was the outcome of his early scientific training and his own original researches during a long and busy professional career. What made von Volkmann the peer of surgeons was his scientific researches rather than his skill as an operator. The lifework of the late distinguished Professor von Nussbaum was foreshadowed by his graduating thesis. He conceived the idea of restoring sight lost by opacity of the cornea by excising the opacity and inserting a minute glass window. Although his painstaking experiments did not prove of any practical value, the student's work became emblematic of his whole surgical career, which was characterized by the originality of his work and his deep interest and intense enthusiasm in everything pertaining to science. Without a deep knowledge of science Lord Lister would never have discovered the light which has revolutionized surgery.

TWO GREAT SURGEONS OF TO-DAY.

The two greatest surgeons living to-day, von Bergmann and Kocher, are the best examples of how much scientific work the busy practitioner can accomplish, and what it contributes to a successful professional career. Von Bergmann's researches on sepsis and intracranial pressure are contributions to medical literature that would bring luster to the names of men engaged exclusively in the study of pathology. Kocher's experimental work on acute osteomyelitis, and his numerous researches on the relation of micro-organisms to other various surgical diseases have become an important integral part of the new science of bacteriology.

OGSTON, HORSLEY, THIERSCH AND MACEWEN.

Professor Ogston, of Aberdeen, will always be remembered as the discoverer of pus microbes, and Victor Horsley by his experiments on cerebral localization. Thiersch, one of the most profound students of the science of surgery, left behind him as the most important legacy of his scientific work an account of his memorable investigations on the healing of wounds and his classical work on epithelioma. Macewen is best known by his lucid description of intracranial surgical affections.

In our own country the rank and file of original investigators is rapidly increasing. It is with a source of pride that I mention in this connection J. B. Murphy, Jacob Frank, and M. E. Connell and his son Gregory, of our city. Marion Sims made his enviable reputation as a country practitioner and S. D. Gross is best known by his work on intestinal suppuration. The few names that I have mentioned out of hundreds of active practitioners who in recent times have added their good share to the science of medicine should be a sufficient encouragement to the younger members of our profession to combine their practical work with scientific investigations from the very moment they enter upon the practice of medicine. There has been more progress made in the science of medicine during the last two decades than during the thousands of years before, and yet it is just a beginning of what is destined to follow. The harvest has just commenced, and many laborers are needed.

SCIENTIFIC PHYSICIANS WILL ALWAYS REMAIN IN THE FRONT RANK.

Every progressive physician should take a part in unraveling the many mysteries which must be cleared up before medicine can become an exact science. Combined with science, medicine is the noblest of all professions; without science it is the meanest of all trades. A good microscope and a small laboratory have become essential aids in the study of disease, and in the pursuit of original research. The modern physician, then, must be a scientist if it is his ambition to remain in the front rank of the most progressive of all professions.

CHRISTIAN FENGER.

We are paying tribute to-night to an ideal scientific physician. Before our distinguished guest entered on the threshold of his profession, his reputation as a scientist was established. His thesis for the degree of doctor in medicine, on "Carcinoma of the Stomach," indicated the bent of his inquiring mind. He showed by his careful investigations that a direct relation exists between the location of the disease and branches of the pneumogastric nerve; in other words, in explaining one of the clinical phenomena—pain—he demonstrated the involvement of nerves by the carcinomatous process when the disease is at all productive of pain. All of his writings since that time breathe the same spirit of critical inquiry and originality of thought. He has never written anything which has not found a permanent place in medical literature and that is not eagerly sought for by all who respect progress and love science. Much of the time of our guest has been spent in the dead-house. It is there that he became a master in pathology, a distinction unanimously granted him for more than a quarter of a century. To him anatomy is an open book. Every operation he performs is an anatomical demonstration. I believe I am not going too far when I make the statement that if called on inadvertently to describe any of the intricate physiologic processes he would proceed without hesitation and give the desired information with a clearness and thoroughness that would do credit to a professional physiologist. He is so familiar with the functions of every organ in health that any disturbances caused by disease are quickly recognized, a knowledge upon which depends his acumen as a diagnostician. Take him into a chemical laboratory and he will make analyses and experiments that would fascinate the students and astonish the director. The microscope is our guest's most constant and nearest companion. To him its diagnostic and scientific revelations are a source of constant interest and unalloyed pleasure. As a practical surgeon, he stands pre-eminent. There is no operation he has not performed, no region he has not invaded. Twenty years ago he taught us how to explore the brain systematically and safely in search for abscess. To him belongs the credit of having led the way in this country to successful surgery of the lung. His articles on the surgical affections of the biliary ducts have become common property, and can be read in all living languages. He stands next to Simon and James Israel in renal surgery. There is no one who would pretend to know half as much as he does of the surgery of the ureter. If our guest has any speciality in surgery, it is the abdomen and pelvis. He has performed more difficult pelvic operations than any teacher of gynecology in this city. He was the first man in Chicago who performed vaginal hysterectomy for carcinoma of the uterus.

WHY DO WE HONOR HIM.

What has brought so many of Professor Fenger's

friends and admirers together this evening? Is it because he has reached the age of sixty? No! Is it because he has reached the climax of his successful surgical career? No! We are here to tender our congratulations to Fenger, the Scientist. We are here to express our feelings of gratitude to the teacher who taught the young men of our profession in this city how to make a post-mortem, and how to use the microscope. We are here to honor the surgeon who planted the banner of aseptic surgery in Chicago, and who has unselfishly and unceasingly instructed its followers in the technique of aseptic operations. We are here to emphasize the meaning and to show our appreciation of the sentiment, "The Physician as a Scientist." History repeats itself. Sixty-seven years ago the distinguished Dr. Hufeland, then the most famous physician in Berlin, was given an ovation after he had been actively engaged in the practice of medicine for half a century. On that impressive occasion a poem was read, and an album containing the autographs of several thousand of his friends and admirers was presented to him. Strangely this treasure came into my possession through the Baum Library. With few changes this poem expresses our feelings toward our honored guest:

Sie senden Dir, ein Kranz—der Erinnerung,
Den Gruss der Heimat, Grüsse der fernem Flur,
Sie rufen Dir, im Abendstimmer
Ehrerheiterter Tage, Heil! zu.

Heil, edler Mensch, Dir! Der, an dem Geisterquell
Der Wissenschaft, des Lebens Geheimnisse,
Balsames voll, in stiller Stunden
Goldene Schalen geschöpft, und hilfreich,

Ein Göttersohn, der frohen Gesungenen
Willkommen Keich mit tröstender Hand gefüllt,
In heissegequälter Brust des Fiebers
Gluten zu löschen mit kühlem Schlaftrank.

Heil, tapfer Kämpfer! Welchem der Sonnengott
Des Pfeil geschärft, der tief in den Drachenkamm
Des frevlen Irthums siegend eindrang,
Doeh in gerechten Triumph versöhnend.

Erfahrner Meister! Der Du die irdische,
Die kurze Bahn, die über der Sterblichen
Verhültem Gang zum dunkeln Jenseit
Blühend sich wölbt, mit des Sehers Lichtblick

Durchwandeln lehrtest, hier in den Rosenthor,
Hier durch des Weinstocks lachende Traubenpracht,
Hier warnend vor verborgner Natter
Tückischem Biss und des Sumpfes Gifthauch.

Viel sind der Priester, viele dem Opferdienst
Der Kunst geweiht. Des Sehers Begeisterung
Entloekt der Finsterniss den Funken,
Der sich in Flammen vom Staub' emporschwingt.

Und naht Dein Abend? Stralen des Tages nur
Umweben glorreich, Wem die Unsterblichkeit
Den Palmenzweig, von Harfenlauten
Heiter Stimmen umklungen, darbeut.

Die Lehrer leuchten hell, wie des Himmels Glanz,
Und gleich dem Licht urreiziger Sterne geht
Der Heldenname niemals unter,
Welcher die Pfleger der Welt verherbricht.

A SANATORIUM and convalescent home for the soldiers and civilian employes of the government will probably be established at Baguio, 4700 feet above the sea level, five miles south of Trinidad, in the province of Benguet, Philippine Islands. The temperature at this place is low and the climate resembles that of Arizona, Colorado or New Mexico.

THE DANGER OF SPINAL ANESTHESIA.

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Shortly after the introduction of cocain as a local anesthetic, Dr. J. Leonard Corning, of New York, demonstrated that it was possible, under its influence, to remove large tumors and perform amputations. Continuing his researches, he developed, in 1885, a method of injecting the drug into the vertebral canal between the spinous processes where it "should become absorbed by the minute plexuses of veins and so carried to the cord." Quite recently, Professor Bier, of Kiel, has advanced one step in this practice and deposited a solution of cocain within the subarachnoid space. His example was speedily followed by Oberst, Seldovitch and other European surgeons, and, above all, by Tuffier.

This practice is now extending to the United States and other countries. Various reports have been published, narrating its successful application in major operations involving the lower extremities, genital organs and abdominal cavity. Anesthesia ensues within five to ten minutes and continues for half to nearly an hour, or has even been prolonged to five hours in cases of parturition.

Mixing with the cerebrospinal fluid the solution of cocain speedily affects the sensibility so profoundly that, although the sense of touch remains unimpaired or at least is not obliterated, the perception of pain is destroyed.

The subarachnoid space should be quite as good an absorbing medium as the subcutaneous cellular tissue. On one side is a delicate serous membrane and on the other a mesh of capillary blood-vessels, the whole being in direct communication with both spine and brain. It is known that the cerebrospinal fluid is both produced and absorbed with great rapidity. There would seem, therefore, to be every reason why the characteristic physiological action of cocain should be quickly manifested and, indeed, with accentuated power, inasmuch as it is injected in such close proximity to important nerve centers. One writer, Dr. S. Marx, of New York, explicitly says that in a case when he had injected 1/6 of a grain into the canal he got dangerous symptoms of morphin poisoning, "showing how strong is the absorbing power of the spinal fluid." What is true of morphin must be equally true of cocain.

The drug is liable, in excessive doses, to disturb seriously the innervation of the heart and lungs, to depress the circulation, cause rapid and weak cardiac action, and render the respiration labored and shallow, while in some instances it produces thrombi and emboli. Severe toxic manifestations are not always fugitive. The phenomena of acute cocainism have been known, from ordinary hypodermic injections of moderate doses, to extend over a considerable period of time and cause severe distress, if not danger to life. Constant headache, habitual insomnia, vertigo, syncope, dejection of spirits and presentiment of approaching death, pricking and numbness, with other serious symptoms, lasted for several months as a consequence of a single injection of 1/8 grain. Death has resulted from the incautious employment of cocain. It must be remembered, moreover, that this is a treacherous drug. In many individuals there is a peculiar sensibility to its influence, and a small dose may be followed by a severe reaction. I recall the case of a young lady to whom a moderate

dose of cocain was given in the form of a suppository. Very pronounced intoxication occurred, with marked intellectual confusion, anxiety and decided depression of the heart's action. If such unexpected results follow the administration by mouth, rectum or hypodermic injection of a quantity far within the limits of supposed safety, I can not but be apprehensive that the successful course of the new operation of spinal anesthesia will be vehemently interrupted by dangerous and even fatal accidents. It is now thrown into the subarachnoid space in a 2 per cent. solution and the quantity usually introduced is equivalent to 1/6 of a grain, although I read of larger amounts—1/5 to 1/4 grain—being employed, or of repeated injections being made.

The operation, indeed, is not always so easy as it has been represented. I have myself been an eye-witness on more than one occasion to prolonged efforts before the vertebral canal and subarachnoid space could be entered, the operators being men of eminence and manipulative ability. Dr. S. Marx, who writes approvingly of the procedure in obstetrics, says: "As a rule the puncture is very easily done, but in some few cases there has been the greatest difficulty in its performance. In one case six distinct punctures were made before the tap revealed fluid. In one case with an antecedent lumbar disease I failed absolutely, and was compelled to make the injection in the dorsal region, and then with good success." When we consider that this author's latest report¹ embraces only 23 cases, the few cases of difficulty will swell into a large proportion. The same writer, furthermore admits that "explorations, versions, extractions, placental removals were readily done, not with quite as great ease as under chloroform, but with greater facility than in a non-narcotized woman." I have seen a single injection give rise to alarming symptoms of respiratory failure. The procedure is likewise productive of marked pain, and in order to avoid this effect, Bier and others have employed Schleich's infiltration anesthesia as a preliminary measure.

A number of writers have made allusion to inconveniences attending the method. In some cases chill and fever have followed the injection. Severe and long-continued headache has been noted in other instances and, in fact, seems to be a common manifestation. Distressing nausea and vomiting have also been excited. In exceptional instances staggering gait and sharp spinal pains were experienced on the day following the injection. In some patients free sweating and in others marked debility have occurred. Numbness and tingling are other accidents which have been mentioned. In some cases anesthesia was not produced by the operation. Writers have generally presumed that this failure indicates that the fluid had not entered the subarachnoid space, but this is scarcely a sufficient explanation. Injections into the subcutaneous tissue cause local anesthesia, and the solution must have been absorbed, although perhaps not so rapidly as if it had penetrated the selected space.

Dr. John B. Murphy, writing in the *Chicago Clinic*, for September, 1900, includes among the advantages of spinal anesthesia, "the avoidance of one of the greatest dangers to surgical procedures at the present time, namely, the primary, intermediate and secondary sequences of the anesthetic, as cardiac phenomena, pulmonary lesions and renal disturbance." Nevertheless, some fatal cases have already occurred from medullary narcosis. Tuffier, reporting to the Thirteenth Inter-

1. Med. Record, Oct. 6, 1900.

national Medical Congress in regard to this operation, stated that death had taken place in five cases. In four of these the fatality could not, in his opinion, be attributed to the operation. The fifth patient had died of asphyxia, due to pulmonary congestion complicating a mitral insufficiency. Gumprecht believes that as a rule the operation is unattended with danger, yet he cites a dozen or more cases in which death had followed. Most of the cases collected by Gumprecht were of intracranial tumor and death was caused almost invariably by respiratory paralysis. Although in any circumstances the patients could not have lived long, yet it is admitted that the puncture was undoubtedly the determining cause of death.

It is conceded by all that the operation should be practiced under the most rigid aseptic precautions. In the present state of surgery, however, the proviso is a matter of course and applies alike to every intervention.

I would not be understood as condemning absolutely the production of spinal anesthesia or as denying that it may have a field of usefulness. It is our duty, however, to be cautious in this matter. One hundred odd cases by one surgeon without a death has a very promising sound, yet experience has been too short and the total number of cases is still too few to warrant positive conclusions. Every operation should be regarded in the light of an experiment. The danger signals should not be underestimated. It is not wise to teach that this procedure is easily performed, painless and free from danger. Such statements do not accurately represent the subject in question. If we reflect on the number of times that a general anesthetic is administered far more often than any statistics exhibit; when we consider, moreover, the number of parturient women who may require more or less anesthesia at different stages of their accouchement and for various reasons, we must acknowledge that a few hundred cases constitute but slender evidence for positive assertions. Gurlt, in his studies of general anesthesia, tabulated 14,506 cases in which ether was used by German surgeons without a death. Julliard collected data relative to several hundred thousand administrations of ether and chloroform. In the presence of such figures we should be extremely circumspect in promulgating advice.

Dr. Corning himself is the latest writer on this subject.² From a paper entitled "Some Conservative Jottings Apropos of Spinal Anesthesia," I select the following passages:

The most recent physiology favors the close reciprocal relations between the cerebrospinal fluid and the circulation of brain and cord. . . . And now a further word or two as to the danger of expecting too much from this discovery and of bringing it once more into the neglect certain to follow in the train of disappointed hopes. First and foremost, it is necessary frankly to look at facts and confess that there is nothing in those till now brought forward remotely to warrant the belief that the days of cerebral or general anesthesia are numbered. Some curtailment in their use there may, ay, doubtless will be, but abdication of their broad dominion—never. Again, it is absolutely necessary to remember that, despite all apparent conformity with the exactions of technique, spinal anesthesia sometimes leaves one in the lurch. To what is this failure to appear ascribable? I do not know, nor have I yet come upon a convincing explanation. Cases are on record, too, in which the anesthesia was not of sufficient duration, and the injections had to be repeated, always a deplorable circumstance. Every one at all conversant with the serious results inevitably following infection of a serous cavity must

be profoundly impressed with the necessity of a rigid asepsis. This point has been insisted upon by most if not all recent writers. Yet I foresee that amid the indiscriminate slitting by irresponsible persons, sure to follow in the wake of the conservative achievements of the judicious and the competent, there is likely to be a neglect of those necessary and elaborate rules of antisepsis so necessary to the safety of the subject. Then a procession of gory tales; and a great and useful principle cast into shadow by the misadventures of a herd of venturesome empirics. There will be fatalities; but let there be a concerted effort by the invocation of every known precaution to keep the percentage of mortality as low as possible. Let there be less rivalry of the knife—less endeavor of one to outslit the other—and more attention to improvement of method.

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THE TREATMENT OF ADENOID VEGETATIONS OF THE NASOPHARYNX.*

OTTO T. FREER, M.D.

CHICAGO.

Medical treatment usually is ineffective as far as reduction of the growths is concerned, but as there is often an undoubted connection between lymphoid enlargements in childhood and future tuberculosis of the lung, much can be done to prevent this by general means. The surgical treatment of adenoid vegetation is the one to be considered, therefore, and the first subject that presents itself is whether it is better to employ general anesthesia in operations for removal of the hypertrophied pharyngeal tonsil or not.

The advantages of operation without anesthesia avoid the dangers of enforced insensibility, the fact that the operation loses much of its formidable appearance to the child's parents, and the absence of the disagreeable after-effects of anesthesia. The objections to operation without an anesthetic are many. The first is the pain inflicted. It is comfortable for the operator to imagine that the nasopharynx is not especially sensitive, but there is no reason why this should be so. It is well supplied with branches of the plexus pharyngeus of the vagus, glossopharyngeus and spinal accessory nerves. Those who think this region one of blunt sensibility will find that even mildly irritating applications to the nasopharynx will convince them of the contrary, if they apply them to themselves. Not only is the operation decidedly painful, but the nervous and mental shock it inflicts on a child, the terror it must undergo in being held while its mouth is forced open and an instrument is pushed into remote regions, the sight of the streaming blood, a possible reintroduction of the instrument, all these things will leave a child nervous, timid and distrustful for years. The mental shock is a matter of serious moment. Intense fright has often done serious damage to the nervous system. Without an anesthetic the operation becomes an uncertain one. This is obvious to any one who has compared the knowledge of the condition of a child's nasopharynx obtained by palpation when the child is awake and when it is under an anesthetic. The reflex contractions of the muscles of the soft palate, the levator and tensor palati, the salpingopharyngeus and the constrictors of the pharynx, distort the parts so that it is hard to tell lymphoid protuberances from prominent muscles and folds of mucous membrane, and often where the diagnostic touch has made us think that we have but a small

*Read in a Symposium on Hypertrophy of the Pharyngeal Tonsil, before the Chicago Climatological and Laryngological Association, July 5, 1900.

central adenoid mass, examination under anesthesia will show the fossa of Rosenmüller and the region above the Eustachian tube full of adenoid growths. If we can not locate accurately the adenoid masses without anesthesia, how can we operate with enough precision to remove all that is needed, even if the child's head can be held so that it does not move at all, and this can not generally be accomplished? In fact, there is a risk that the child's struggles make us liable to cut parts that we wish to avoid; injury has been done to the septum and posterior parts of the turbinals, and, what is of greater consequence, to the lateral wall of the nasopharynx with the Eustachian orifices. The rich blood-supply of these parts makes serious hemorrhage a possible sequel. The haste with which the operation has to be done adds still more to the chance of its being incomplete and imperfect.

Therefore, it seems logical to conclude that though a proportion of cases with adenoid vegetations of limited extent can be successfully operated on without general anesthesia, nevertheless the operation is apt to be incomplete, haphazard and imperfect, with a large element of lucky chance in its successful performance, and that consequently general anesthesia is necessary to insure the thorough removal of the entire hypertrophy of the pharyngeal tonsil.

Is it important that the operation should be complete and thorough? Will not the remains of lymphoid tissue left behind disappear by atrophy? They will not only not do so in childhood but will often be the source of a regeneration of the adenoid vegetations. In adolescence or adult life this atrophy may be hoped for, but is not sure to occur. The younger the child the more vigorously will the lymphoid tissue reform. A return of the disease produces lack of confidence in the operation on the part of parents. Parents have said to me: "We have been told that the operation is of no use, as the growths come back, so we have put it off until the child's condition became intolerable." Or we may be told that there has been a recurrence of the disease, so that a second trial of the operation seems hopeless. Many cases doubtless do not come to us at all, because the parents think an operation only of temporary benefit, a needless torment and expense. Therefore, the operation without anesthesia is a mode of procedure adapted to discredit our methods and keep children from receiving the benefit of operation at all.

A second reason for the importance of thoroughness is deafness. Deafness is often caused by adenoids that produce none or but little obstruction to breathing. Usually they are small masses situated just above the Eustachian tubes. To locate these requires a delicacy of touch unattainable without anesthesia. Another reason for thoroughness is the fact that some enlarged pharyngeal tonsils contain tubercular foci. One removed by me was honeycombed with cavities filled with soft, cheesy tubercular matter. Brindel found 8 cases of tuberculosis of the pharyngeal tonsil in a total of 64 removals, Gottstein 4 cases in 33, Pluder and Fischer 5 cases in 32, Luzetti 2 cases in 50, L. Lewlin, 9 cases in 150.

Entrance of tubercular infection through the lymphatic structures of the fauces and pharynx is thought by some to be the most frequent source of pulmonary phthisis in later life, a more frequent mode of infection by far than the much described method by direct inhalation of bacilli into the lungs.

Local anesthesia by means of cocaine is practically free from danger, if the cocaine is merely sprayed on the parts.

This can not be said of the method of injecting cocaine solutions directly into the adenoid tissues, as dangerously rapid absorption can take place under these conditions. This latter method would be impossible for children, or would be at least as hard as the operation itself, and neither mode would render insensible a large enough area to make the operation painless. Merely spraying the field of operation with cocaine will make the introduction of the instrument but little felt, but will not blunt the sensibility if the nerve-fibers in the depth to which instruments must penetrate.

Of general anesthetics, nitrous oxid does not give us sufficiently long anesthesia for a thorough operation. It has been used as a preliminary to ether anesthesia by Emil Mayer, who claims that it shortens the stage of excitement and makes a minimum of ether needed. He advocates as best the Schleich mixture, but this can be said to have come decidedly out of vogue, as the ether and petroleum-ether evaporates rapidly and leaves a dangerous amount of chloroform.

Chloroform is an unsafe and unaccountable anesthetic. I have had three bad frights from it in operating for removal of the pharyngeal tonsil; Hinkel reports one death and the record of 7 deaths from other sources during adenoid operations; Leyser states that 1 death occurs in 2606 chloroform narcoses. F. Barnhill reports a case of chloroform death one hour after operation for adenoids; W. T. Holloway, of the Central London Throat and Ear Hospital, reported 11 deaths from chloroform up to 1898, after operations on the pharyngeal or faucial tonsils. Casseberry reports a case in the practice of D. Dunne, death one hour after operation. T. K. Hamilton, of Adelaide, South Australia, had such frights from chloroform that he has ceased its use. In administering chloroform Sir Felix Semon advises to let the anesthesia stop short with the abolition of the corneal reflex, while the pharyngeal and laryngeal reflexes are maintained. It is very difficult to keep the anesthesia at this precise stage and if there is not complete enough narcosis to abolish reflex retching the operation is as difficult nearly as without an anesthetic.

Ether has its objections. It can not be used where we have a pre-existing bronchitis; its stage of excitement is long; the somnolency after its use may lead to concealed bleeding with swallowing of the blood until the patient is faint, but it is the safest of the anesthetics. Personal experience has shown me that in many children a quieter, more rapid narcosis is possible with ether than can be obtained with chloroform, and I have had to turn from the latter to ether to get some children to sleep. Ether narcosis is to be preferred to any other, in my opinion.

In operating under narcosis many prefer the position of the hanging head. A more convenient and as safe a position, as far as the flooding of the larynx and trachea with blood is concerned, is one in which the patient lies on his side and chest, close to the edge of the table, while the left arm is placed behind the back. The face looks partly downward toward the floor. In all the operations that I have performed in this position I have never had any trouble from vomiting food or blood getting into the trachea.

Adenoid vegetations can be removed with the post-nasal forceps, the sharp spoon, the ring-knife, snare, small ring-knife and the finger nail. The sharp spoon is apt to do injury. Trautmann, its originator, admits that it can tear off the posterior lip of the Eustachian orifice. It scrapes deeply but is apt to leave pieces hanging. It causes severe hemorrhage. The snare is only used in

adults for removal of small pendulous pieces. The finger nail is useful to clean up the field after operation, especially the fossa of Rosenmüller. It is quite inefficient for removal of adenoid masses if these are at all fibrous, as they often are, so that their base is too firm to yield to the finger nail. Complete operation with this instrument is seldom even approximately possible. The Gottstein ring-knife is the most popular of all the instruments used. Its modifications are many, too many to describe. The favorite ones are the Gottstein-Beckmann, the Hartmann, and the Moritz Schmidt ring-knives. This instrument is admirably adapted to do a rapid, showy and incomplete operation. If it is so constructed that it will reach the lymphoid masses just back of the posterior nares it will slight the adenoid masses on the posterior wall opposite the foramen ovale magnum of the occipital bone. It is my experience that in most cases adenoid tissue often to a large, sometimes the chief, amount is found low down on the posterior wall of the nasopharynx. If the shank of the knife is so bent, as Lenzmann has bent it, that the ring-knife will readily reach the posterior wall of the nasopharynx, it can not be made to place itself around those adenoid growths that are found back of the septum. D. Bryson Delavan says: "Time and again I have found that in the hands of many operators the Gottstein knife has merely cut through the lower part of the growth, or removed a certain amount on one side, leaving the other full, or has fairly cleaned the vault, leaving abundant deposits on the posterior and lateral pharyngeal walls." Delavan's experience is seconded by that of Dr. George Torrison of this city, who informed me that he has abandoned the operation with the ring-knife, because the results that he obtained with it were imperfect and uncertain. Since he has used the Löwenberg forceps with anesthesia, his success has been perfect in all cases. Where an adenoid mass occupies only the center of the pharyngeal vault it can be removed quite well with the Gottstein knife, even if not to a good depth, but it is obvious that the very important regions just above the Eustachian tubes and the fossa of Rosenmüller can not be cleared by it. A ring-knife that fits into one nasopharynx will not adapt itself to the next perhaps. The operation with the ring-knife is mechanical and depends much on chance for seizing the tissues to be removed, if used as it usually is, without an anesthetic. It can only take growths with a limited base, yet is supposed to do the operation at one sweep. The ring-knife is too large an instrument to apply itself to the nooks and recesses of the unequal surface of the nasopharynx, especially as this differs so greatly as to shape and size. It is a reasonably safe instrument, but might wound the Eustachian prominences. Three cases of prolonged bleeding are reported after the use of the Gottstein knife, by W. A. Martin. The first occurred one and one-half hours after operation, the second twenty-four hours after, the third nine days after. All of the patients lost much blood. There have never been any serious hemorrhages following the numerous operations for adenoid vegetations done with the Löwenberg forceps in the clinics at Rush Medical College; nor have these ever occurred in the private practice of Dr. E. F. Ingals, myself or others using the method. It is probable that the three cases of severe bleeding reported by Martin were due to injury of the lateral wall of the nasopharynx with the ring-knife, as the vessels of the pharyngeal vault are too insignificant to give rise to much hemorrhage, while the lateral walls of the nasopharynx contain large branches of the ascending pharyngeal, the ascending palatine, and

the Vidian arteries. The late occurrence of these hemorrhages can be accounted for by the changes in blood-pressure following operation. The last one, after nine days, was, of course, due to sloughing. As the operation with Gottstein's knife is frequently an incomplete one, recurrences after it are necessarily common. Although I do not use this method, I have seen two cases of recurrence after operation with the ring-knife in which the pharyngeal tonsil was supposed to have been completely removed by distinguished operators, who performed the operation as perfectly and deftly as it can be done. To judge from the literature, about 25 per cent. of the operations with the Gottstein knife are followed by return. Those using that method do not deny that recurrences follow. I state with positiveness that a thorough operation with the Löwenberg and Ingals nasal bone forceps, removes the hypertrophied adenoid tissue for all time. My own experience tells me this, as do our results in the college clinics and the records of the operation in the private practice of Dr. E. F. Ingals, including hundreds of cases, from which no account of a return has come to his knowledge. My knowledge of operation with the Löwenberg forceps has not taught me to "warn any operator that he must not say that his case do not recur," as has been said by Tredell, of Melbourne. Far from it, I can assure him that if he removes the growths completely with the Löwenberg forceps he will positively have no return of the disease, providing he completes the procedure from in front, by removing the adenoid masses commonly found in the posterior nares with nasal cutting forceps. The ring-knife can not possibly reach these pendulous lymphoid excrescences that hang down beside the septum within the nares or fringe the rim of the choanæ. These masses can only be reached from in front, and constitute a very frequent and serious obstruction to breathing. So large are they and so often present that they explain many of the half results obtained with the Gottstein knife.

Adenomatomes need but be mentioned. They are large instruments that operate on the principle of the tonsillotome and can not possibly fit every pharynx, while they can do serious injury on account of their great strength. Their use, and that of the ring-knives, should be confined to operations on adults, and those children where a circumscribed growth can be accurately located. The forceps used for adenoid operations are as numerous as the ring-knives. The Löwenberg forceps is the type of these. It opens laterally, while the Schuetz modification opens from before backward.

A large and a small-bladed pair of forceps are needed for the operation. The mouth is held open with a gag while with a large-bladed forceps the bulk of the growths on the vault is removed with one or two introductions. The small-bladed instrument, following the finger as a guide, clears out the fossa of Rosenmüller and regions above the Eustachian tube, until the finger feels nothing more of the growths. Whatever masses occur on the posterior wall are to be removed thoroughly. Then Ingals' nasal bone forceps are introduced through each nostril, and while the finger in the nasopharynx presses the small masses usually found within the posterior nares against it, these are cut away. Several introductions of the forceps are generally needed. No operation for adenoid vegetations is complete without this last stage of the performance. Though the finger pressed into the choanæ may at first discover no growths whatever, as soon as the bone forceps are pushed through the nostrils against it these polypoid masses are readily felt. They can not be seized from behind without en-

dangering the septum or turbinals. The comparatively roomy and broad nostrils of children, with their small undeveloped turbinals, offer no obstacle to the bone forceps, which must be passed close to the septum and floor of the nose.

The occlusion of the posterior nares is not invariably due to lymphoid growths. The disuse of the nostril is prone to leave the choanæ narrow, the turbinals encroaching on the septum, while partial diaphragms of mucous membrane may be found, especially closing the upper arch of the posterior nares. Where the posterior nares are in this narrowed condition, dilatation with Ingals' nasal bone forceps is needed, with infraction of the turbinals, if necessary, while with the beak of the forceps the occluding edge of mucous membrane can be cut away. It has been claimed that Löwenberg's forceps remove the tissue too deeply, clear to the basilar fibrocartilage. If this were generally true, it would be better than a superficial removal, and could do no great harm, but even a moderately educated sense of touch and sense of the resistance the tissues offer to the forceps will guard against this, as the adenoid masses come away readily, while the fascia offers strong resistance. The septum may be seized or the turbinals be wounded, the posterior lip of the Eustachian tube may be injured, but it takes an unusual degree of awkwardness to do these things, as the operation is done with the sense of touch to guide us, and these structures are constantly being felt by the finger.

The internal carotid artery in the adult is separated from the nasopharynx by intervening dense connective tissue three-quarters of an inch thick, and it is hard to conceive of its being wounded. It is stated that the hemorrhage at the time of operation is greater, as a rule, than with the Gottstein knife, but if so this is only proportionate to the more thorough removal of tissue. We have never had any serious bleeding in any of our cases, showing that the arteries of the lateral pharyngeal wall are safe from anything but unusual clumsiness. The adenoid growths that are found on the posterior wall of the nasopharynx are generally firm and tougher than those in other locations. In removing these, care must be taken not to pull downward, but upward, with the forceps, lest the mucous membrane be stripped from the posterior wall of the oropharynx. After-treatment is not needed. The parts heal best under the protection of an undisturbed blood-clot.

The importance of the subject must excuse the length of this article. It can not be denied that the operation with the ring-knife has displaced all other methods, but it has not done so because of its excellence. The reason for its prevalence is the ease with which it can be done and the fact that its mechanical qualities prevent its demanding especial skill, in fact, many general practitioners are removing Luschka's tonsil with the ring-knife, and the public and they have come to regard the operation for adenoids as a trifling matter. Its proper performance is certainly nothing of the kind, but requires especial skill and an educated touch that only come from frequent digital examinations of the nasopharynx.

It is the placing of an easy, superficial and imperfect operation in the hands of the general operator that tends to bring the operation for adenoid vegetations into disfavor with the public.

DISCUSSION ON PAPERS OF DRs. PIERCE, CORWIN, MORGENTHAU AND FREER.*

DR. E. FLETCHER INGALS—I wish to ask the first speaker

* For papers of Drs. Pierce, Corwin and Morgenthau, see JOURNAL of Nov. 3, 10 and 17, respectively.

(Dr. Pierce), who considered the anatomy, about the location of the pharyngeal tonsil. I believe he stated that it is above the middle of the Eustachian cushion. While I think that in normal subjects this is undoubtedly correct, yet it is very common to find a good deal of adenoid tissue below this plane. I think that there is some hypertrophy of the adenoid tissue below this plane in at least 10 per cent. of the cases. In other words, there are often considerable masses below the plane of the middle of the Eustachian orifice, as in a case that I operated on to-day, where there were large masses on both sides below the plane of the Eustachian orifices.

The importance of the conditions that are often present with hypertrophy of Luschka's tonsils was referred to by the first speaker, and I do not think they can be magnified too much. The question, however, would naturally arise as to whether these conditions caused it, or whether they were caused by it. But, as has been intimated, there are certain conditions, ordinarily known as serofula, etc., or conditions in which children are very miserable, that are immediately relieved as soon as the patients are operated on. We have most of us often seen very great improvement after these operations. It is quite common to see these patients gain from 20 to 30 per cent. in weight and general condition after these operations.

My observations do not correspond with the statement made by the second speaker, that enlargement of the pharyngeal tonsil is not uncommon between the ages of 15 and 20, but perhaps this is only a question as to the exact definition of the word "uncommon;" certainly the percentages of cases between 15 and 20 is small in my experience.

Reference has been made by nearly all of the speakers to the relation between hypertrophy of Luschka's tonsil and tuberculosis, i. e., does tuberculosis cause enlargement of Luschka's tonsil, or does it result from the latter? These are questions of much interest, but upon which we have very little definite information. The fact that in a given number of cases of enlargement of Luschka's tonsil, tubercle bacilli, or other evidences of tuberculosis, are found, does not cut much figure in determining the relation of the one to the other. In 125 autopsies made in the Foundlings' Hospital of New York, tubercle bacilli were found in some of the tissues of the body in every case. In a recent editorial in THE JOURNAL the results are given of 500 autopsies in the Zurich Pathologic Institute by Nägeli, which revealed latent or non-fatal tuberculosis in 97 per cent. of these bodies. If these statements are true—and I see no reason to doubt them—the relationship between an enlarged Luschka's tonsil and tuberculosis is probably merely casual.

I heartily agree with the second speaker about the uselessness of removing all enlarged Luschka's tonsils. I think he said that Bosworth was in favor of removing all enlarged Luschka's tonsils. Some physicians are in favor of removing almost anything that is abnormal. This is artistically correct, but so far as the patient is concerned, I do not think it is the best thing to do unless the abnormality causes some definite inconvenience.

Dr. Corwin spoke of the necessity for a guarded prognosis in cases of deafness, where Luschka's tonsil had been enlarged for a long time. This is correct. It is surprising to see how many such cases of deafness are greatly relieved or absolutely cured within a few weeks by the operation.

The symptomatology of this affection was so thoroughly gone into that I have nothing to add to it.

The last speaker spoke of internal medication, a phase of the subject which is so important that we should give it a little more consideration. There are certain conditions in which I believe it is good policy for the physician to recommend internal treatment. I would not recommend anything from financial policy, but there are many parents who are very much afraid of operations, and who are willing to have almost anything done to avoid them. In such cases, if we recommend immediate operation, the people will be frightened into doing nothing. Such persons should be told that an operation would be the best thing to do, but if we find them strongly opposed to it, it is worth while to give them a chance to try internal medication. While, as a rule, internal medication seems to me mere puttering, yet I have seen a number of cases in which,

after the administration of syrup of hydriodic acid, or chlorid of calcium, there has been a rapid diminution of the glandular tissue to such an extent that an operation did not appear necessary; however, I do not think such treatment would succeed in many cases. If a child is suffering any serious inconvenience from the growth, or if there is much deafness, we are not justified in giving the people any assurance or reason to hope that the affection may be cured by these temporary measures.

Like the last speaker, I have great fear of anesthetics. Although I have never had a death from the use of any anesthetic in these operations, I recall two or three cases in which I have had considerable difficulty in restoring patients to whom anesthetics have been administered. If any anesthetic could be given without danger I should adopt it at once regardless of inconvenience. The plan of giving nitrous oxid gas and following it immediately with ether ought to work well. While in the East recently I saw nitrous oxid gas and ether used in this way. The gas was admitted to the same bag which was afterward filled by ether vapor, so that the inhaler was not removed at any time from the patient's face. The patient came under the influence of the anesthetic rapidly, and it appeared as though the plan was excellent. Dr. Kyle suggested to me the giving of chloroform with oxygen, the oxygen being passed through the chloroform and inhaled with the vapor of chloroform, taken up in the same manner that oxygen which is to be inhaled is passed through water. I have tried this method several times, but the patient's face was so covered during the administration of the anesthetic that I could not feel safe, therefore I am not very favorably impressed with it. I have used chloroform almost exclusively in these operations, although I realize its great danger. Prof. Edmund Andrews, some twenty-eight years ago, read a paper on this subject in which he gave the death-rate from chloroform narcosis at about one in 1000; from ether, about one in 3500, and from nitrous oxid gas, about one in 75,000. Nitrous oxid gas is not a satisfactory anesthetic, for the reason that the patient is very rigid during the period of anesthesia, so that it is difficult to operate satisfactorily. I have not used other anesthetics enough to know about them.

I can not quite agree with the last speaker in the statement that it must require an unusual degree of awkwardness to cut the posterior lip of the Eustachian orifice. With my finger in the nasopharynx, the Eustachian orifice has often felt like an abnormal growth, and I think that physicians with very little experience might deliberately attempt to remove it, even though they were not awkward.

In removing portions of the growth from low down in the pharynx the last speaker said that the biting should be from below upward, to prevent stripping off the mucous membrane. The plan I adopt to prevent this is to hold the mucous membrane with my finger back of the forceps; I rest my finger on the growth immediately before seizing it with the forceps, keeping it there until I catch the growth behind it; I then press firmly with my finger below and back of the forceps in order to prevent any stripping of the mucous membrane as the tissue is cut and pulled away.

DR. J. HOLLINGER.—Dr. Froer said that the operation of adenoids is a difficult one and should be reserved entirely for the specialist. I object to that. This operation is not a difficult one; it is one that the general practitioner should be able to perform. If the Doctor has had much experience in general practice he will know that much more difficult problems confront the general practitioner every day than the removal of the diagnosis of adenoids.

Dr. Morgenthau spoke of high palate and V-shaped maxilla as being connected with adenoids. I would like to call the attention of Dr. Morgenthau to a paper by Dr. Grossheintz, in which he gives measurements of a large number of patients. His statements are not mere speculations or suppositions. He found that high palates and V-shaped maxilla occur in people without adenoids just as often as they do in patients with adenoids.

Although adenoids are very frequent, it is a fact that we know very little about their etiology. Much work has been done to clear up the subject, but few facts have been clearly

demonstrated. Among these facts I would mention that tuberculosis has been repeatedly found in the glands, but not as often as we should think. Hypertrophy of Luschka's tonsil may develop in children who have never had any symptoms of it, after scarlet fever, measles and diphtheria. They are general infections of the organism which have as their first point of invasion the upper air-passages, and may be associated with scarlet fever and measles, and run their entire course in the upper air-passages like diphtheria.

To prove that mouth-breathing alone may lead to adenoids, I will give the following history:

A deaf-mute boy, 11 years of age, had sufficient hearing to lead me to think that he might be educated to talk. He was a mouth-breather. I removed a large hypertrophic Luschka's tonsil. I saw the boy six times during the next ten weeks, and he was always breathing through the mouth. I saw him January 22, and again February 6. At these times he could close his mouth and breathe freely through the nose when ordered to do so. February 20 a good deal of mucus had to be removed before he was able to breathe through the nose freely. Even then the tonsils were not quite free. In the early part of April, four months after operation, I received a letter from the mother stating that the boy had been examined by another throat specialist, who had found a recurrence of the growth. This recurrence took place after a period of perfectly free breathing through the nose of at least twenty-seven days. I believe the persistent mouth-breathing in this case was largely responsible for the recurrence.

A different cause for adenoids was found in the following case: A boy, 10 years of age, was operated on twice during the last two years for adenoids, once in a clinic and another time at the office, by two well-known and capable men of this city. I talked the matter over with the mother for an hour and brought forth these points, which are of interest: The father and mother and two younger children are well and living on California avenue in a seven-roomed flat, second story. In the first story is the saloon of his father. Formerly they lived in the country. The boy always felt well as long as he was in the country, but as soon as he came to the city he started to breathe through his mouth and snore at night. What was the reason for this? The air could not be held responsible because the house of the patient was bordering on the prairie on two sides and there was plenty of space in the flat. Therefore, some other cause had to be looked for. I inquired, besides many other things, into every detail of the diet, as to time of meals, quality and quantity of food, and how it was prepared, and could not find anything abnormal until the boy told me that regularly, when he came home from school, he ate several pieces of hunch which was cut up in the saloon. The otherwise intelligent mother could not see anything wrong in this. But I persuaded her that these sausages are usually made of the poorest kind of meat, and contain an over-abundance of spice. No operation was done. The diet was changed. The boy was placed on syrup of iodid of iron, which I often use in this class of cases as an after-treatment, and in a week a marked improvement was noticed, which kept on. I have seen the boy many times since. I am satisfied that the adenoids had disappeared. He sleeps soundly and now breathes through his nose.

I will mention another case, boy P., upon whom I operated, and during four successive consultations at my office I found him breathing through the mouth, with both nostrils closed up. His sister assured me that he could breathe through his nose in sleeping and in waking. One day I called unexpectedly and found that this was true. At the next consultation in my office I found him breathing again through the mouth. In this case a tight collar was the cause of the suspected recurrence of the adenoids. Leaving it off, the patient was instantaneously cured. A simple compression of the neck by the collar interfered with nose-breathing.

While I do not think I can add anything new to our knowledge of the etiology of this disease, yet every one of these cases has been carefully watched and studied, and I am led to think that we can not attribute the recurrence of adenoids to any one cause, but that every factor has to be considered. The question has been studied quite extensively abroad, as to

the influence of conditions under which people live. Every single case must be considered from a broad standpoint. We may find that the disease is due to trouble in some distant part of the body, and we can only expect to effect complete cures by studying every causal factor. The recurrence of adenoids can not be ascribed to incomplete operation. Of course, if an operation is incomplete and large masses or lumps are left behind, recurrence is almost sure to take place. If, on the other hand, very complete and radical operations are performed, recurrences are not so likely to take place.

DR. EDWIN PYNCHON—As has been granted by one of the essayists, the etiology of adenoids is more or less clouded in obscurity. It has always occurred to me that the condition of moisture in the nasopharynx, and the retention of secretions, have been important factors in exciting the growth of adenoid tissue and causing its recurrence after operation. All of us have observed cases wherein there were undoubtedly present adenoids after a tonsillectomy was done, and yet shortly thereafter shrinkage of the adenoids took place, which simply emphasizes the statement previously made, that impairment of drainage and interference with ventilation incidentally have more or less to do with promoting the growth of adenoid tissue.

As far as the term "scrofula" is concerned, I consider it a misnomer in this connection, and that it is simply a condition of impaired health due to interference with respiration, which is caused by the enlarged Luschka's tonsil. Furthermore, I will say that I consider the intestinal disturbances of infancy and the so-called disturbances of teething as being to a very large extent due to lymphoid enlargement.

Dr. Corwin spoke of nasal deformities as being a possible cause of adenoids. In my opinion the adenoids always precede the nasal deformities.

As regards the matter of measurements, to which Dr. Holinger referred, I would say that Dr. Talbot, of this city, has made as elaborate experiments in this direction as any one, and the conclusion that he has reached is that the high-arched palate is due to the fact that on account of mouth-breathing the child's inferior maxilla is not brought up, so that the teeth of the lower jaw press against those of the upper jaw, and therefore there is a tendency on the part of the teeth of the upper jaw to grow too far downward. This is the rational explanation he makes in regard to high-arched palates.

As regards the question of whether to advise operation or not, we do not very often have patients brought to our attention unless there is something the matter with them. They are complaining in some way, and if I find present either adenoids or enlarged tonsils, I advise operation. I am not ashamed of classing myself with Rosworth, who has been decried as being too radical. I believe it is the proper thing to remove these growths, and in fact that the line of treatment which we, as rhinologists, should generally follow is to endeavor, as far as possible, to cause each nose and throat we treat to assume as nearly as practicable the form of the ideal standard. On this ground, I do not hesitate to advise the removal of tonsils or adenoids in any case which is brought to my attention.

In reference to the recurrence of adenoids, there is no doubt that the tendency to recurrence is greatly magnified by the incompleteness of the operation. If portions of adenoid tissue are allowed to remain, it is perfectly easy for a recurrence to take place. With the use of the Gottstein curette, owing to its shape, it is very easy to see how difficult it naturally must be to completely remove these growths from the nasopharynx. I have experimented more or less with this curette, and I have arrived at the opinion that the ideal curette should not only cut from above downward, but should be so arranged that it can cut laterally. The cuts from above downward will clean the upper part of the space, whereas the lateral cuts will remove that adenoid tissue which may be lower down.

As to the operation under general anesthesia, I have followed the recommendation of Dr. Keen, of Philadelphia, which is to place the patient in the Trendelenburg position, and after having once done so, I have had no desire to return to any of the previous methods of allowing the head of the patient to drop over the end of the table, or anything of that kind.

The mouth-gag is another little matter which I might with

propriety mention. I have recently been using the Ferguson instrument, and have been so well pleased with it that I have sidetracked all the others, including one of my own design.

The danger from the use of chloroform is owing, in my opinion, to the fact that it is often pushed too rapidly. The child holds its breath, and after a while takes a deep inspiration and inhales too large a quantity; consequently death may be said to be due in part to asphyxia.

As regards the use of medicine internally, I believe that its utility is more to improve the general condition than anything else, and it is doubtful whether medicines can be depended on for the correction of the condition; in other words, an operation will finally have to be done.

DR. OTTO J. STEIN—In regard to anesthesia in these cases, it is an interesting point for discussion. I would like to say that nitrous oxid gas has proved very successful in my hands, and I had been using it almost exclusively at my clinic. I started to use it simply because everybody else was using some other anesthetic, and I thought it would be a good idea to use an anesthetic which was a little different from that used by other people. I became enamored with the results I obtained from its use. Of course, there are some drawbacks to the giving and taking of the gas. In giving it a number of assistants are necessary. Then, too, it requires a cumbersome apparatus. As far as the taking of the gas is concerned, I consider it the safest of all anesthetics. Its safety is borne out by statistical reports. Last year I abandoned the use of this anesthetic for the reasons just given, and have since then been using ethyl bromid, but as far as the results in operating are concerned, I think I can get as long anesthesia, contrary to the experience of other operators, from the nitrous oxid gas as I do from ethyl bromid. I have repeatedly done two or three operations under one anesthesia, namely, the removal of the tonsil and adenoids. But, as I have said, it requires a number of assistants to use nitrous oxid gas who are familiar with the operator and who know how to administer it. I must say, that I have not seen the ill effects we get from the other anesthetics in the administration of the gas, especially vomiting, which sometimes follows. Vomiting is less from ethyl bromid anesthesia than in those cases where general anesthetics are used, and I have not seen any signs of danger whatsoever from its use.

With regard to hemorrhage during and following these operations, I desire to refer to it because I have had quite recently a case of hemorrhage, and I believe no mention was made of its treatment in any of the papers or by those who have preceded me in the discussion. Some time ago this subject was discussed in the East, and the suprarenal extract was recommended to be used prior to the operation of adenectomy. There was some discussion as to whether this was advisable or not, and some of the speakers were of the opinion, particularly those who had used the suprarenal extract, that it seemed to promote secondary hemorrhage. I did not use the suprarenal extract in my case prior to the operation, but I did so following the operation with very gratifying success. The case was one in which I removed both tonsils and the adenoids. There was not very much hemorrhage at the time of the operation, but after I left the hospital it seemed to have increased and kept on increasing until I was called by telephone an hour and a half later and was informed that my patient had lost two quarts of blood. I gave instructions to apply ice to the back of the neck and to use the suprarenal extract if the ice did not do any good. Ice was applied for the first fifteen minutes or more, and as there were no seemingly good results from its application, the suprarenal extract was applied, and the interne reported an immediate favorable result.

As to the particular instrument used, in performing this operation, I steadfastly adhere to the various forms of so-called currettes, the Gottstein instrument, or some of its modifications. There are cases, however, particularly in adults with very high vaults, in which I prefer to use a forceps of some kind. I have a modified curette which was made for use on a young woman, probably 18 or 19 years of age, in whose vault I found much difficulty in reaching the mass, after doing the ordinary operation first, and I reached the remainder of the tissue nicely with this instrument. It is probably three

times as long in the bend or angle as the ordinary Gottstein instrument, and is of a much more acute angle.

DR. PIERCE (closing the discussion on his part)—Dr. Ingals, in his remarks, referred to a hypertrophied mass of glandular tissue, while I, in the beginning of my remarks, referred entirely to the normal pharyngeal tonsil. Of course, the line which I drew was empirical in a manner, at the same time I think the majority of pharyngeal tonsils that have not undergone a change will be found above that region.

If I may be allowed a word more, I would say that there are two points that have not been touched on, and which I regard as rather important. First, the diagnostic point that Chiari just referred to, i. e., the mass of adenoid tissue lying on the floor of the nose which can be seen anteriorly. This is a useful point for the general practitioner to remember in diagnosing adenoids. In a great number of cases—I forget the exact number—he found that this mass was always present when hyperplasia of the pharyngeal tonsil existed.

The other point was one brought out by Fraenkel. He reported two cases in the *Archiv für Laryngologie*. They were sent to him for operation. One case had been previously operated on, I think, by some other physician, and the mouth-breathing still persisted. The other case he himself operated on, if I remember rightly, and the mouth-breathing still continued. Examining the cases more carefully, he found that the children were unable to close their mouths on account of a short labial frenum. The lips were kept apart, and the superior upper lip was not only kept away from the lower, but was drawn upward and outward, giving the typical appearance of a mouth-breather. This condition disappeared only on section of the frenum.

DR. FREER (closing the discussion)—I want to say a word or two in regard to placing operations for adenoid vegetations in the hands of general practitioners. I at least have found these operations hard to learn. I do not think that a general operator should undertake to do them any more than that he should attempt an operation for cataract. To my thinking the removal of Luschka's tonsil requires a touch made thoroughly familiar with the parts of the nasopharynx and the abnormalities occurring there, while a knowledge of the anatomy of the parts and of other conditions of disease which may be found in this region is needed and can only be acquired by those who have time and opportunity to devote to their study. Otherwise the result will be imperfect operations, injury inflicted and mistakes in diagnosis, other rarer conditions being taken for adenoid vegetations.

Luschka's tonsil is simply a lymph-gland. What makes lymph-glands hyperplastic? Infection, whether by the tubercle bacillus or streptococci, staphylococci or some other pathogenic microbe. The pharyngeal tonsil is the first lymphatic gland in the group of cervical lymph-glands, and infection first enters here in nasal catarrh or the infectious fevers, as for instance in scarlatina. Infection of the pharyngeal tonsil may be primary with acute swelling of the parts and later infection of the lymph glands of the neck.

The tissue of lymphatic glands is especially prone to sprout, if they are diseased from any cause. We can see this in open ulcers or in open lymphatic abscesses, which fill with unhealthy, fungus granulations. In an analogous way the partly-removed pharyngeal tonsil will form a base for the luxuriant growth of fungus masses which will soon reproduce what has been removed, if it is visited by fresh infections. Considering this tendency of lymphatic tissue to proliferate and form granulation tissue, the only way to treat a chronically diseased lymphatic gland is to extirpate it, so that its remains can not be the source of its reformation. Therefore, the only proper method of operation of adenoid vegetation is their entire removal by any safe means that will accomplish this purpose.

STERILIZATION OF SPONGES.—We notice in the *Nord Medical*, of September 15, a communication which states that hydrogen peroxid—10 to 12 volumes—even diluted three times, effectively sterilizes sponges in a few minutes.

TUBERCULOSIS OF THE TESTICLE.

WITH SPECIAL CONSIDERATION OF ITS CONSERVATIVE TREATMENT.

JOHN B. MURPHY, M.D.

CHICAGO.

(Continued from p. 1279.)

Hemorrhage from the urethra may occur early or late, and is usually not profuse. The blood is passed with the urine, and without obvious cause, in this latter respect differing from the hemorrhage of renal calculus, which is brought on by severe exercise, such as horse-back riding, etc. The source and cause of this hemorrhage are somewhat uncertain, but we believe it is due, as are the symptoms of vesical irritation, to the irritating action of the products of the tubercular process, which are discharged into the prostatic urethra through the vesiculae seminales. This discharge produces a catarrhal condition of the mucous membrane in the posterior urethra and trigone of the bladder, with, in many cases, erosions and superficial ulcerations. That the vesical irritation and hemorrhage are not manifestations of a tubercular process in the bladder and prostate, we are convinced from clinical observation, as in almost all cases in which these symptoms are present, there is an immediate cessation of them after castration or resection of the epididymis, which could not possibly be the case if they were due to tuberculosis of these parts. This rapid subsidence of the symptoms after operation is illustrated in the majority of cases here reported, but strikingly so in one operated upon 10 years ago. In this case the patient was obliged to urinate every 15 or 20 minutes and was entirely incapacitated for his duties as clergyman. Unilateral castration was performed and vesical symptoms disappeared almost immediately. In a letter received several days ago he reports that his weight is now 260 pounds; there has never been a recurrence of the disease or bladder irritability, and since the operation he has worked steadily.

Hydrocele, which is present in about one-third of the cases, may have been the first symptom to attract the patient's attention. It is rarely large, when due to tuberculosis in the epididymis, and there is but little difficulty presented in diagnosis.

At varying intervals from the onset of the trouble softening of the deposit in the epididymis takes place. This, in the acute cases, may be a few weeks, while in the more chronic ones it may not occur for months or even years after the onset. When the abscess is about to rupture, the skin of the scrotum over the fluctuating mass becomes adherent to it, bluish in color, and finally perforates by a small opening, through which the characteristic caseous material is discharged. There is usually no pain attending this process and but little tenderness, except where it is associated with mixed infection, in which event we have all the manifestations of an acute cellulitis. The sinuses formed by rupture of the abscess cavity may be single or multiple, and situated in different parts of the scrotum. They usually remain open indefinitely, and show no tendency to close spontaneously. The amount of discharge is slight.

Hernia testis is rarely seen at the present time, probably because the cases are operated on at an early stage. It is consequent upon the rupture of a tubercular abscess situated in the testicle proper, and consists simply of tuberculous granulation tissue, which is extruded through the opening, forming a fungus mass of greater or less size.

Constitutional symptoms are present in the majority of cases, though they differ greatly in degree. Some patients present the typical tubercular appearance, while others appear to be in perfect general health. In most of the cases, after the process has been present for some time, there is loss of weight and strength, with perhaps some evening temperature, rarely exceeding 100 F., and night sweats.

The sexual desire is usually unaffected, except in the very severe cases, even though, when both epididymi are involved, there may be no seminal discharge during intercourse.

Examination of the patient may reveal the presence of some old tubercular lesions on other parts of the body, such as lupus scars, cicatrices of the neck, or perhaps the evidences of a healed osteomyelitis. In Case No. 10 of our series the diagnosis at first was somewhat doubtful, because of the rapid growth of the testicular

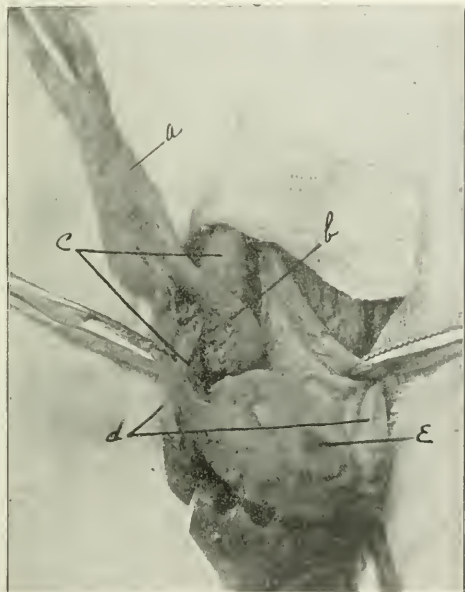


Fig. 11.—Showing epididymis freed from testicle proper. *a*, Epididymis (body). *b*, Globus Minor. *c*, Spermatic artery and veins. *d*, Tunica Vaginalis reflected. *e*, Testicle proper.

tumor, but the presence of a tubercular tendo-synovitis of the hand cleared up all doubt as to its nature.

Rectal examination, for the purpose of ascertaining the condition of the vesiculæ seminales and prostate, should always be made. The seminal vesicles are frequently involved, or if only one is affected, it is more likely to be the one on the side of the affected epididymis. In the early stages the vesicle is soft, swollen, somewhat painful to pressure, and can be outlined throughout its entire length by the examining finger. Later, nodules develop in it, and it presents a very irregular shape, hard, with, perhaps, fluctuating areas in different parts. When both are affected, they can be plainly felt converging toward the prostatic urethra.

It is more difficult to determine tubercular disease of the prostate, especially in its early stages, because the process is usually situated deep in the substance of

the gland. In the early stage of the prostatic disease the gland may be somewhat swollen and tender to pressure, while later, when the process is farther advanced, it may be nodular, and present fluctuating areas. Either lateral lobe may be affected singly, or if the entire gland is involved, it may be more advanced on one side than on the other. The inguinal lymph-glands are rarely involved in tubercular disease of the testicle.

Uranalysis.—The condition of the urine will depend on the stage to which the disease has advanced. Usually when the patient presents himself for treatment small quantities of pus and blood will be found in the centrifuged specimen. By staining the pus for tubercle bacilli they can usually be demonstrated, although almost always in very small numbers. It is of great importance in searching for the bacilli to use special staining methods, so that the smegma bacillus will not be mistaken for the tubercular germ. Various processes for differentiating these two organisms have been proposed, the most reliable being that of Bunge and Trantenroth, which consists of extracting the fat from the bacilli by allowing the preparation to remain for three hours in absolute alcohol, then treating it for fifteen minutes with a 5 per cent. solution of chromic

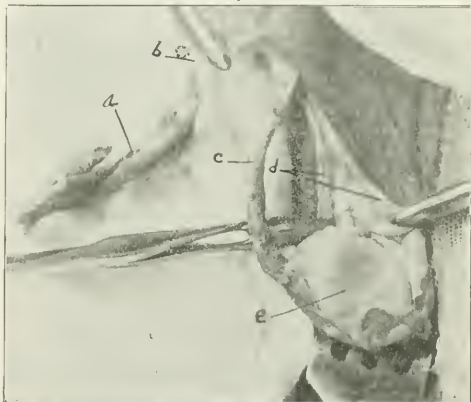


Fig. 12.—Showing entire epididymis free from testicle proper and vas isolated. *a*, Epididymis. *b*, Vas deferens. *c*, Spermatic vessels. *d*, Tunica Vaginalis (reflected). *e*, Testicle proper.

acid, and washing in several changes of water. The preparation is then to be stained with carbol-fuchsin, destained in dilute sulphuric or pure nitric acid for one to three minutes, and further destained and at the same time counterstained, by immersing in a concentrated alcoholic solution of methylene blue for five minutes. By this means the tubercle bacilli retain the stain, while the smegma bacilli become decolorized. Soudan iii, in saturated alcoholic solution, may also be used for differentiating the two.

Complications.—The routes by which extension of the tubercular process takes place are at present the subject of much dispute, many authors claiming that the disease exists primarily above and extends downward to the epididymis along the surface of the mucous membrane, extension, therefore, in an upward direction not taking place. As stated above, it is our opinion that the primary focus is in the epididymis, and that subsequently extension takes place along the lumen of the vas to the vesiculæ seminales, prostate, and in a few cases to the bladder, ureters and kidney.

Jacobson says that after the disease localizes itself in the epididymis it may spread by way of the lymphatics, but this is a very rare exception to the general rule. That it may in rare cases extend by the lymphatics is shown in Sommers' case (quoted by Senn) of a man, aged 36 years, who suffered from tuberculosis of both testicles. The retroperitoneal glands became involved, and later pulmonary tuberculosis developed. In this case the testes were primarily affected, the epididymis remaining free from disease throughout.

Pott's disease of the spine has frequently been observed to follow tuberculosis of the testicle, and this, as well as the cases of general miliary tuberculosis which occasionally develop, must be explained by dissemination of the infectious material through the blood-stream.

DIFFERENTIAL DIAGNOSIS.

In acute cases, where the symptoms come on suddenly and with great intensity, the diagnosis from gonorrhoeal epididymitis may, at first, be difficult. The principal points to be considered are:

1. The presence of an active gonorrhoea, the discharge of which may have suddenly disappeared just before the onset of swelling in the epididymis.

2. Examination of opposite epididymis, vesiculae seminales and prostate shows absence of nodules.

3. Previous history of patient. In tubercular disease there is frequently a history of recurring mild attacks of epididymitis, or enlarged cervical glands in childhood, osteomyelitis, etc. These are more likely to be absent in the gonorrhoeal cases.

4. Occasionally it may be impossible to make an immediate diagnosis, and in these we must await further developments, which will occur after the acute swelling has subsided. The tuberculin test might be valuable here, and in all cases where a urethral discharge is present a bacteriologic examination should be made.

Syphilis.—This disease may affect either the testicle proper or the epididymis, or both, in which latter case they are simultaneously involved.

Syphilis of the Epididymis.

Tuberculosis of the Epididymis.

- | | |
|---|---|
| 1. Infrequently localized. | 1. Frequently localized. |
| 2. Diffuse or nodular enlargement, usually the former. | 2. Usually nodular. In most cases begins in globus minor, but may commence in globus major. |
| 3. Epididymis not sensitive to pressure. | 3. Almost always some tenderness on pressure. |
| 4. Almost always painless. | 4. Usually slight aching pain after exercise. |
| 5. No thickening of the spermatic cord. | 5. Spermatic cord frequently thickened and nodular. |
| 6. Vesiculae seminales not involved. | 6. Vesiculae seminales may be nodular. |
| 7. Usually no vesical symptoms. | 7. Almost always symptoms of vesical irritation and frequently hemorrhage. |
| 8. Rapid disappearance of lesions under KI and mercury. | 8. Antisyphilitic remedies have no effect. |
| 9. Frequently evidence of syphilis elsewhere in the body. | 9. No such evidences; may be signs of old tubercular lesions in the lungs, glands, etc. |
| 10. No tubercle bacilli in the urine. | 10. Tubercle bacilli may frequently be demonstrated in urine. |

Syphilis of Testicle Proper.

Tuberculosis of Testicle Proper.

- | | |
|--|---|
| 1. Usually begins in the body of the testicle. | 1. Body of testicle never primarily affected. Always secondary to epididymitis. |
|--|---|

- | | |
|---|---|
| 2. Usually diffuse involvement, rarely circumscribed. | 2. Disease nearly always circumscribed, having extended from the hilum. |
| 3. Sinuses rarely present, and if they do exist, usually last but a short time. | 3. Sinuses more common, and they persist indefinitely. |
| 4. Fungating form quite common. | 4. Rare. |
| 5. Usually definite history of primary and secondary manifestations. | 5. No such history. |
| 6. Yields promptly to anti-syphilitic treatment. | 6. No effect from anti-syphilitic treatment. |

Sarcoma and carcinoma are anatomically two distinct and separate diseases of the testicle. Clinically and practically, however, from the standpoint of diagnosis and treatment, they may be considered as one.

Malignant Disease of the Testicle.

Tuberculosis of the Testicle.

- | | |
|---|---|
| 1. Usually begins in the body of the testicle as a hard, smooth swelling, which later becomes soft. | 1. Tuberculosis always begins in the epididymis as a nodular enlargement. |
| 2. Growth is very rapid, except in the rare scirrhus form. | 2. Growth is slow. |
| 3. May attain a very large size. | 3. Never attains great size. |
| 4. No inflammatory symptoms present during rapid growth. | 4. Usually some inflammatory manifestations, which may be violent, if mixed infection takes place. |
| 5. Veins of scrotum enlarged and prominent. Skin thin and dark colored. | 5. Veins not enlarged. Skin, if affected, is thickened and adherent to the epididymis. |
| 6. Tumor not tender to pressure. | 6. Nodules usually tender. |
| 7. Vesical symptoms not marked. | 7. Vesical symptoms always prominent. |
| 8. If fungating, the ulcerated mass bleeds in a characteristic way. | 8. Ulcerating surface has no tendency to bleed profusely. |
| 9. Cord is much more often enlarged and swelling is smooth and even. | 9. The cord is nodular and hard. |
| 10. Glands above and below Poupart's ligament may be involved. | 10. Almost never involved. |
| 11. May be metastatic tumors in lungs, abdomen, etc. | 11. Sometimes evidences of old tubercular lesions elsewhere, as lupus scars, cicatrices in the neck, etc. |
| 12. No tubercle bacilli in urine. | 12. Bacilli often present. |

In fibrous induration of the epididymis, due to some previous acute or subacute inflammation, the epididymis, while hard and thickened, is not usually nodular, history of the case is entirely different from that of a tubercular disease.

Of the benign tumors of the testicle, fibromata, enchondromata and osteomata are of such rare occurrence that they need not be considered in the differential diagnosis. Enchondroma and osteoma are sometimes secondary developments in sarcoma, adenoma and myxoma. Myomata have been described, but are very rare.

Adenomata, when they undergo cystic degeneration, may have to be considered in making the diagnosis.

Hydrocele usually presents no difficulty in diagnosis, but it must be remembered that it is often a part of the tuberculosis of the epididymis and testicle, as is serous pleural effusion of pulmonary tuberculosis.

Prognosis.—In tuberculosis of the testicle the prognosis depends upon: 1, the age of the patient; 2,

whether the infection is simple or of a mixed character; 3, the location of the primary focus of infection; 4, whether or not other portions of the genito-urinary tract or more distant parts of the body are involved.

The prognosis in children in localized disease of the epididymis, or even where it has extended into the testicle proper, with or without mixed infection, is usually favorable. Encapsulation takes place in the majority of cases without pus infection, and a portion of the testis is preserved. Even where secondary infection has taken place and the abscess cavity discharged externally, we can always hope for the preservation of at least a small portion of the glandular structure.

This tendency in children to encapsulation and limitation of the process is the same as that observed in tuberculosis of other organs in them, with the exceptions of tubercular meningitis and, to a lesser degree, osteomyelitis.

In adult cases many complications are apt to develop, and it is on these that the prognosis will in large part depend. The most important are: 1, abscess formation with resulting sinuses of the scrotum; 2, involvement of the seminal vesicles and prostate; 3, tuberculosis of the bladder (rare). In addition to these we may have foci develop in any other part of the body, and even general miliary tuberculosis has been known to follow a primary lesion in the epididymis. Whether the affection of the seminal vesicles or prostate precedes or follows the testicular disease or not, the clinical fact remains the same, the removal of the testicle or epididymis causes, in a large percentage of the cases, a complete subsidence of the vesical and prostatic symptoms, and a healing of the tubercular process in these parts. From the symptoms presented by some of the patients who have come under our care, it seemed certain that the tuberculosis had extended to the mucosa of the bladder, but on removal of the diseased testicle or epididymis they entirely subsided. While the prognosis is favorable in prostatic and seminal vesicle involvement, it is distinctly unfavorable when the disease has extended to the bladder. In these cases it very frequently further extends to the ureters and kidneys, and the patient soon succumbs to renal or general miliary tuberculosis.

If the epididymis, which is primarily affected, be removed early, it is probable that the other testicle will not become involved. Should it, however, become implicated, the urinary and vesical symptoms will recur and bacilli will again be found in the urine.

As regards life, Jacobson says: "It is to be looked upon as, if left to itself, an ultimately fatal disorder." This, we believe, is an exaggeration, and is by no means invariably the case, as in some the process becomes encapsulated and remains so throughout life. Even where both testicles are involved and discharging sinuses present, the general health may remain good indefinitely, as in a case reported by E. Albert of ten years' standing.

Tubercle bacilli can, in some cases, be demonstrated in the semen, and in this way infection may be transmitted to the female. It is interesting to observe that Jäckh found tubercle bacilli in the semen from healthy testicles in cases of pulmonary tuberculosis.

Treatment.—This may be divided into 1, palliative; 2, radical.

Under palliative treatment we recognize, *a*, rest; *b*, support to the diseased organ; *c*, constitutional treatment; *d*, the various injection methods, with iodoform, chlorid of zinc, etc.; *e*, the method recently advocated by Mauclair, which consists in excising a section of the spermatic cord between two ligatures.

Radical treatment may be, *a*, orchietomy; *b*, epididymectomy, either partial or complete, with excision of a part or whole of the vas deferens; *c*, incision and drainage, with or without curettage or cauterization with the thermocautery, chlorid of zinc solution, etc.

The disease in children, as before stated, has a tendency to rapid encapsulation, circumscribing the process to a local caseous nodule in the globus major or minor or, in some cases, even extending into the mediastinum testis, but occasionally there is complete destruction of the epididymis and glandular portion of the testicle proper, nothing remaining after a time but an abscess cavity. In children, too, there is a much greater likelihood of mixed infection than in adults, and it is this which usually causes the rapid destruction mentioned above. Felizet years ago made the statement that in acute genital tuberculosis of children castration is the only operation to be considered, and this statement has never been contradicted. (Longuet.) If suppuration, with destruction of the testicle, has already taken place when first seen by the surgeon, incision and drainage may be the only operation necessary. Early incision and drainage, without curettage, is urgently indicated in children where secondary infection is present to prevent the destruction of the glandular portion, which may take place without it. The rule is, in infants and children, that no radical operation is indicated, and the treatment of these patients should be the same as for tuberculosis of the lymphatic glands, namely, syrup of the iodid of iron, cod-liver oil and calcium lactophosphate. Epididymectomy is practically never called for.

The course of the disease is so varied in adults, from an acute inflammatory process to a chronic indolent, almost painless one, that the palliative treatment of each case will depend on the peculiarities presented. Rest and support are of the greatest importance, as is also the constitutional treatment, which is indicated in all cases of tuberculosis, wherever situated. This consists of an abundance of fresh air and sunshine, moderate exercise, plenty of fats in the food and cod-liver oil. Changes of climate and scene, on which so many authors have laid stress, are probably of no great importance.

If there is no mixed infection and no fistula present, iodoform and zinc injections are absolutely contraindicated, and really have no place in the treatment of this disease. They are uncertain, and while, in a few cases, they seem to have been followed by good results, the procedure is not rational.

The method of treatment advocated by Mauclair in his recent paper has not as yet been tested in a sufficient number of cases to say whether or not it will have a place in the treatment of tuberculosis of the epididymis and testicle. It is certainly not radical, and does not seem to be rational if, as he says, the testicle will be nourished by blood-vessels from the tunica vaginalis, after ligation of the spermatic cord. He, however, has noted disappearance of the nodules in several of his cases, and in almost all of them a subsidence of the vesical symptoms, and healing of the lesions in the vesiculae seminales and prostate.

(To be continued.)

RHUS FOR INCONTINENCE IN CHILDREN.—The *Gaz. Méd. Belge* quotes Perlis to the effect that rhus aromatica is a certain cure for incontinence in children. He has never known it to fail in his own or others' experience, which includes 156 cases. He prescribes 15 to 60 drops a day fractioned.

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THE SYMPTOMATOLOGY OF FACIAL PARALYSIS.

The facial nerve may be involved in disease at any point between its cortical representation about the inferior portion of the central fissure and its most peripheral distribution, and the symptoms will vary accordingly. A lesion above the facial nucleus in the medulla oblongata will be attended with loss of power in the muscles on the opposite side of the lower part of the face, the occipitofrontal and the orbicular of the eyelids and the corrugator of the brow usually escaping; paralysis is not marked and degenerative electric reactions are not present. There is likely to be, besides, paralysis of the extremities also on the opposite side. When the lesion is situated in the nucleus or in the root or the trunk of the nerve, the palsy will be situated on the same side, and will be flaccid and atrophic in character; and the occipitofrontal and the orbicular of the eyelids and the corrugator of the brow are likely to be paralyzed in addition to the other facial muscles. In accordance with the exact location of the morbid process, the auditory nerve, the intermediate nerve of Wrisberg, the cerebellar peduncle, the pyramidal tract, and the abduccens nerve, may also be involved, with the production of deafness, loss of the sense of taste, vertigo, forced movements, hemiplegia of the opposite side, and paralytic convergence of the eye on the same side, respectively. Not rarely sensory and vasomotor disturbances are present on the affected side of the face.

In a case of poliencephalitis attended with facial palsy reported by Oppenheim¹ it was found at a late stage of the disease that on stimulation of the healthy facial nerve with weak electric currents, a contraction occurred in the muscles of the lips, chin and brow, on the opposite or paralyzed side, even when current-strengths were employed that were insufficient to cause contraction of the muscles on the sound side, and were entirely without effect on direct stimulation of the muscles and nerves on the opposite side. This contralateral contraction occurred only in muscles close to the middle line, and was attributed by Oppenheim to innervation of the paralyzed muscles by the healthy facial nerves of the opposite side, as a result perhaps of the outgrowth of new branches from this nerve. Bernhardt,² however, dissects from this explanation, having observed that direct or indirect stimulation of the chin-muscles of

the healthy side is attended with active contraction of the paralyzed muscles on the opposite side, although the reaction fails to occur when weak currents are employed. He endeavored to explain the phenomenon on a peculiar anatomic arrangement of the muscles of the chin. According to his statements, the upper, inner angle of the depressor of the lower lip interdigitates, as the continuation of the platysma myoides, with the corresponding angle of the same muscle of the opposite side. In addition, some deep bundles of this muscle unite with the opposite elevator muscle of the upper lip. Further, fibers are said to pass beneath the chin, across the middle line, between the depressors of the angle of the mouth of either side.

For the purpose of deciding which of the two views expressed is the correct one Mohr³ studied four cases of facial paralysis, one of long standing and the others of more recent development. In the first he found the reaction described by Oppenheim well marked, and in one of the others it was partially developed, while in the remaining two it was not present at all. Nor was the reaction obtained in eight patients with healthy facial nerves. This evidence is believed to support the contention of Oppenheim and to oppose that of Bernhardt, and the increased electric irritability of the paralyzed muscles is thought to be due to the greater sensitiveness of the newly developed nerve-fibers.

All of these observers seem to be wholly ignorant of the fact that a similar phenomenon was observed many years ago by Weir Mitchell,⁴ both in health and in disease. "I have noticed," says Mitchell, "that in faradizing the chin or lips near ($\frac{1}{4}$ in.) the middle line, the muscles on the other side of the face, and nearest the mesial limit, may be made to contract. This is best seen in a face where, owing to unilateral facial palsy, the muscles of the diseased side do not themselves stir with the current; but it is also to be seen in health, although the muscles immediately under the conductors are apt, by their normal movement, to mask that of the muscles across the middle line. Far more interesting are the results obtained when we use a constant current, and when the patient is a case of complete unilateral face-palsy. When such a case occurs, as we all know, the power to stir the palsied muscles with induced currents fades, and at last ceases, and the response to constant currents becomes unusually good." At first the movement was supposed to be due to reflex disturbance through the centers, but this view was soon abandoned, as it was found that galvanism of the sound nerve-trunk under the ear, while competent, if powerful, to move the sound muscles, did not stir those of the paralyzed side; and besides, the affected nerve was incompetent to transmit the reflected impression. It was concluded, therefore, that the movements caused were due to the action of currents induced between

³ *Ibid.*, 1890, No. 30, p. 861.

⁴ On the Transmission of Electrical Influences Across the Middle Line of the Body: *Trans. Am. Neur. Assn.*, 1875, Vol. II.

¹ *Berliner Klin. Wochenschrift*, 1899, No. 29.

² *Ibid.*, 1899, p. 673.

and beyond the two poles, and that these were enabled to excite the palsied muscles because of the acquired sensitiveness of these latter. Some experiments undertaken by Professor Barker, of the University of Pennsylvania, on the request of Dr. Mitchell, appeared to sustain this explanation.

INCREASED INTEREST IN MEDICAL EDUCATION.

One of the most hopeful signs for the future of medical education in this country is the increased interest in professional education in general taken by college presidents and trained educators. We hear from time to time that presidents of large universities more or less unconsciously find themselves especially deeply engrossed by the interests of the medical departments in the institutions under their charge and by the large and important problems of medical education as a whole. Various factors are at work in favor of medical education from this point of view. The purely pedagogic aspect of medical education has been much neglected until within recent years. The olden custom of fixed courses of annual lectures repeated with recurring regularity as to all details, including the stories, did not offer much of a field for the application of the best principles of the science and art of teaching. The introduction of laboratory teaching changed this, and to-day there is a widespread departure from the medical curriculum of former years, the change in many instances being of so radical a character as to constitute a virtual revolution. Naturally such developments would attract the notice and enlist the interests of professional educators.

In the next place, the constantly increasing requirements for admission to medical study have brought the college and the medical school into closer relation, because so many of the students now enter the medical school by way of the college. In many cases colleges and universities have arranged specially adapted pre-medical courses, which have become popular. It has been found that certain branches of study formerly pursued exclusively in the medical school, such as chemistry, bacteriology and physiology, to a certain extent could be taught with greater advantage in the college. This has brought up for discussion the relations of the collegiate courses to the medical courses with quite uniform general results of mutual benefit.

And finally the relation of the strictly collegiate course, the preparatory training in general, to the medical and other professional training has been placed on the tapis and constitutes at the present one of the most important subjects for discussion in academic circles. Much thought is given to the wise adjustment of the various departments of education so as to make each best suited for its specific purpose. Hence, the advantages of the medical department of a large university over the isolated medical school become apparent in a striking manner. In his recent book on "College Administration," President Thwing, of Western Reserve

University, emphasizes especially the grave importance to American society of the movement toward a general improvement of professional education. The need of the hour is not more doctors or more lawyers, but better ones. It is gratifying to find such a student of education in America as President Thwing conclude that "the next movement in the endowment of American education should be directed toward the schools of law and the schools of medicine." The increased public and special interest in medical education will surely redound to the material advantage of medicine.

ENLARGEMENT OF THE SPLEEN IN INTOXICATIONS AND ACUTE INFECTIOUS DISEASES.

Acute enlargements of the spleen are of much clinical importance. In typhoid fever swelling constitutes one of the foundation stones on which the diagnosis is based. What then may be the cause or causes of the enlargement that is so commonly observed? At the outset it may be put down that in all likelihood there is no one factor, but several, operating probably in different ways, underlying the changes which lead to splenic intumescence. Of the numerous hypotheses advanced from time to time in explanation of this phenomenon, none has received general acceptance. As pointed out by Jawein,¹ malaria, typhoid fever, septic diseases and other conditions in which splenic swelling is usually well marked, all have this in common, that they are associated with destruction of red blood-corpuscles.

From this viewpoint Jawein planned several series of experiments with substances that destroy red corpuscles when introduced into the body. Intoxication with the chlorates of potassium and sodium, and with toluylendiamin, was found to give rise to an increase in the size of the spleen that corresponded accurately enough to the diminution in the red corpuscles; the disintegrating corpuscles are taken up by the cells in the splenic pulp, which enlarge and multiply, and this is associated with active hyperemia of the spleen. These results tally well with the observations recorded in the literature. Splenic swelling does not occur in those intoxications in which there is no destruction of the red corpuscles. It appears that the products of corpuscular disintegration exert a direct stimulus on the cells of the splenic pulp and cause an increased functional activity in these cells. Hyperemia and cell multiplication result. This is a simple, tangible explanation borne out fully by the data at hand. The finer mechanisms through which these changes are brought about under these circumstances as yet elude exact exposition; we know too little concerning the fundamental physico-chemical laws of cellular function and proliferation. What has been stated in regard to the relation between various poisons and splenic swelling also seems to hold good with respect to infectious diseases. Those infectious diseases in which there is no enlargement of the

1. Virchow's Archiv, 1900, clxi, 161-507.

spleen show but little diminution of red corpuscles.

The facts bearing on these points are carefully analyzed by Jawein. It is to be remembered that in some of these diseases there may be more or less simple anemia without swelling of the spleen, but in diseases of that character it does not concern actual and excessive destruction of red corpuscles as much as a diminished regeneration of the corpuscles. This is probably the case in tuberculosis and in malignant tumors, in which there is often marked anemia and but little or no splenic swelling. Jawein's experiments and deductions consequently favor a simpler and more direct explanation of swelling of the spleen. Should this view obtain general acceptance, new light would be thrown also on the functions of the normal spleen. An organ that takes the products of corpuscular dissolution in pathologic states is indeed very likely to be directly concerned in removing from the blood corpuscles that go to pieces under physiologic conditions.

ALLOXURIC BASES IN NEPHRITIC CARDIOVASCULAR CHANGES.

Xanthin and hypoxanthin are representative members of the group of alloxuric bases which occur in the urine normally and whose formation and retention are increased in many morbid conditions. They are held by some to play an important part in the causation of many gouty manifestations. Croftan¹ reports that repeated injections under the skin of rabbits of weak, alkaline solutions of xanthin and hypoxanthin produce a typical nephritis, increased arterial pressure and endarteritis—in two cases distinct arteriosclerosis—with hypertrophy of the heart. Should these results be confirmed, an important addition to our rather scanty knowledge concerning the real cause of arteriosclerosis may come from studies along these lines. Abnormal metabolism with increased production of alloxuric bases, as well as renal lesions of whatever character that would lead to retention of alloxuric bases, may be found to play the essential part in production of arteriosclerosis and its consequences.

YELLOW FEVER IN CUBA.

The prevalence of yellow fever this year in Havana has excited some comment and has often been referred to as discrediting the efficacy of the sanitary work done there since the American occupation. In a recent communication to a New York paper, Dr. L. C. Carr, of the United States Army, calls attention to the error of assuming that conditions at Havana are the same as regards this disorder as in other parts of the island. According to him, the eastern section of Cuba has been notably free from the disease this year. In the provinces of Santiago and Puerto Principe, comprising nearly half of the island, there have been so far only four or five cases—in 1900: three at Nuevitas, one at Santiago, and one at Gibara. Two at least of these were rather dubious as regards diagnosis. Since yellow fever has in the past been endemic in Santiago, it would certainly seem that the measures initiated by

Governor Wood have been effective there. It is not difficult to believe that the greater influx of non-immunes is one cause of the present prevalence of the disease in Havana. They are largely Spanish immigrants and presumably of a class that are not especially regardful of personal health-regulations; it is possible, moreover, that there are other local conditions that are responsible to a greater or less extent.

THE NOBLE GOVERNOR THOMAS.

THE JOURNAL has once before taken notice of the present erratic governor of Colorado, and then it was because of his peculiar stand as regards the medical-practice act passed in that state. His position at that time was one that did no honor to his office or to the constituency that chose him for it, but it was possibly explainable by assumed intellectual defects in his make-up. His veto message reads like the production of a quack—a quack is a fraud, but he may possibly be more of a fool than a knave. No one would expect wisdom from that source, but the facts did not absolutely exclude the possibility of common decency and humanity. Recent events, however, have still further developed his character, and if the facts are truly told there is little room left for charitable surmise. An executive who will deliberately allow a man to be given up to torture, however great his crime may have been, and then plead his legal inability to do otherwise, is fit for more than mere contempt; he deserves the highest punishment for his participation before the act in a most abominable violation of the highest organic law of the land. Unfortunately, the most he and the guilty lesser officials are likely to receive will be to go down in the history of their state and country as worse than cowardly participants in a crime that disgraces the age as well as the community and the state. As a hater of the medical profession we had ranked Governor Thomas with quacks—we would now hesitate to rank them with him.

AGGLUTINATION OF TUBERCLE BACILLUS.

In certain infectious diseases the serum acquires the power of agglutinating the infecting microbe. Applied with practical success in typhoid fever, Arloing, Courmont and others have endeavored to make this test serviceable also in the diagnosis of tuberculosis. A prime requisite for this purpose is homogeneous cultures in which the bacilli are disseminated uniformly, because in cultures on the usual media *B. tuberculosis* is aggregated into dense masses and clumps. Much work has been given to this end. Arloing and Courmont succeeded quite well by means of cultures on potato-soaked in glycerin-water; subcultures on glycerin-bouillon were quite homogeneous, frequent agitation being essential, however, to maintain the even dissemination of the bacilli in the culture-medium. By the action of the serum of tuberculous patients on such cultures the agglutinating reaction has been obtained with a fair degree of constancy. Buard¹ reports success in several instances of tuberculosis not otherwise demonstrable. In fact, the reaction is said to take place in a ratio inverse to the intensity and rapidity of the infection, being less intense and constant the more advanced the cachexia.

¹ *Am. Jour. Med. Sc.*, 1900, cxx, 592-97.

¹ *Jour. de Phys. et Path. Gen.*, 1900, ii, 797-803.

Buard comes to the conclusion that the serum reaction is really one of the best means of demonstrating the tuberculous infection. The method is therefore thought worthy of trial, especially with a view to rendering it easier of practical application so that it might become available for more general use.

MEDICAL COLLEGE ENDOWMENTS.

Endowments to medical colleges have been in the past among the rarest events in this country; not half a dozen institutions have received any considerable sums, and very few anything at all. It would seem, however, that there is possibly a turn in the tide and that of the many liberal donations poured out for the benefit of almost every kind of public institution some may flow in the channel of medical education. We recently noted the generous gift of Dr. Senn to Rush Medical College. We have now to report those of Drs. Quine and Steele to aid respectively in the support of the medical library and pathologic laboratory of the University of Illinois, in other words, the College of Physicians and Surgeons. That these come from members of its own faculty makes it none the less a welcome sign. It shows the interest that these physicians have in the institution with which their names have been connected from the beginning. There are few who appreciate what the medical profession does for the public good. Were it generally recognized and compared with that portion of its work as proves actually remunerative, it would be universally admitted that of all professions it is the altruistic one *par excellence*. There is no other, not even the clerical, that compares with it in this respect. That the public does not appreciate the fact really makes very little difference. An account is kept of it somewhere and in the long run it will be credited up. There are not many physicians, however, even in the large cities that are able to give large gifts, but there are many public-spirited men who only need an example to set them in the right way. With endowed medical colleges we will have progressed a long step in the way of advancing medical education and medical science, but we do not believe it is in the order of things that the endowment should come entirely out of the medical profession itself.

THE STERILIZATION OF CATHETERS.

The danger of infection from the use of catheters and the difficulty at times in sterilizing them are so well known as not to require elaboration, and any method that promises to obviate these conditions will be given a cordial reception at the hands of surgeons. The problem is a simple one in the case of metallic instruments, as these can be readily, effectively and promptly sterilized by heat; but the difficulty has been especially with the silk, cotton, and rubber catheters, which do not tolerate well the action of high temperatures, as well as of the most efficient disinfectants. Influenced by these considerations, Katzenstein¹ was led to devise a method by means of which it is possible with the aid of formaldehyde vapor to sterilize catheters thoroughly in the course of from ten to twenty minutes. For this purpose an apparatus was constructed con-

sisting of two main parts, one a shallow chamber for the generation of the disinfecting vapor, and the other a repository for the catheters. The former was provided with a detachable, vertical cover in front, while the opposed wall is perforated by a number of openings, which can be closed by slides and terminate posteriorly in cylinders cut with screw-threads for the attachment of the catheters. This chamber is air-tight, in order that the gas generated can escape only through the catheters, and from its posterior wall project shoulders intended for the support of wire shelves for holding the catheters. The second part of the apparatus consists in an extensible chamber provided with openings through which the formaldehyde vapor can escape after it has passed through and over the catheters. Sterilization is effected by exposing three grams of trioxymethylene—polymerized formaldehyde—in the smaller chamber to the temperatures of from 70 to 80 C. for from ten to twenty minutes. The temperature in the repository for the catheters is only from 30 to 40 C. The movement of the formaldehyde vapor is favored by introducing into the openings out of the vaporizing chamber phenylhydrazin, which has a strong affinity for formaldehyde and absorbs the vapors that are so irritating to the respiratory tract. It was found that catheters could be made absolutely sterile by means of this apparatus in the course of ten minutes, and without suffering any injury. As a precaution, the instruments should be vigorously rubbed with sterilized gauze before they are used, in order to remove any possible traces of adherent formaldehyde and they should be thoroughly flushed with water after being used.

THE DANGERS OF HYPNOTISM.

In reply to a question of a correspondent of the *International Journal of Surgery*, Dr Robert T. Morris, of New York, who it appears has had some reputation as a user of hypnotism, gives a brief summary of his views as deduced from his experience with the agency. He says hypnotism should be employed with more caution than we observe in giving chloroform or ether; it seems to weaken the subject's resistance to external impressions for a long time—it may be permanently—and the incautious hypnotizer may be the cause of seriously impaired will-power. When he first took up the subject he found it so easy to hypnotize children and a large majority of adults that he was tempted to employ the method frequently for minor operative work, headaches, etc. He observed later that hypnotic subjects had an uncanny tendency to react to the slightest suggestion of any one who hypnotized them, and he did not care to stand in such relation to other people. As he says, he prefers logical methods in his dealings and does not like to be in the presence of a weak will, fearing that his influence may not be best for the individual. There are probably many conscientious physicians whose experience has been similar to that of Dr. Morris, and who have like him practically abandoned the use of hypnotism. There is a real peril in the pathologic subjection of the will by this agency; it may seriously affect the future of the patient and the chance of this, even though it may be a remote one, should be seriously considered. The possibility of in-

1. Berlin. klin. Wochenschr., 1900, No. 37, 818.

convenience to the hypnotizer is also a real one, but is a secondary matter. Hypnotism is, as Dr. Morris says, "a dangerous resource," and its reckless use and recommendation by enthusiasts and injudicious operators is a matter to be deplored and discouraged by the medical profession. It has really very little value in it to the medical practitioner, but it will always be a method of the charlatan and the impostor, hence its associations are neither agreeable nor beneficial. Even the legitimate use of suggestion has its possible dangers, though they are comparatively insignificant; but those of full-fledged hypnotism are real and more than merely possible, they are probable in a certain class of cases. The therapeutic value of its methods is at best limited to very special cases in which they should be employed only with the greatest circumspection. The fact that they have been used and recommended by a few high authorities does not alter the fact that the result of any extensive adoption of them would probably be only the useless production of a lot of more or less damaged brains.

Medical News.

CALIFORNIA.

MEDICAL OFFICERS at the Presidio General Hospital are to have six new houses for their quarters, built near the hospital.

THE DEATH-RATE of Sacramento for October was 11.20 per 1000 per annum. Only one case of contagious disease was reported.

RIVERSIDE NEW COUNTY HOSPITAL was inspected by the board of supervisors on November 10, and accepted. The hospital will be opened in about two weeks.

THE DEATHS in Los Angeles for October exceeded the reported births by 35. Consumption caused 32 deaths. During the month 44 cases of contagious diseases were reported.

THE GERMAN HOSPITAL, San Francisco, is to cost \$250,000, and architects have been invited to submit plans in competition for money prizes amounting to \$4000. The buildings will accommodate 200 patients, and will include a main building, isolated consumption, service and administration buildings.

COLORADO.

THE OURAY HOSPITAL profited to the extent of \$1000 by the fire which closed on November 5.

VACCINATED CHILDREN only will be admitted to the Denver school where smallpox was discovered a few days ago. To obviate similar trouble in future physicians have been notified to report hereafter every case of chickenpox to the health department.

THE TRUSTEES of the National Jewish Hospital for Consumptives at Denver perfected their organization, elected a board of managers and decided to establish a bureau in each large city, where applications for admission to the hospital can be received and acted on.

CONNECTICUT.

THE EXAMINING COMMITTEE for the State Medical Society met at New Haven, November 13, and examined 21 candidates for the practice of medicine, two of whom were women.

DR. CHARLES J. BARTLETT, professor of pathology and bacteriologist in the Yale Medical School, New Haven, has been appointed medical examiner by Coroner Mix, vice Dr. Moses C. White, deceased.

THE PLANS for the new buildings for Yale Medical School are nearly completed, and work on the new site will begin in a week or two. The new buildings are to be erected on Cedar street, opposite the General Hospital.

A COMMITTEE has been appointed by the New Haven Medical Association to confer with a similar committee from the New Haven Hospital regarding the vexed question of physicians not on the staff, attending cases in the hospital.

SUIT has been brought by a patient from Waterbury against a New Haven physician for \$10,000 because, as the plaintiff alleges, the use of medicines wrongfully prescribed by the defendant caused her hair to fall out and spoiled her complexion.

The physician replies that the medicines were not employed in accordance with instructions.

THE BULLETIN of the State Board of Health for October shows an annual death-rate of 15.9 per 1000 and that the percentage of deaths under 5 years of age to the total mortality was 26.3. Infectious diseases caused 18.5 per cent. of the total mortality. The secretary advocates the establishment of a hygienic laboratory and the regular inspection of public schools and school children.

ILLINOIS.

JUDGE GARVER, of Rockford, instructed the jury in the case of "Dr." Gordon, charged with practicing medicine without a license, to find for the defendant, who testified that he used no drugs but only "mental suggestion and muscular manipulation."

IT WAS announced at the annual meeting of the Evanston Hospital Association, November 12, that during the last year \$25,000 had been added to the endowment fund of the hospital in five sums of \$5000 each. Bids have been invited for the construction of the Cable memorial building, for which \$25,000 was donated in March last by Mrs. Herman D. Cable.

Chicago.

PROVIDENT HOSPITAL has completed an addition which more than doubles its present capacity and renders it the largest hospital for colored patients in America.

SCARLET FEVER is spreading on the far North-Side, and it is claimed that the increase is due to the failure of attending physicians to make the proper report to the Health Department.

MAURICE PORTER HOSPITAL for sick children was the beneficiary of two lectures delivered last week by Mr. Ernest Seton-Thompson, on "Personality of Wild Animals," and "Wild Animals I Have Seen."

DRS. WILLIAM E. QUINE and DANIEL A. K. STEELE have each given \$25,000 to the medical department of the University of Illinois—College of Physicians and Surgeons—to endow a library and a pathological laboratory respectively. The new building will be erected on the property recently acquired by the college and formerly occupied by the West Division High School.

THE DEATH-RATE for the week ended November 17 was 12.73 per 1000 per annum. The deaths numbered 415, 54 more than the preceding week, but 36 less than in the corresponding week of 1899. Consumption and pneumonia each caused 46 deaths; heart diseases, 35; Bright's disease, 30; acute intestinal diseases, 23; violence, 22; cancer, 21; nervous diseases, 20; diphtheria, 18; bronchitis, 17; and suicide, 4. Of males, 242 died; of females, 173, of children under 1 year, 76; between 1 and 5 years, 45, and over 60 years, 95. Reports were received during the week of 30 cases of scarlet fever and 86 of diphtheria.

INDIANA.

A SILVER MEDAL has been awarded to the State Board of Health for its exhibit at the Paris Exposition.

THE WILL of Dr. William A. Clapp, New Albany, has been probated, and an administrator has been appointed.

DR. ALEMBERT W. BRAYTON, Indianapolis, editor of the *Indiana Medical Journal*, was elected coroner of Marion County, November 6.

THE FIRST PROSECUTION for violation of health laws in Wells County happened, November 15, when Dr. L. A. Spaulding, Bluffton, was fined \$10 and costs for failing to report two cases of typhoid fever.

A LAW will, it is hoped, be passed, by the incoming legislature rendering examination obligatory on all from outside the state who desire to practice medicine in Indiana. This legislation is suggested by the State Board of Medical Examination and Registration.

THE REPORT of the trustees of the Eastern Indiana Hospital for the Insane, Richmond, makes the following requests: That the maintenance appropriation and per capita be continued; that \$2500 be added to the repair fund; that \$62,000 be appropriated for two cottages, \$8000 for new boiler house, etc., and \$7000 for additional offices, and that 3000 acres of land be purchased for colonization and additional gardens.

IOWA.

MERCY HOSPITAL, Cedar Rapids, was formally opened November 14.

DR. ASSIS E. MURPHEY, Oakley, has obtained by competitive examination the position of surgeon to the Lemhi, Idaho, Indian agency.

DR. LEVI H. SURBER, Indianola, has been appointed a member of the board of pension examiners, vice Dr. Edward L. Baker, resigned.

DR. ROBERT E. CONNIF, Sioux City, will be editor for the alumni, of the new quarterly to be issued by the Iowa University Medical School.

DR. NORMAN E. MICHIEL has been appointed surgeon of the Iowa Central Railway at Marshalltown, in place of Dr. H. Landis Getz, whose resignation was announced last week.

DR. CYRENIUS C. POWELL, South Ottumwa, has been appointed deputy district clerk of Wapello County. To take this position Dr. Powell will resign the office of coroner, which he now holds.

THE TYPHOID-FEVER outbreak at Ames has been investigated by Dr. Josiah F. Kennedy, Des Moines, secretary of the State Board of Health, who reported that the water-supply was pure, but that he considered the disease due to accumulations of filth and possibly to the use of contaminated milk.

KANSAS.

WINFIELD now has a hospital completed and equipped, with 24 rooms.

THE ATTORNEY-GENERAL has decided that the county commissioners of Shawnee county must take charge of all smallpox cases outside of Topeka, and that the city is bound to take care only of the cases occurring within its limits.

DR. JOHN P. WOOD, Coffeyville, is probably the oldest active practitioner in the United States. He was graduated in 1823 from the Transylvania University, Lexington, Ky. He was a surgeon in the Mexican war and has practiced continuously for more than three-quarters of a century.

LOUISIANA.

"THE PHAGOCYTE," published in the interests of the medical department of Tulane University, New Orleans, has made its appearance.

IN NEW ORLEANS during October, 18 cases of diphtheria occurred with 7 deaths; 35 of scarlet fever with 1 death, and 4 of smallpox with 1 death.

THE SENSES HOSPITAL, New Orleans, treated 3536 patients during October and admitted to its wards 452. The treasurer reported a balance on hand of more than \$8000.

THE MEDICAL DEPARTMENT of Tulane University, New Orleans, opened on November 5, for its annual session. Dr. Rudolph Matas delivered the opening address, on the "Application of Anesthetics."

MARYLAND.

DR. LIA, of Berwyn, has been engaged to take charge of the smallpox patients at College Park, Prince George's County, where there is a local endemic of the disease, at a salary of \$10 per day.

THE COUNTY COMMISSIONERS of Baltimore county have engaged the following physicians to vaccinate the pupils in the public schools of the county: J. C. Schofield, Charles L. Mattfeldt, and Frank H. Ruhl.

DIPHTHERIA interferes with the attendance in several of the Baltimore County schools. School 1, district 5, has been closed by order of the physician, and school 3, district 4, has been closed by Commissioner Russell, on the advice of two physicians. There is an epidemic of mumps among the pupils of school 3, district 12.

Baltimore.

THE BOARD OF MEDICAL EXAMINERS held its regular fall examination in the hall of the medical and Chirurgical Faculty, November 7-10.

THE NEED of a hospital for infectious diseases was recently emphasized when a patient suffering from diphtheria who had been turned out of his room, and had been refused admission to the hospitals, was finally cared for in an empty room in the City Hall annex.

THE FIRST meeting of the Johns Hopkins Historical Society was held at the Hospital on Monday, November 12. Papers were read by Dr. William Osler on "The Sympathetic Powder of Sir Kenelm Digby," and by Dr. E. F. Cordell on "The Medicine and Doctors of Horace."

DR. W. H. BISHAM, of Baltimore, has been made assistant-surgeon, U. S. A., and is stationed at Fort Cabanas, Havana, Cuba. He entered the Spanish war as a private in the Fifth Maryland Regiment, was later made a contract surgeon, and has recently passed the medical examination for the assistant surgery.

AN INTERESTING program for the winter has been arranged by the Book and Journal club embracing (Nov. 21) "Reminiscences of an Old New England Surgeon," by Prof. J. Collins Warren, of Harvard University; (Dec. 19) "Harvey as an Embryologist," by Prof. W. K. Brooks, of Johns Hopkins University; (Feb. 20) "On Some Diseases Bearing Names of Saints," by Dr. Robert Fletcher, of the Surgeon-General's Library; (March 20) "A Notice of the Life and Writings of

Valesius de Taranta," by Dr. F. P. Henry, Hon. Librarian, College of Physicians, Philadelphia.

THE MARYLAND State Dental Association proposes an official examination of the teeth of the pupils in the public schools. The plan is to have its members, armed with sterilized instruments and blank diagrams, examine the children, noting on the diagram the cavities and imperfections of each tooth or teeth, if any. This paper would finally go to the parents or guardians, who would decide whether treatment should be secured. For poor children free treatment is proposed. The dentists here are practically unanimous in favor of the plan. It will be considered by the School Board.

MASSACHUSETTS.

BY THE COMPLETION of Dr. Henry M. Swift's term of service at the Worcester City Hospital, Dr. C. D. Wilkins becomes senior, and Dr. Fred Bryant junior house surgeon; Dr. W. W. McKibbin senior and Dr. Downey L. Harris junior house physician.

DR. FRANCIS D. DONOGHUE, Boston, whose marriage on October 15, was noted in THE JOURNAL, was presented with a chest of silver and a large plate mirror at a banquet held at the Copley Square Hotel, November 10, at which he was the guest of honor.

THE ENTIRE APPROPRIATION for the improvements at the United States Naval Hospital, Chelsea, amounting to \$45,000, will be expended for this work. The improvements include the construction of a granite three-story building, repairs to the old buildings, relaying of walks, etc.

THE LEGISLATURE of 1900 passed a law prohibiting the sale of articles containing arsenic, and directed the State Board of Health to make the necessary investigations relative to the existence of arsenic in the articles mentioned in the act, and to adopt such measures as may be deemed necessary to carry out its provisions and to facilitate its enforcement.

MICHIGAN.

THE ANNUAL report of the State University Hospital has just been completed. It shows that during the year 1957 patients were received at the hospital.

THE STATE BOARD OF HEALTH has received official notification that it has been awarded a gold medal for its exhibit in hygiene at the late International Exposition at Paris.

"INDEPENDENT" physicians are said to be banded together to resist registration, claiming that the law is unconstitutional. Only 2 of the 1500 "independents" in the state appeared before the board at Lansing. The board has already commenced to take active measures against the "independents," irregulars and other unlicensed practitioners.

COMPULSORY VACCINATION has been urged by Secretary Baker, of the State Board of Health, in all the lumber counties of the state. Smallpox now exists in thirteen counties. The common council of Negaunee has already passed an ordinance providing for the immediate vaccination of all who have not been vaccinated within the last four or five years.

MISSOURI.

DR. WILLIAM L. WHITTINGTON, acting asst.-surgeon United States Army, has returned to his home in St. Joseph, from the Philippine Islands, on sick-leave.

DR. JOSEPH J. LAWRENCE, St. Louis, proprietor and editor of the *Medical Brief*, has purchased a corner site at Fifth Avenue and Eighty-ninth Street, New York, for \$140,000.

DR. ROBERT M. FUNKHUSER, presiding officer of the St. Louis Medical Society, has been elected coroner of St. Louis. Dr. Funkhouser polled a large vote and received the hearty support of members of the profession, regardless of party lines.

HON. A. M. DOCKERY, who has just been elected governor of Missouri, is also a member of the medical profession, although his interests of late have been more in the line of congressional duties than in the practice of his profession. His record at congress promises for him great success in carrying out the duties of the executive of the State. Both the profession and the State are to be congratulated on his election.

NEW JERSEY.

THE CAMDEN Board of Health held a special meeting November 12 to consider the plans submitted for the erection of a municipal hospital for that city. The plans call for three laboratory buildings; administration building and two ward buildings, covered corridors connecting them.

DR. GEORGE H. FLETCHER, Atlantic City, who it is claimed by the secretary of the State Board of Medical Examiners, is not entitled to practice, and whose death certificates have been ordered to be refused, states his side of the case, from which it appears that he is a regular graduate of Harvard University. He asserts that the charges against him are inspired by spite and jealousy.

IN WOODBURY, seven cases of diphtheria have so far been reported. Dr. H. A. Wilson, on behalf of the board of education, offered a resolution to the effect that the board of health placard every house in which there is a case of contagious disease, and that all school rooms be disinfected. In reply the board of health recommended that the schools be closed, and that each room be fumigated with formaldehyde.

DIPHTHERIA prevails to a great extent in certain localities of Camden. On October 26, 53 cases were reported to the bureau of health, and other cases are being found. The disease appears to be so widespread that some have suggested that the public schools be closed. The parochial school of the Immaculate Conception has been ordered closed on account of the epidemic. In order to protect against a further spread of the disease the board of health has ordered yellow placards to be posted on the houses where diphtheria prevails, and have provided a fine of \$25 for removal of this placard without warrant.

NEW YORK.

DR. FREDERICK W. CORBES, Copake, has disposed of his practice, and, after a trip abroad, will practice in Brooklyn.

THE *Sanitarian*, of Brooklyn, has been awarded a "Diploma of Honorable Mention" for its exhibit of two bound volumes of 1899, at the International Exposition at Paris.

THE HEALTH BOARD of Palmyra has taken steps against those who disregard its quarantine rules. A man who made a social call at a house quarantined on account of yellow fever, was arrested and fined \$5.

FREE PASTEUR TREATMENT will be administered to any resident of Greater New York, at the Willard Parker Hospital, by order of the health department. Persons outside the city will be treated free at the discretion of the board.

THE BOARD OF HEALTH announces that there have been eight or nine deaths in New York City from hydrophobia during the past year—a number far in excess of previous years, the average of late having been only two or three deaths annually. On this account the health authorities announce their readiness to co-operate with the medical profession in investigating doubtful cases.

ONE AMBULANCE SURGEON at least has the satisfaction of knowing that by his readiness in an emergency he has been able to save a life. Dr. Levy, of the Harlem Hospital, was hastily summoned to a woman who was rapidly choking to death. Examination showed that the attack had been brought on by an obstruction in a tracheotomy tube, which she had been wearing for many months. As he had no probe or other suitable instrument at hand at the moment, he snatched a piece of a rattan chair, and with this extemporized bougie, was able to relieve the woman. She had been nearly unconscious at the time of his arrival, but speedily recovered after the tube had been cleared out.

CERTIFIED MILK.

A committee, consisting of Drs. Henry D. Chapin, A. Jacobi and Walter Lester Carr, met a few days ago to take steps towards securing "certified milk" for New York City. The meeting was intended to give an opportunity for informal discussion regarding the milk supply, and it was attended by many prominent dairymen. Dr. Chapin said that milk, if properly handled, should keep pure and fresh for 60 hours. The idea is to have a competent bacteriologist examine the milk supplied by any dealer who desires such an examination, and if it comes up to the desired standard, issue a certificate to that effect. Certain rules have been drawn up which must be conformed to if the milk is to receive a certificate. These rules provide for cleanliness in stabling, milking, storage and transportation. A number of the dealers present expressed their willingness to supply milk of such high grade, but insisted that this would necessitate raising the price from 8 to 10 cents a quart. It was thought, however, that there would be a large market for good milk at this increased price. Two prominent milk dealers declared openly that they had knowledge of the sale in New York City of large quantities of milk containing preservatives, despite the efforts of the board of health to bar out all such milk. One of the speakers produced as proof of this assertion several circulars advertising "freezine" and "iceine," formaldehyde compounds which were claimed to prevent milk from souring for days, even under the most adverse conditions. It was asserted that these compounds were being openly sold in this city.

Buffalo.

BUFFALO had 330 deaths in October—a death-rate of 11.24 per 1000 per annum. Consumption caused 32 deaths; pneumonia, 13; typhoid fever, 14; diphtheria, 5; nephritis, 12, and violence 26.

THE HEALTH COMMISSIONER has again called the attention of the authorities to the necessity of having a quarantine hos-

pital during the Pan-American Exposition. He wishes to be prepared for the importation of epidemic disease at that time by reason of the cosmopolitan attendance.

HERMAN KELLNER, PH.D., who has been associated with Professor Abbe in the optical works of Carl Zeiss, at Jena, has accepted the position of scientific director of a lens company in this city. The remarkable development of optical science in recent years has been very largely due to the genius of Professor Abbe, and to the labors of the five or six associates who have been trained by him. Their efforts have placed the science of applied optics upon a higher plane and have carried its results to more important conclusions than have been reached before. Dr. Kellner is formulating a new series of microscopic objectives, and is engaged in original investigation in other fields of applied optics.

NORTH CAROLINA.

DR. H. MCKEE TUCKER has succeeded Dr. James R. Rogers as physician to the state penitentiary, Raleigh.

THE BUNCOMBE COUNTY MEDICAL SOCIETY has returned to the Asheville Board of Trade 50 per cent. of the board's donation toward the entertainment of the Mississippi Valley Medical Association.

THE HOSPITAL of the Confederate Soldiers' Home at Raleigh is now completed. It occupies some of the buildings which were used in 1861 as the first regular hospital, established by the late Dr. Burke Haywood.

OHIO.

DR. JOHN FRANCIS, of Hamilton, Dr. Christian Storz, of Toledo, and Dr. Joseph H. Ray, of Coalton, have returned from Europe.

THE MEDICAL DEPARTMENT of Ohio Wesleyan University, Cleveland, received a gift of \$10,000 from John D. Rockefeller, November 14.

HEALTH OFFICER DR. LAWRENCE C. GROSH, Toledo, was presented with a gold, diamond-mounted badge, by the employees of his department, on November 14.

A PHYSICIAN of Cleveland was fined \$350 and costs by Judge Rioks in the United States District Court, November 2, for using the mail to convey unlawful information.

DR. WILLIAM U. COLE, Columbus, was appointed by the mayor Director of Public Safety, November 12; at the meeting of the city council the same evening, it refused to approve Dr. Cole's bond of \$25,000, and now the anti-Cole faction talk of impeaching the mayor.

PENNSYLVANIA.

DR. AND MRS. WILLIAM C. SMITH, Linglestown, celebrated their golden wedding, November 12.

A MAN in Lancaster seeks by the medium of the law to obtain \$5000 damages from Dr. Herbert R. Bowers, of that city, who, he alleges, set his broken leg improperly.

DR. J. S. WHITE, of Manheim, and Dr. H. H. Brown, of Philadelphia, who have been connected with the medical department in the Philippine Islands, returned home November 13.

SPECIAL HOSPITAL CARES for patients suffering from infectious diseases were advocated at the meeting of the New York State Association of Railway Surgeons, November 15, by Dr. William L. Estes, South Bethlehem.

THE SCHUYLKILL at Reading is now believed to be at its lowest water mark. A greenish scum covers the surface of the water in certain places, and since this stream furnishes water to cities along its course, an epidemic of sickness is feared. In Reading 19 new cases of typhoid were reported for the week ended November 10.

BY DIRECTION of State Veterinarian Pearson a herd of sixteen cattle owned by Cyrus Williams, near Lancaster, were found to be suffering from tuberculosis and were ordered killed.

TYPHOID FEVER is still on the increase in the town of Cementon, near Allentown. Up to November 12, 118 cases had been reported. Dr. M. F. Cawley, the county medical inspector, has made an inspection of the condition there. The public school has been ordered closed.

Philadelphia.

ON THE evening of November 17, Dr. S. Weir Mitchell, physician, novelist and poet was given a reception at the Penn Club.

BY THE WILL of Edward Wiegel property valued at \$10,300 has been devised to the German Hospital upon the death of the decedent's widow.

THE COMMITTEE on Elementary Schools of the Board of Education have made an adverse report to the resolution asking the council to give the medical inspectors of the public schools \$100 annually for their services.

DR. JOHN V. SHOEMAKER, president of the Department of Charities and Corrections, has notified the Director of Public Safety that hereafter the ambulances of the Philadelphia Hospital will be at the service of the police.

MILK INSPECTION is being made at the suggestion of Mr. J. Lewis Good, chief of the Bureau of Health, of the milk supplied by the various dairies of the city. The bacteriological examinations are being made by Drs. A. C. Abbot and A. H. Stewart, of the health department.

BISHOP WHITTAKER, on behalf of the Board of Managers of the Episcopal Hospital, has issued a pastoral letter appealing for funds to pay the current expenses of the Episcopal Hospital. Its increase of work has been so rapid and its responsibilities so great that last year its expenses were \$30,000 more than the receipts.

ON NOVEMBER 10, articles of incorporation were filed in the county clerk's office for the establishment of an institution to treat tuberculosis. The Pennsylvania Sanitarium Company has made the application and the capital stock is to be \$50,000. The new institution will be established at Clifton Heights. The incorporators are Charles Williams, Clifton Heights, Pa.; Rudolph Daetywyler, Camden, N. J., and Howard K. Heritage, Collingwood, N. J.

UTAH.

DR. WILEY E. FERREBEE, Murray, has been sued for \$5000 by a patient for alleged unskillful treatment.

THE MORTALITY REPORT of Salt Lake City for October shows 61 deaths, 5 of which were due to consumption; 4 to typhoid fever; 3 to bronchitis, and 3 to pneumonia. Of contagious diseases, 28 cases of scarlet fever were reported; 70 of typhoid fever, 27 of smallpox, and 3 of diphtheria.

QUARANTINE OFFICER DR. EVERETT O. JONES, at Murray, has indorsed the petition of citizens of Murray and South Cottonwood, that arrangements be made for caring for smallpox patients at home, and a deputy sheriff has been appointed to see that the quarantine in the district is maintained.

A NEW RULE has been promulgated by the Salt Lake City Board of Health, which requires that not only all cases of scarlet fever, diphtheria, whooping cough, smallpox and typhoid fever, but measles, chickenpox and "any other acute contagious disease characterized by an eruption" shall be immediately reported to the department.

GENERAL.

DR. ALFRED SCHAPER has been called to the Institute of Anatomy at Breslau. He was a pupil of Stiede at Koenigsberg and has been professor of microscopic anatomy at Harvard.

ACTING ASST.-SURGEON W. HAVELBURG reports from Rio de Janeiro, under date of Oct. 15, 1900, that in the treatment of bubonic plague in that city, under Terni, it is assumed that the attack is divided into two stages; 1, the local stage, when the glands are first involved; 2, general infection, after the toxins have passed the lymphatic glands. With this view of the subject, excision of the inflamed glands has been practiced and it is reported that in many cases the temperature dropped and improvement appeared shortly after the operation. Dr. Havelberg promises a further report on this interesting subject.

PAN-AMERICAN CONGRESS.

The following gentlemen are to act as secretaries at the Pan-American Medical Congress, Havana, Dec. 26-29, 1900:

Medicine, Dr. Judson Baland, Philadelphia; Therapeutics, Dr. Hobart A. Hare, Philadelphia; Pediatrics, Dr. I. N. Love, New York City; Mental and nervous diseases, Dr. C. H. Hughes, St. Louis; Medical pedagogy, Dr. Otis K. Newell, New York City; Medical jurisprudence, Dr. H. A. West, Galveston, Tex.; Dermatology and syphilography, Dr. A. Ravogzi, Cincinnati; Surgery, Dr. W. P. Nicholson, Atlanta, Ga.; Gynecology and abdominal surgery, Dr. H. P. Newman, Chicago; Orthopedic surgery, Dr. John Bidlon, Chicago; Railway surgery, Dr. Duncan Eve, Nashville, Tenn.; Dental and buccal surgery, Dr. Eugene S. Talbot, Chicago; Anatomy, Dr. Arthur D. Bevan, Chicago; Physiology, Dr. A. P. Brubaker, Philadelphia; Pathology, Dr. Hunter McAlpine, New York City; Ophthalmology, Dr. John E. Weeks, New York City; Laryngology and rhinology, Dr. G. H. Makuen, Philadelphia; Otolaryngology, Dr. James T. McKernon, Philadelphia; Obstetrics, Dr. Gustav E. Zinke, Cincinnati; General hygiene and demography, Dr. Alvah Doty, New York City; Military medicine and hygiene, Major Jefferson Kean, U. S. A., Quesnados, Cuba; Marine hygiene and quarantine, Dr. R. M. Woodward, U. S. M. H. S., Washington, D. C.

TESTIMONIAL TO DR. I. N. LOVE.

We present herewith an illustration of the loving cup presented to Dr. Love on his departure from St. Louis to New York, last October, mention of which has been made before in these columns. Dr. Wiley Broome presented the cup, with the following words:

"It is with pleasure, mixed, however, with regret, that I present you with this Loving Cup as a token of the esteem in which you are held by your brethren of the medical profession of St. Louis, and other friends whose names you will find inscribed on the side of the cup. I want you to accept it with similar feelings with those which prompted the donors to bestow it, as a slight token of their appreciation of your worth. My regrets are, that I, with the others, will miss your kind counsel and social intercourse, which have been so freely bestowed whenever needed. Again may I express the hope that for generations this Loving Cup will be the means of reminding your posterity of the high estimation in which you have been held by those whose names are engraved upon it; and that you go away from our city with your heart full of the feeling that we wish you unbounded success in your new field."

The following are the names of those who were present at the banquet: Drs. C. H. Hughes, F. R. Fry, Spencer Graves, H. S. Cummings, G. M. Phillips, L. E. Newman, W. W. Graves, H. C. Dalton, O. F. Ball, F. E. Wessler, W. B. Shields, Wm. Johnston, Thos. F. Rumbold, W. F. Kier, Y. H. Bond, J. L. Boogher, H. R. Hall, E. H. Cole, George Homan, H. G. Mudd,



J. Young Brown, B. M. Hypes, E. W. Lee, Wiley Broome, and Messrs. Arthur Lambert, K. D. Mellier, F. W. Sultan, Zack Finker, Thos. Haley and G. B. Rammick.

DR. W. S. NOBLITT, of Honolulu, H. I., it appears, associated with a quack and for this unprofessional conduct lost his license over a year ago. In September Dr. Noblitt brought mandamus proceedings to test the right of the territorial treasurer to refuse him a license, but the presiding judge held that a recommendation from the Board of Health was necessary before it could be granted.

DR. C. L. GARVIN has resigned as executive of the Board of Health of Honolulu. He will resume practice, which he dropped when the epidemic of plague started.

COL. JOHN VAN R. HOFF, who was chief surgeon on General Chaffee's staff in China, has returned on the steamer *China*. He will be stationed at Chicago as chief surgeon of the department of the lakes. He reports that the American troops in China are in excellent health in camp at Pekin and in buildings at Tientsin. Nearly all the wounded have been sent to the United States.

YELLOW FEVER IN HAVANA.

According to the report of the sanitary officer of Havana, issued under date of November 8, there were 74 deaths from yellow fever in that city during October. Of these, 8 were Americans, and 51 Spaniards. The total number of cases was 287—62 Americans and 225 Spaniards. The death-rate for

Americans was 12,90, while that for the Spaniards was 22,66. Attention is called in the report to the exaggerated statements regarding the prevalence of the disease which have been sent out by the newspapers. Out of a population of 242,000 there have been since January 1, 1908, cases, but the Associated Press published widely the statement that every block in Havana had from one to seventeen cases. There are only 857 occupied blocks in the city. Out of these 397 have had cases of yellow fever. Of the blocks which have had cases, 224 had only one case, and only one or two blocks in the city approximated the numbers given in the newspapers. In Havana there are 16,480 houses of which 709 have had cases of yellow fever. Press dispatches of November 20 state that only 56 cases are under treatment, and among these are 2 Americans. It is expected that by keeping out immigrants the city will soon be entirely rid of it.

TUBERCULOSIS AND TENEMENT HOUSES.

The Tenement House Commission appointed by the last New York legislature held its first public hearing in the Charities Building, New York City. The topic for discussion was, "The Relation of Tuberculosis in the Tenement House Problem." It was discussed at considerable length by Dr. John H. Pryor, of Buffalo, and Dr. Hermann M. Briggs, of New York. The former gentleman said that he had given a good deal of attention to the study of this problem in his own city. In 1893 the condition of the tenements in Buffalo had been fully as bad as they are now here, but more stringent city ordinances had resulted in great improvement. He pointed out that while consumption is both a preventable and a curable disease in its early stages, the death-rate from this disease does not decrease, and each year finds about 6000 cases in the city. He insisted that at least 600 cubic feet of air should be allowed for each adult in a tenement, and that all living rooms should have sunlight. Dr. Briggs exhibited some maps that had been prepared by the board of health with regard to the distribution of consumption. They showed certain centers of infection. For instance, in one block on Cherry street, out of a population of 1000, 144 had died from consumption in four years, and on a block in Pell street, near Mott street, there had been in the same period of time 318 deaths from this disease out of a population of 2000. He was opposed to compelling landlords to build very expensive tenements, for he thought the burden would eventually fall on the poor, who would be crowded into these houses in order to make them pay. The chances of death from fire in a tenement house were far less than the danger of death from consumption. Carpets and wall paper should be prohibited in such dwellings. Mr. Lee Frankel, the manager of the United Hebrew Charities, said that the vast majority of consumptive foreigners whom he saw had contracted the disease in this country, although these people had dragged a miserable existence in their native lands. Dr. Anna Daniel was of the opinion that the sweatshop was an important factor in the dissemination of tuberculosis at the present day in spite of legislation against these pest-holes. She had seen consumptives making cigars and moistening with saliva, and knows that it was common for Italian peddlers to sort their fruit daily in their rooms, and store the fruit under their beds.

CANADA.

PROGRESS OF TORONTO CONSUMPTION SANATORIUM.

The medical health officer of the city, Dr. Sheard, who was asked to report to council on this matter, has handed in his report, the text of which is as follows: "The Local Board of Health should request the city council to submit a by-law to the citizens at the coming municipal elections in January for a grant of \$50,000, such sum to be paid to the fund for the purpose when the city treasurer has been handed a similar sum by the philanthropic citizens promoting the interests of the sanatorium; as a condition of this grant, the municipality should not be called on for any additional sum other than the ordinary hospital per diem; that the institution be conducted strictly in accordance with the legislation respecting sanatoria passed at the last session of the provincial parliament; that the institution provide for patients in all stages of the disease, and that it shall be available for the poor patients free of charge; no city patient shall be admitted on a city order unless he or she has been a resident for one year; the sanatorium shall not be distant more than thirty miles from the city, and the land in connection therewith shall not be less than 50 acres." It is altogether likely that the report of the medical health officer will be adopted all along the line.

PEST-HOSPITAL FOR MONTREAL.

A joint meeting of the Boards of Directors of the Montreal General Hospital, the Royal Victoria Hospital, and the Notre

Dame Hospital has been held recently, and an appeal made to the corporation of Montreal to construct and equip a new civic hospital for contagious diseases. It is proposed to raise the money for the purpose by special loan, and a conference is being arranged for between the civic authorities and a committee appointed by the boards of directors of the three hospitals, to deal with the matter.

CAUSE OF RECENT TYPHOID OUTBREAK IN MONTREAL.

On October 25 a report was received by the health department of Montreal from Notre Dame Hospital, that two cases of typhoid fever had been received from Mount St. Mary's Convent. An investigation of the institution, which is a boarding school for young ladies, was made and six more were found suffering from the disease. When the milk-supply of the convent came to be inspected it was found that the milk, supplied by a farmer outside the city, was filled with microbes. Two members of the farmer's family were found to be suffering from the disease. In all twenty cases were traced to this source.

FOREIGN.

DR. KARL HOCHSINGER, of Vienna, has received the Cross of the Order of Franz-Josef.

CAPE TOWN, South Africa, reported last week 8 cases of plague and 3 deaths in the densely peopled quarter occupied by natives.

DR. J. WEINLECHNER has resigned the chair of surgery at Vienna, and Dr. A. Vaucher the chair of surgery and gynecology at Geneva.

A CHINESE physician's fee is perhaps the smallest in the world, ranging from 5 to 10 cents, but this is accounted for by the fact that any one can practice.

PROF. G. BRAUN, of Vienna, has retired from his chair of obstetrics, on account of the age limit, and has had a title of nobility conferred upon him by the emperor.

PEKIN sanitary conditions are becoming serious. Fearing that their funerals would be interfered with, the Chinese have retained their dead enclosed in coffins in or about their dwellings.

AMONG the deaths reported abroad we note that of Dr. L. Loew, at Olmütz; Mr. Marini, at Naples; Dr. H. Raab, at Baden, and Dr. Gaskden, professor of legal medicine at Copenhagen.

AN OUTBREAK of typhoid in Lambeth parish, London, involving 42 persons, 25 of whom were females, is attributed to the common use of four mangoes, 26 of the cases having been definitely traced to this source.

THE FIRST volume of the great Latin dictionary, now being compiled by the five chief German Academies of Science, is nearly ready. Each word is treated historically and followed to the sixth century. There are to be twelve volumes of 1000 pages each.

PROFESSOR KOCH, in a recent lecture to his colleagues in Berlin, stated that he believed that mosquitoes passed the malarial parasite from one human body to another, but the parasite was in the body itself. Mosquito nets were useful, but not wholly reliable.

PROF. A. KOSSEL, of Marburg, has been appointed the successor of Prof. W. Kuehne, at Heidelberg.

THE four physicians settled at Mistelbach, a town in Austria, with 3500 inhabitants, have issued a warning to the members of the profession not to respond to the published advertisement of the local sick benefit society for a medical attendant. By advertising for an outsider the society is trying to avoid paying the rates demanded by the resident physicians. Applicants are entreated at least to confer with the national Lower Austria Medical Chamber before accepting the position offered.

PECULIAR RESULTS IN THE TREATMENT OF TYPHOID.

An interesting observation has recently been made by Dr. Renon, of Paris, which formed the subject of a paper read by him before the Hospitals Medical Society of that city. He had under his care last summer at the Necker Hospital 9 cases of typhoid fever which were distributed between the crèche and women's ward in the Peter Block. Of these 9 cases he lost 4 or 44 per cent.; though the disease at first seemed mild. It underwent a sudden change about the sixth day, and of the 5 patients that recovered only one maintained the mild form throughout the disease. These figures can not be put down to the fact that the women were nursing, since only 3 of the 9 were nursing and of these 3 only one died. The treatment, lack of care in nursing, and the severe type of epidemic can be excluded, for in the other wards near by where the disease and other conditions were the same the mortality was nothing to be compared with this. Moreover the mortality in this particular block had been before noticed to be

considerable. During the present year to October 1 its mortality has been 11 out of 19, or 57 per cent., while at the same time in other wards the mortality among the women was five times less. The doctor therefore infers that the proximity of the infants' crèche, in which there was a large amount of enteric trouble in the way of summer diarrheas, etc., was responsible for this mortality. Patients suffering from typhoid fever were affected secondarily with bacteria of infantile and other diarrheal troubles. The observation is a somewhat striking one and suggests additional precautions in the treatment of typhoid fever.

LONDON LETTER.

GLASGOW FREE FROM PLAGUE.

After having lain for three months under the suspicion of being a plague-stricken city, Glasgow is now happily free from the disease. The outbreak was practically confined to one locality, and by the vigorous sanitary measures adopted, was soon placed under effective control. Including doubtful cases, the number of deaths was only 15, which is a very small percentage of the million of inhabitants which live in and around Glasgow. The last patient was admitted to hospital six weeks ago. All the persons who came in contact with plague patients were removed to isolation houses and kept under surveillance. Altogether these numbered 170, and at one time the number reached 120. The last of the plague patients who were in the hospital, numbering 8, were discharged on November 3. According to the agreement of the Powers at the International Sanitary Convention, held at Venice in 1897, Glasgow should be officially recognized as free from plague on November 12, provided no fresh case occurs in the interval. It may be remembered that the first case occurred on August 3, when a child and its grandmother were affected. They died respectively on August 7 and 9, the cause being believed to be enteric fever. The woman's husband sickened on August 12 but was not admitted to hospital until August 27, under the diagnosis of "enteric fever," but the hospital authorities recognized the disease as plague. Altogether 27 persons were removed to hospital. One gave birth to a child, which died; this, with 7 other patients, bring the number of deaths up to 8.

FORMER EPIDEMICS OF PLAGUE IN GREAT BRITAIN.

The Glasgow outbreak is the first instance of the appearance of plague in these islands since the days of the Stuarts. The last was the memorable one of 1665, which Defoe has immortalized in his great work. Sporadic cases occurred for a few years after that period, and a column was left for plague cases in the bills of mortality until 1703. But these were only lingering reminiscences of the fearful period. For two centuries we have been absolutely free from the disease. There is a widespread belief that the epidemic of 1665 was the first instance in which plague ever got a real foothold. Stow mentions an epidemic in the reign of Edward III, which created great devastation, "leaving scarcely a tenth person living"—an obvious exaggeration. Another visitation in the reign of Henry IV is said to have carried off 30,000 persons, and another severer one in 1590 is said to have caused 30,000 deaths in London alone. Throughout the sixteenth century plague showed repeatedly its dread power. In 1562-3 there was an epidemic, followed by a severer one in 1581, which lasted three summers. From that year till the end of the century the disease may be said to have been more or less epidemic. The year 1603 was memorable for a frightful outbreak in Westminster, where 451 persons were buried at the public expense in a few months. This was but the prelude to the graver visitations of 1625 and 1665, which between them carried away 141,000 persons.

THE SOUTH AFRICAN HOSPITALS COMMISSION.

The commission, having returned from South Africa, has resumed its sittings at Burlington House, after an absence of three months at the seat of war. The last and forty-second sitting has been held, after which the commissioners will prepare their report. Mrs. Richard Chamberlain, sister-in-law of the colonial secretary, who has made herself remarkable by the vehemence of her charges against the army-surgeons, was the only witness examined. She said that she landed in South Africa in November, 1899, and had visited Woodstock, Rodebosche and Mafeking, but only considered herself an authority on No. 1 Hospital at Wynberg, Cape Town. She was told on three occasions very politely that no visitors were allowed. She ultimately got an order from General Walker to visit, but not from the principal medical officer. She said that the whole place was in a horrible muddle; that there was no organization, though there was unlimited money and unlimited stores; that they were short of every necessary utensil, from cups and saucers to bed pans; that they were short of nurses, yet Cape Town was full of them, but "red tape" pre-

vented them being employed; that the patients were filthy, and the hospitals swarmed with vermin; that orderlies took the sheets of typhoid patients, washed them in cold water and used them again without disinfection.

Correspondence.

Grooved Director for Vaginal Hysterectomy.

INDIANAPOLIS, Nov. 17, 1900.

To the Editor:—I am very much surprised to read in your issue of November 17 an article by Dr. E. D. Ferguson, of Troy, N. Y., in which he describes a grooved director for vaginal hysterectomy that in every essential feature is identical with the grooved staff devised by Dr. Joseph Eastman twelve years ago.

It is only fair to Dr. Ferguson to assume that he was not aware that he had been antedated twelve years in his invention, although it must be admitted that his acquaintance with the various methods of vaginal hysterectomy was not quite as wide as it might have been before placing his grooved director before the profession.

The staff devised by Dr. Joseph Eastman has been described and illustrated in such prominent medical journals as the *New York Medical Record* of April 1, 1893, the *American Gynecological and Obstetrical Journal* of April, 1898, and numerous less prominent publications.

He has operated, using this staff, in Chicago and Philadelphia, such well-known men as J. B. Murphy, F. Henrofin, F. M. Martin and H. P. Newman, of the former, and E. E. Montgomery of the latter city being present.

The staff is illustrated in the surgical-instrument catalogue of the W. H. Armstrong Co., Indianapolis, and the A. S. Aloe Co., of St. Louis. The instrument as used by Dr. Eastman for twelve years is identical in idea, form, detail, purpose and method of use with that described by Dr. Ferguson.

I trust he will accept this note in the same kindly spirit in which it is written. Very sincerely,

THOS. B. EASTMAN, M.D.

Physicians Impersonated.

CHARLESTON, S. C., Nov. 14, 1900.

To the Editor:—Dr. A. R. Shands, of Washington, D. C., secretary of the committee on arrangements of the last American Congress of Physicians and Surgeons, writes me that a man, claiming to be myself, and to have attended the meeting of the congress in May last, has been victimized many of the profession of that city by pretending to be in distress and borrowing money from them. He claims to have many friends in Richmond, Va. The doctor describes the man as between 60 and 70 years old, clean face, heavy gray mustache, about 5 feet 10 inches tall, and rather spare build. I know of men, in other cities, in former years, who have been victimized in a similar manner, and in one instance the thief proved to be a former governor of this state under carpet-bag rule, and the above description I am told would apply to this same individual.

I was impersonated many years ago and one of my friends in New York City was victimized for a small amount. The thief was never caught. There should be some way in which physicians could protect themselves from this class of scoundrels. I hope that you will give this as much publicity as possible, so that the profession may be put on their guard and perhaps this thief may be arrested.

Yours respectfully, WALTER P. POIRIER, M.D.

Marriages.

EDWARD F. BRUCE, M.D., Pensacola, Fla., to Miss Minna Frottscher, of New Orleans, La., November 7.

JOHN H. SLOAN, M.D., Santa Fe, N.M., to Miss Aletta Early, Des Moines, Iowa, November 14.

JESSE RAMSBURGH, M.D., to Miss Edith Roberts, both of Washington, D. C., November 21.

IRVING PHILLIPS LYON, M.D., Buffalo, N. Y., to Miss Kate P. Lathrop, of Baltimore, Md., October 23, in New York City.

GEORGE W. DOBBIN, M.D., Baltimore, to Miss Beatrice Dunderdale, of Perth Amboy, N. J., October 10.

FRANK WARD HICKIN, M.D., to Miss Gertrude May Throssell, both of Cleveland, Ohio, November 8.

FRED WHITNEY DAVIS, M.D., Scranton, Pa., to Miss Edith Scott, of Bloomfield, N. J., November 6. They will reside at East Orange, N. J.

Deaths and Obituaries.

HORACE TRACY HANKS, M.D., Albany, N. Y., 1861, was born at Randolph, Vt., June 27, 1837, and died at his home in New York City, November 18. Soon after graduation he became house surgeon to the Albany City Hospital, where he remained until appointed an assistant-surgeon of the 30th N. Y. Volunteer Infantry, in which capacity he served in the Armory Square Hospital, Washington, D. C. He was also at the front during the battles of Fredericksburg and Chancellorsville. After his muster out he remained in Royalton, Mass., until 1868, when he removed to New York. In 1872 he became identified with the Demilt dispensary in its gynecological clinic and for ten years was conspicuous for both the quality and amount of his work. He also became active in many medical societies, devised many special instruments, wrote much, held positions of responsibility, and was often quoted as an authority, particularly in his work as surgeon of the Women's Hospital. As a member of the AMERICAN MEDICAL ASSOCIATION he served more than once as a delegate, and was much interested in its work.

HENRY DRURY NOYES, M.D., College of Physicians and Surgeons, N. Y., 1855, of New York City, at Mount Washington, Mass., November 12, aged 68. He was a well-known ophthalmologist, a leading specialist and a member of many societies and of the AMERICAN MEDICAL ASSOCIATION. He was regarded as an expert in medicolegal circles, and his text-book on diseases of the eye is a standard work.

WILLIAM MARSHALL, M.D., Jefferson Medical College, Philadelphia, 1847, president of the Delaware State Medical Society in 1869 and 1870, a member of the AMERICAN MEDICAL ASSOCIATION, secretary of the State Board of Health in 1879, and surgeon of the Sixth Delaware Volunteer Infantry in the Civil War, at his home, Milford, Del., after an illness of two years, November 9, aged 73.

NATHANIEL P. RICE, M.D., Harvard Medical School, from paralysis, at a sanatorium in New York, November 10, aged 72. He served through the Civil War as a surgeon in the regular establishment and was for two years medical director in Virginia and North Carolina.

FRANCIS M. CONFER, M.D., Rush Medical College, 1882, a prominent physician of Monroe, Wis., and a member of the State Medical Society and the AMERICAN MEDICAL ASSOCIATION, from typhoid fever, at his home, November 11, aged 46.

FETTERMAN W. CONN, M.D., College of Physicians and Surgeons, New York, 1871, who formerly practiced at Virginia City, Nev., at his home, Napa, Cal., November 4, from epilepsy, aged 60.

Z. HAWLEY MARSH, M.D., Jefferson Medical College, Philadelphia, 1836, at his home, Howell, Mich., where he had practiced for more than half a century, October 26, aged 89.

GEORGE K. CROSTHWAYTE, M.D., Trinity Medical College, Toronto, 1889, late of Hamilton, Ont., by gunshot-wound, self-inflicted, at Chicago, November 14, aged 34.

WILLIAM A. MOSGROVE, M.D., Miami Medical College, Cincinnati, 1873, from accidental or self-inflicted gunshot wound, at his home, Urbana, Ohio, November 8, aged 50.

EDWIN P. SNOW, M.D., Medical School of Maine, Brunswick, 1849, at his home in Atkinson, Me., where he had practiced for more than half a century, November 10.

HENRY A. LOOK, M.D., Western Pennsylvania Medical College, Pittsburg, 1890, at Allegheny, from a cancer of the tongue, November 12, aged 35.

JAMES S. WALTERS, M.D., M.R.C.S. England, 1869, from diabetes and inflammatory rheumatism, at his home in Pittsburg, Pa., November 8, aged 54.

HENRY GEROLD, M.D., Western Reserve University, Cleveland, Ohio, 1864, at his home in Cleveland, from apoplexy, November 10, aged 71.

WILLIAM T. COLLINS, M.D., Jefferson Medical College, 1857, suddenly, at his home in Camden, N. J., November 10, from rheumatism, aged 71.

JOHN R. SCOTT, M.D., St. Joseph Hospital Medical College, St. Joseph, Mo., at his home, Leona, Kan., after a short illness, November 5.

JAMES N. LOUGHRY, M.D., Jefferson Medical College, at his home in Pittsburg, Pa., after a short illness, November 8, aged 65.

SALOME MERRITT, M.D., New York Free Medical College for Women, 1874, at her home, Somerville, Mass., November 7, aged 57.

CHRISTIAN P. AHLSTROM, M.D., University of Buffalo, 1884, at New York, from asphyxiation by coal gas, November 15, aged 40.

ROBERT R. WASHBURN, M.D., Medical College of Indiana, 1886, at his home in Waldron, Ind., November 11, aged 67.

JAMES E. BLAND, M.D., University of Virginia, 1856, at his home near Shanghai, Va., November 8, aged 66.

Societies.

HOLYOKE (Mass.) PHYSICIANS met November 14 and temporarily organized, with Dr. Carl A. Allen as chairman and Dr. John J. McCabe as secretary.

THE LACKAWANNA (Pa.) MEDICAL SOCIETY, at its meeting at Scranton, November 13, decided to form a union, to establish a fee-table and to blacklist all delinquent debtors.

THE DETROIT (Mich.) PHYSICIANS' ASSOCIATION held its first business meeting November 12 and elected Dr. Guy L. Kiefer president, and Dr. Walter J. Cree, secretary. The association already has more than 100 members.

THE MIDDLETOWN (Conn.) CENTRAL MEDICAL ASSOCIATION has been revived. A meeting was held on November 8. Thirteen new members were elected, and Dr. J. Francis Calef was elected secretary and treasurer.

THE SANGAMON COUNTY (Ill.) MEDICAL SOCIETY held its annual meeting at Springfield, November 12, and elected the following officers: Dr. J. Norman Dixon, president; Dr. Albert L. Brittin, Athens, vice-president; Dr. B. Barrett Griffith, secretary, and Dr. Percy L. Taylor, treasurer.

THE ST. LOUIS ACADEMY OF MEDICAL AND SURGICAL SCIENCE, at its last meeting, elected Dr. Emory Lanphar, president; Drs. Carl Pesold and Harry S. P. Lare, vice-presidents; Dr. Orrill L. Suggett, secretary; Dr. George M. Phillips, treasurer; Dr. William Porter, orator, and Dr. Harry G. Nicks, librarian.

THE WARASH RAILWAY SURGICAL ASSOCIATION held its annual meeting at St. Louis, November 8, and elected the following officers: Dr. Edward H. Griswold, Peru, Ind., president; Dr. Smith A. Spilman, Ottumwa, Iowa, vice-president, and Dr. Christian B. Stemen, Fort Wayne, Ind., secretary and treasurer.

THE GENESSEE COUNTY (N. Y.) MEDICAL ASSOCIATION held its annual meeting at Batavia, November 7, and elected the following officers: Dr. Morris W. Townsend, Bergen, president; Dr. Emerson E. Snow, Batavia, vice-president, and Dr. Annie M. Cheney, Batavia, secretary and treasurer.

THE BUCKS COUNTY (Pa.) MEDICAL SOCIETY held its annual meeting at Doylestown, November 7, and elected Dr. George A. Parker, Southampton, president; Drs. John A. Crewitt, Newtown, and George M. Grim, Ottsville, vice-presidents, and Dr. A. F. Myers, Blooming Glen, secretary and treasurer.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION has elected the following officers: President, Mr. Manning Simons, Charleston; vice-president, Drs. George H. Noble, Atlanta, and L. C. Boshier, Richmond; secretary, Dr. W. D. Haggard, Jr., Nashville; treasurer, Dr. F. W. McRae, Atlanta. Richmond, Va., was selected as the place of next meeting; third Tuesday in November, 1901.

THE FOX RIVER VALLEY (Ill.) MEDICAL ASSOCIATION held its seventy-first semi-annual meeting at Aurora, November 13, president Dr. James E. Bumstead, Dundee, in the chair. A

committee consisting of Drs. Hawley, Chicago, and Henry J. Gahagan, Elgin, was appointed to look into the matter of reorganization. The following officers were elected: Dr. Catherine B. Slater, Aurora, president; Dr. George E. Allen, Aurora, vice-president, and Dr. Henry J. Gahagan, Elgin, secretary and treasurer.

Southern Surgical and Gynecological Association.

*Thirteenth Annual Meeting, held in Atlanta, Ga.,
Nov. 13-15, 1900.*

President Dr. A. M. Cartledge, Louisville, in the chair.

Governor Candler of Georgia, delivered an eloquent address of welcome, which was responded to by President Cartledge.

MEDULLARY NARCOSIS.

Dr. W. L. RODMAN, Philadelphia, read a paper in which he discussed the points of most practical value in connection with this method of anesthesia. No one will think of abandoning ether and chloroform. These trusted agents will continue to enjoy the full confidence of the profession, and the Corning-Bier method will be held in reserve for certain cases in which there is seemingly a clear contraindication to chloroform or ether. Medullary narcosis should be given subjects suffering from bronchial, pulmonary, and renal diseases; to patients affected with fatty or dilated heart, and cardiac diseases in general; to old people in whom the shock of general anesthesia is often great, and from its action in one case, the author believes it to be safer than chloroform or ether, in drunkards. The place where the spinal canal is entered is of some importance. Tuffier, Murphy, Matas, and others, who have had the largest experience with the method, prefer the fourth lumbar space. The author believes that any of the lumbar spaces can be punctured with safety. The fifth interspace, between the last lumbar and the first sacral vertebra, is in some respects the easiest route. Simple puncture of the spinal cord, if aseptically done, is unlikely to be followed by serious changes in the cord or its membranes. If to simple puncture is added the injection of some chemical substance by which anesthesia is produced, a new element of danger is undoubtedly incurred. Therefore, the choice of a local anesthetic becomes of paramount importance. Cocain is difficult to sterilize. Raised to 180 F., it is decomposed into egonin, and becomes comparatively inert. Some have found it practical to boil cocain, and then introduce it into the spinal canal without impairing its anesthetic properties. By raising it to a temperature of 180 F., and repeating this twice, thrice, even six times, as recommended by Tuffier, it should be sterile, and therefore safe, and yet a dose of thirty minims of a 2 per cent. solution of cocain is too large. The essayist recommended half of this amount. A small dose of a 2 per cent. solution is better than a larger one in greater dilution. In his first case he injected 18 minims, in the second, 15 minims, and in a third, 13 minims, and hopes still further to reduce the amount to 10 minims. We should aim to get complete anesthesia with the smallest amount of the drug.

The primary and secondary effects of the injection of cocain into the spinal canal are those of simple puncture exaggerated. Shock is increased; headache, restlessness, delirium, and other symptoms are necessarily more pronounced. He recommended an irido-platinum needle he used. His technique is similar in many respects to that outlined by Tuffier and others. He blind-folds the patient and fills the ears with cotton to avoid psychic pain.

Dr. LEWIS S. McMURTY, Louisville, predicted that medullary narcosis would not take the place of the established methods of anesthesia, and said its field of usefulness would be restricted to the class of cases outlined by the essayist.

Dr. WILLIS G. MACDONALD, Albany, mentioned the case of a man, 42 years of age, who had suffered from hemorrhoids and fissure of the rectum. The patient had always been a hard drinker. Granular and hyaline casts were found in the urine, also a small amount of albumin. Patient likewise had a fatty, dilated heart. He injected 18 minims of a 2 per cent. solution of cocain in the subdural space, and when he was about to begin the operation the patient became cyanotic; a profuse, cold perspiration began, so that it became necessary to give 1/20

grain of strychnia; 1/25 gram of nitroglycerin, when the respirations ran up to 60 or 80. No pulse was discernible at the wrist. The pupils were dilated; patient became unconscious. More than two hours elapsed before the speaker felt safe as to the condition of his patient. The man suffered severely from headache and projectile vomiting during the entire afternoon, and had two or three involuntary bowel movements.

During the summer, while on a visit to Europe, he saw a similar experience in the practice of Professor Kocher.

Dr. A. M. CARLEDGE, Louisville, said his experience was limited to eight cases in which he had used the new method, the results being satisfactory. In two patients severe headache followed its use, which soon disappeared. Analgesia was complete in all cases. In one case he removed the pus-tubes; in a second an enormous fibroid tumor of the uterus; and in a third a large intraligamentous cyst. Some of the patients came off the table in much better condition than if chloroform or ether had been employed.

Dr. E. P. MALLETT, New York City, detailed a case of retroverted adherent uterus in the practice of Dr. Grandin, for which an abdominal section was made. At first, much difficulty was experienced in finding the subdural space or medullary canal, so that the patient complained of intense pain. It was finally found, cerebrospinal fluid escaped, and cocain was injected, the analgesia being apparently complete in eighteen minutes. So much pain was experienced while the operator was making the incision that it became necessary to administer a few whiffs of chloroform to complete the operation. He also detailed another case in which the needle was introduced more quickly and with better success; but slight vomiting, as well as other symptoms occurred. The subsequent course of both patients was uneventful.

Dr. BEVELLY MACMONAGLE, San Francisco, spoke of two cases which he saw, but they suffered a good deal from vomiting after the operation.

Dr. SENECA D. POWELL, New York City, did not think the time is ripe for this method to be presented to the profession at large. The results should be worked out by experienced hands. He pointed out the dangers of cocain, referred to the susceptibility of some patients to the drug, and cited two cases that had occurred in his own practice in which he had used cocain, saying that both patients came very near dying from its effects.

Dr. J. W. LONG, Salisbury, N. C., believed that the method was attended with danger except in the hands of experts.

Dr. RODMAN, in closing the discussion, said he had used medullary narcosis on a man, 45 years of age, who had a bursa in the popliteal space, with marked kidney trouble. The result was satisfactory in every respect. The next case was one of advanced kidney trouble in which he did a suprapubic cystotomy. Result, satisfactory. He would use medullary narcosis in those cases in which there are positive contraindications to ether or chloroform. The surgeon should always obtain the consent of the patient before using the method, on account of any medicolegal complications that might subsequently arise.

(To be continued.)

Chicago Ophthalmological and Otological Society.

Regular Meeting Held Oct. 9, 1900.

Dr. C. D. Wescott in the chair.

PRIMARY MELANOTIC SPINDLE-CELLED SARCOMA OF THE RIGHT EYE.

Dr. CASEY WOOD exhibited the patient and reported the case.

Mrs. C., aged 40, has not suffered from any serious illness, although her family history on the side of her mother, whom she closely resembles, is somewhat peculiar. The mother, two maternal aunts and one maternal uncle died of malignant disease—one of these (an aunt) from recurrent tumor of the eyeball. There is no history of any member of the father's family having been so affected. So far as her own experience is concerned, she never complained of any ocular affection except an asthenopic attack five years ago, probably due to prolonged

insomnia, from which she entirely recovered. Last February she noticed a feeling of fullness in the right eye, and about that time first perceived something growing on the iris. Shortly afterward she suffered from supraorbital neuralgic pains accompanied by lachrymation—all confined to the right side. These symptoms led her to a more careful examination of the eye and she observed two other, but smaller, spots on the colored part of the eye situated one above and one below the pupil. On June 2, 1900, she presented herself at Dr. Wood's clinic at the Post-Graduate Medical School owing to a return of the fullness in the right eye and because she noticed that the brownish deposit in the eye had considerably increased in size.

On examination the tension was found to be +1, while the vision was reduced to 2/7, somewhat improved on a hasty trial with lenses. The superficial scleral vessels were slightly enlarged. Toward the temporal side and directly outward on the anterior surface of the right iris was noticed a dark brown, smooth, irregularly triangular growth, apparently of about the same thickness as the iris, elevated above its plane and evidently growing from it. Its base was 3 mm. wide and was applied to the root of the iris, while its apex did not quite reach the margin of the pupil when that aperture was in a state of medium dilatation. It looked as if a piece of dark-brown velvet had been laid on the iris. With the oblique illumination the edges and some parts of the growth appeared to be translucent. Its borders were sharply defined, its surface seemed homogeneous and the neighboring iris tissue was not discolored or muddy. Two deposits, of apparently the same character as the largest tumor, were readily seen on the nasal half of the iris. They were of the size of pin-heads and were within, respectively, the upper and lower quadrants.

The pupil dilated irregularly with a mydriatic, hardly at all at the seat of the growth, although there are no posterior synechia to be observed and no indication of the tumor bulging behind the iris. The media and fundi, especially the ciliary retina and disc, appear normal. The eye is in all respects healthy, the iris especially being free of any abnormal pigmentation or elevated deposits. After keeping the patient under observation for a short time, a broad, peripheral iridectomy, including the whole of the temporal mass, was done. There was not more than the usual amount of hemorrhage and healing was normal. The excised iris tissue was preserved in 10 per cent. formalin and given for examination to Dr. Brown Pusey, who pronounced it to be a true sarcoma—mainly of the spindle-celled variety. Since June, the ciliary region about the iridectomy wound has been frequently examined by the ophthalmoscope and otherwise for further traces of the growth, but none has been found. The patient complains somewhat of photophobia in a bright light, and of blurring if she tries to do much near work. The remaining pigmented deposits would have been more rapidly seen if she had a light iris for a background, as probably her brown eyes prevented an earlier discovery of the disease. After the operation the tension became almost normal (it is still somewhat raised) and the scleral injection less. On Sept. 20, 1900, R. V. = 1/10; L. V. = 20/15. Ophthalmometer showed, left + or - 1, ax. 90°; right, + or - 3, ax. 105°, with -2 cyl. ax. 15°. R. V. = 20/20 nearly. The field for vision for white is sensibly contracted, probably due to secondary glaucoma. Since it is well established that the early and complete removal of an iritic melanoma is sometimes followed by cure, Dr. Wood has ventured to keep this patient under observation, warning her that a more radical operation will be urgently needed if there is any return of the growth or any increase in the size of the other suspicious deposits in the iris. Dr. Wood thought that from the appearance of the remaining pigmented growths that there had been originally three simple melanomata, that the sarcoma had arisen from one of these and that there was a chance of the others remaining quiescent. The four months that have elapsed since the operation is too short a time to draw conclusions as to the probability of a return of the disease. He promised a supplementary report at a later date.

Dr. F. C. Hotz considers the elevated spots in the iris of a suspicious nature, although the time since the case has been

under consideration is too short to make a positive statement. Early excision of the tumor invariably makes the prognosis a favorable one. He cited two cases of primary sarcoma which occurred in his own practice. One case has been under constant observation for two years, and the other for six years, neither one presenting any recurrence of the tumor. The eyesight has remained perfect. The tumors presented a reddish-gray appearance. The microscope revealed a slight tendency to melanosis. The first case, a woman 43 years old, presented a small flesh-colored, nodular tumor in the lower temporal portion of the iris of the left eye. It was flattened against the cornea, and reached up to the pupillary margin; the pupil was pear-shaped. Vision was 20/20. Tension was not increased, and no sign of any irritation of the eye. The tumor had been developing gradually since two years. In incising the cornea the entire tumor jumped up. It was connected with the iris by a narrow slender pedicle. The portion of the iris to which the tumor had been attached was also removed to prevent the possibility of a recurrence. Recovery was uneventful. The woman has reported from time to time for two years, and there has been no return. Microscopical examination showed the tumor to be a small round-celled sarcoma, with a tendency to become spindle-shaped, but not melanotic.

The second case, a man 32 years old, had a small flesh-colored tumor on the lower nasal portion of the left eye, reaching from the iris angle to the pupillary margin. Blood-vessels were plainly seen on its surface. Pupil was pear-shaped. On attempting to remove the tumor under cocaine anesthesia a strong resistance was felt, creating the impression that extension into the ciliary processes had already occurred. The iris was excised with the tumor and the next day a small hemorrhagic deposit showed on the ciliary processes. This was gradually absorbed, but after a while a grayish mass began to form. The final course of the case disproved the belief that this mass might be a recurrent tumor. The patient was last seen in January, six years after operation, and up to that time there was no recurrence, the eye being perfectly well, with full vision. Dr. Hotz feels positive that the long interval since the removal of the tumors in these two cases warrants the statement that a definite cure was brought about by the timely operation and removal of the tumor.

Dr. WILLIAM H. WILDER said that it is commonly believed by pathologists that the most malignant form of sarcoma is the small round-celled variety. On examining the specimen in Dr. Wood's case he found that in several places the cells exhibit a marked tendency to become spindle-shaped, so that it might be classified as a spindle-celled sarcoma. The tumor would therefore be of a less malignant character. The majority of sarcomata affecting the ciliary body and choroid examined by Dr. Wilder were of the spindle-celled variety.

Dr. WOOD, in closing the discussion, agreed with Dr. Wilder as to the character of the cells in the specimens examined. This, of course, increases the chances of the patient's recovery. Personally, he feels that it is desirable to enucleate the eye where the ciliary body is involved, since cases are reported of the successful excision of the tumor. It would not be right to enucleate in the spindle-celled variety where the ciliary body is not involved, and patients certainly ought to be given every chance unless there be a decided involvement of the root of the iris or a recurrence of the tumor. Dr. WOOD referred to the excellent and recent work on iris sarcoma done in this country by Veasey, and in Russia by Hershbaumer.

MELANOTIC SARCOMA OF THE ORBIT.

Dr. HOTZ reported a case of melanotic sarcoma of the orbit of an unusually rapid growth and malignant type. The patient, 51 years old, who had never had any eye trouble and always enjoyed good sight, stated that last April he was taken with violent neuralgia of the right side of the face and his right eye became inflamed and protruding. After several weeks the pain and inflammation subsided, but the exophthalmus persisted and the sight gradually grew dimmer, though during the last two or three weeks he thought his sight had been better again and the eye-ball less prominent. The examination, July 3, showed a high degree of exophthalmus and marked restriction of the movements of the globe; no down-

ward rotation at all, the upward rotation very limited and the lateral movements but fair. Pupil was dilated, media clear, papilla and surrounding retina edematous and veins enlarged. Vision was 20/100. The retorsal fold of the lower lid was perceptibly crowded forward by a soft elastic apparently fluctuating mass which filled the entire space between the ball and floor of the orbit.

July 5, the following operation was performed: Free division of the external canthus and a transverse incision through the lower fornix down to the tumor, which presented a perfectly smooth surface under the tarso-orbital fascia. When this membrane was incised a dark-brown soft mass like old blood-clots was extruded and many more such clots were removed with a scoop until the examining finger found in the space behind the eye and between the recti muscles nothing more but the optic nerve. To examine the posterior aspect of the globe and the optic nerve the externus was detached, the eye forcibly rotated inward and the nerve drawn into view by means of a strabismus hook. The posterior aspect of the ball appeared perfectly normal, but a few millimeters from it there was a dark-gray patch in the nerve sheath. This discolored portion, about 4 mm. in length, was cut out, the externus re-attached to the ball and a pressure bandage applied.

During the first week the ball seemed to recede into the orbit; but in the second week it was again forced forward; soon the lids could no longer be closed over it and the cornea became cloudy. The removal of the eye became an imperative necessity and was done July 20. As he found the whole orbit filled again with a soft melanotic mass which had permeated even the muscles, especially the inferior and externus, he removed the contents of the orbit, including the periosteum. The operation was concluded by cauterizing the nerve stump and tissue shreds around the optic foramen and packing the cavity with iodoform gauze. By August 4 the orbital walls were covered with healthy looking granulations and the patient left the hospital for his home. Three weeks later he returned with a new growth under the upper lid, a solid tumor immovably attached to, and evidently growing from, the supraorbital margin. Probably some infected shreds of periosteum had been overlooked in spite of the great pains taken to remove everything. In the orbit itself, however, no trace of recurrent melanos was noticed. While in the hospital a tumor had also been discovered in the region of the left kidney and when the patient came back this tumor had increased at a great rate, and a small melanotic tumor was then also found under the large toe of the left foot. No further operation was deemed advisable under these circumstances, as the exitus lethalis seemed a question of a short time.

A remarkable feature of this case is the sudden protrusion of the eye in April, for orbital tumors by their gradual growth push the ball forward slowly and gradually. He thinks there has been a small tumor in the cellular tissue, too small to create any perceptible disturbance, and in April a hemorrhage occurred from this tumor, which caused the rapid protrusion of the eye, and at the same time tearing up the orbital tissues favored the rapid spread of the melanotic growth.

The section of the enucleated eye preserved in formalin jelly and a number of microscopic slides were exhibited. These had been prepared by Dr. E. V. Brown, who gave the following explanation: The microscopic examination shows the main mass to be a small, round-celled melanosarcoma of the soft tissues of the orbit. Here the pigmentation is most marked and the round cells are predominating. More recent involvement had taken place by extension to the adjacent sclera, optic nerve sheath and optic nerve proper, the proximal end of which is invaded to a greater extent than the end nearer the eye-ball. New blood-vessels are in process of formation in the orbital and scleral masses, but very little connective tissue is present.

Dr. J. E. COLBURN cited a case of a large tumor of the orbit which had been diagnosed and treated as an abscess. The case was referred to him and an examination of the discharge showed the tumor to be a melanotic sarcoma. The orbital cavity was scooped out as far back as was possible. The frontal sinuses as well as the inner layer of the frontal bone were found to be involved. The patient died about a month

afterward. Another case, in a young boy, presented a bulging tumor in the conjunctiva above the eye. Examination of the semi-fluid discharge revealed a melanotic sarcoma. Operation was not consented to by the parents. Four months afterward the tumor was of enormous size, involving the entire side of the head. There was some sloughing and a very offensive odor. Dr. Colburn felt that an operation might have lessened the suffering of the patient considerably, but in all probability it would have hastened death as in the previous case.

Dr. WILLIAM H. WILDER considers the subject of recurrence and metastasis of sarcoma an extremely interesting one, especially when we are asking the question whether or not a positive cure has resulted. Some authorities speak of a cure after a period of three years has elapsed during which there has been no recurrence. This time-limit is, of course, a purely arbitrary one. The question which presents itself is that if recurrence takes place after this time we are to speak of it as a metastatic growth, or as an independent process. Some years ago in the laboratory of Professor Kundrath, in Vienna, Dr. Wilder saw a specimen of melanotic sarcoma of the liver in a subject who, thirty-two years before, had had one eye enucleated for sarcoma of the choroid. Post-mortem examination showed that the different organs were involved by the tumor. If this was metastasis, the period surely was a long one. Dr. Wilder said he had never heard of any longer period than that. This case emphasized the importance of being very chary in giving a favorable prognosis in this class of cases.

Dr. WILLIAM E. GAMBLE referred to a case which he exhibited before the Society in 1897. It was supposed to be a melanotic sarcoma of the ciliary body. He subsequently removed the eye, and up to the present there has been no recurrence of the growth in the neighboring tissues or elsewhere.

Dr. E. A. LAWBAUGH saw a case in London of sarcoma of the liver. The patient died. Mr. Loffard remembered that he had removed the eye of that patient seventeen years ago. The eye was found in the museum, and on examination the tumor proved to be a melanotic sarcoma of the eye. This case is similar to the one reported by Dr. Wilder.

Dr. WILLIAM A. FISHER dwelt on the importance of an early diagnosis in these cases, although in Dr. Hotz' case an earlier diagnosis would not have done any good. He cited the case of a boy, 10 years old, who had been having some trouble with his eye for two weeks. After giving him potassium iodid for three weeks the eye was enucleated and an encapsulated alveolar sarcoma was found at the bottom of the orbit.

THE USE OF PROTARGOL IN DISEASES OF THE EYE.

Dr. J. E. COLBURN reported several cases of acute inflammation of the lachrymal sac following an attack of influenza, which he treated with protargol. In one case there was a large swelling of the right, and a smaller one of the left, lachrymal sac, both of about three days' standing. He dilated the punctum with a cone-shaped dilator, and then introduced a dental syringe into the sac. After a few minims of some thickened secretion had been withdrawn, he injected a sufficient amount of 5 per cent. solution of protargol to fill the sac. An ice compress was then applied, and on the second day the inflammation had entirely subsided. On the third day the sac could be washed out through a canal into the nose.

The second case had a small bean-like tumor in the region of the sac. It was treated in the same way as the previous case, the same results accruing.

The third case was that of a man who twice before had had lachrymal abscesses, and once had to have the abscess lanced on the outside. The punctum was dilated, the sac washed out and then filled with a 5 per cent. protargol solution. Four days afterward the inflammation had entirely subsided, and the solution could be forced through the duct without any inconvenience.

Dr. Colburn offered for examination a small syringe devised by Dr. J. Austin. It consists of a metal tube connected with a glass cylinder, a check valve and a rubber bulb, which has a perforation on the side. This perforation is of great importance. The hollow needle can be introduced without holding the bulb compressed, and after introducing it into the

sac the bulb is compressed, the finger held over the little opening and the fluid, if not too thick, will be drawn into the chamber above. When using it as a syringe the tube can be filled with the solution without being obliged to pay any attention to the opening or solution. It is easily cleaned and does not get out of order. Dr. Dunn has applied the same principle to a medicine dropper, which is convenient, clean and easily handled. The quantity of fluid used can be regulated very easily. It is a perfect medicine dropper to use with solutions of atropin, eserin, etc., as it keeps them clean, because the solutions need not be drawn up into the bulb, and accurate dosage is possible. The valve in the glass cylinder prevents dripping from the tube held in any position.

Dr. A. E. BULSON, JR., Fort Wayne, Ind., has had some experience with protargol, but has found weak solutions to be practically inert. Believing stronger solutions to be more valuable, he increased the strength until he reached 50 per cent. He then got results which he could not obtain with the weaker solution. He agrees with Dr. Colburn that protargol in lachrymal abscesses and in the treatment of all forms of dacryocystitis yields very gratifying results. He has his solutions prepared by the druggist, who adds a little glycerin to it. He recollected reading an article in which a 50 per cent. solution was advocated, the weaker solution proving ineffectual. This strength solution will not affect the cornea, even if there are abrasions. Nitrate of silver does not act in the same way.

Dr. Hotz' experience with protargol coincides with that of Dr. Bulson. He had no results with protargol until he adopted a 20 per cent. solution as his standard. In that strength it has proved to be a most valuable remedy in the treatment of pyogenic affections of the eye, especially inflammation of the lachrymal sac. The stronger solution does not cause any more irritation and pain than the weaker solution. He has found this to be one of the great advantages of protargol over nitrate of silver. In a case of blennorrhoeal conjunctivitis, the 5 per cent. solution was absolutely worthless; the 20 per cent. solution was remarkably effectual. Dr. Hotz has discarded the weaker solutions entirely, as his experience with them has been very unsatisfactory.

Dr. C. P. PINCKARD inquired as to whether any of the members have had any experience with protargol staining the tissues. He is afraid to use it as he finds it to stain very rapidly, much more so than nitrate of silver.

Dr. WILLIAM H. WILDER has used protargol extensively, and has found nothing to be so beneficial in certain conjunctive cases, especially in trachoma when the follicles are large and succulent. He uses a 25 per cent. solution in equal parts of glycerin and water, and months of treatment have never resulted in any staining.

Dr. C. D. WESCOTT has seen at least two cases of argyrosis following the use of protargol in 10 per cent. solution. One of them developed much more rapidly than one would expect, even if a silver nitrate solution had been used. The susceptibility of the patient to protargol is certainly an important factor. Some patients complain bitterly of the pain and burning following the use of the same solutions used on others. He feels positive that there is a vast difference in the solutions of protargol as put up by different druggists; as to its effect in some cases, and as to the complaint that the individual patient will make in regard to the effect of different solutions during the treatment of the same case. Organic salts of silver are very liable to decompose, heat and light affecting solutions very rapidly. A great deal of care is necessary to have uniform solutions and uniform effects. In one of his cases staining of the conjunctiva occurred very rapidly from the use of a 10 per cent. solution every day for two weeks.

Dr. W. F. COLEMAN has also noticed the discomfort caused some patients by the protargol. He uses a 25 per cent. solution, as a rule, although in some cases he has been obliged to reduce the strength to 5 per cent. in order to obviate the pain and burning. He has never seen any staining follow the use of protargol.

Dr. J. E. COLBURN said that he uses a 10 to 20 per cent. solution, but always uses a fresh solution, because if they stand

about for any length of time they become inert. He injected a 5 per cent. solution into the lachrymal sac for the reason that it would be retained for some time and there would be considerable pain following its use if a stronger solution were used. The pain in the one case he cited may have been due to the pain of the tumor, but it seemed to him that the degree of pain was greatly exaggerated by the use of the protargol. He has noticed only little staining resulting from its use, and that little has disappeared within two or three hours. He has also noticed that the same solution will produce different effects in the same eye on different days. On one day there may be considerable irritation, and on the next none at all. He always washes the conjunctival sac with sodium borate before using the protargol, and after the patient has been in the office for fifteen minutes, he again washes the conjunctival sac, in order to clean it of little shreds of mucus, which are so aggravating.

Cincinnati Academy of Medicine.

Regular Meeting Oct. 5, 1900.

President Dr. C. L. Bonifield, in the chair.

APPENDICITIS COMPLICATED WITH PREGNANCY; OPERATION.

Dr. EDWIN RICKETTS reported the case of Mrs. B., aged 24, mother of four children, the last having been born in March, 1900. Her menstruation re-appeared in April, but there has been no flow since that time. In September she had a rather severe attack of pain referred to the lower abdominal region, the temperature reaching 104, and pulse 120. She was compelled to remain in bed for one week, after which the symptoms disappeared, not to return until November. On that date she suffered from symptoms indicating a partial obstruction of the bowels, temperature 102.5, pulse 110. Tenderness diffused over the entire abdomen, with periodical attacks of colicky pain. Diagnosis of appendicitis had been made by her attending physician. Examination of the uterus per vaginam showed it to be movable. Abdomen was opened in the median line as he did not know precisely what complications were to be dealt with. He found the bowel flexed and held back by the attached outer end of the appendix, which latter had to be stripped off, ligated and cut away. The bowels were enormously distended with gas so that a single puncture was necessary; after the escape of the gas the incision was stitched up with catgut. Bowels moved on the third day in response to compound licorice powder. The temperature was 98.8, pulse 90, when ninety hours after the operation a five-months fetus was delivered with but little discomfort to the patient. The specimen of the removed appendix was presented, and showed the walls of the same to be greatly thickened, but no pus was present.

STRANGULATED INGUINAL HERNIA.

Dr. B. MERRILL RICKETTS reported a case of a male, aged 83, in whom the hernia had been strangulated for thirty-six hours. The chloroform was easily taken. On opening the sac he found a gangrenous condition of the gut and it was necessary to remove seven inches of the latter. Anastomosis was made by means of the Murphy button. The patient did well for nine days in spite of the extreme warm weather. At no time did his temperature rise above 100 degrees. On the ninth day he suddenly complained of severe pain in the precordial region and died in a few minutes. No necropsy could be obtained. No cause of death could be assigned, unless a heart clot. Dr. Ricketts stated that he was informed by Dr. Murphy, of Chicago, that the patient was the oldest in whom his buttoa has been used.

OSTEOMYELITIS OF LOWER END OF FEMUR.

Dr. B. Merrill Ricketts reported a case of a boy 13 years of age, weight 195 pounds, who was injured very slightly on the left knee. Forty-eight hours later his temperature was 102.5 and he complained of severe pain and tenderness in the affected part. Within a few days the temperature ran to 104.5 and all the symptoms became greatly aggravated. On the thirty-third day operation of open incision was performed and about a quart of pus was removed from the thigh.

This was followed by the same amount of dark blood and clots apparently coming from the popliteal space. On finding extensive degeneration of the lower end of the femur, amputation was done at about the middle third. The lower fragment of the femur was spontaneously detached from the cartilage, ligaments and tendons about the knee-joint, so much so that there was absolutely no attachment. The patient's condition being so critical the removal of the medullary material was not done. For seventy-two hours his condition seemed hopeless but he has now recovered. It will in all probability be necessary to remove the medulla that recovery may be permanent.

GALL-STONES.

DR. B. MERRILL RICKETTS presented specimens from a woman, 58 years, who has complained of a pain and tenderness in the right side for the last six months. Tumor also appeared about six months ago in right hypochondriac region. As the diagnosis was uncertain, an exploratory operation was performed and the tumor was found to be the gall-bladder distended with stones, seven in number, aggregating 815 grains. The introduction of a needle into the tumor did not reveal the grating sound so often manifested in these cases. The stones were surrounded with a thick jelly-like substance, and were removed and the cavity carefully washed out. No urine was secreted from the 24th to the 36th hour, during which time 1/20 gr. nitrate of strychnia was given every two hours subcutaneously. Her condition seemed to be hopeless for four days after the operation, but she has gained so much in the last few days that recovery can be confidently expected.

REPAIR OF THE LEVATOR ANI MUSCLE.

DR. C. A. L. REED gave the anatomical relations of this muscle and called attention to the fact that not only does it, with its fellow on the opposite side, form the floor of the pelvic cavity, but also gives support to the various viscera passing through it. He had for a long time thought that the reason for non-success in the repair of a lacerated perineum was in many instances due to the fact that the anterior fibers of the levator ani, passing as they do downward along the sides of the vagina, were entirely neglected; he was convinced that these fibers were often ruptured in extensive lacerations of the perineum, so-called. His method was to make lateral incisions in the vagina over the muscle, find the divided ends and suture them together. So far in a small number of cases this procedure had met with complete success.

POST-MORTEM EXAMINATIONS.

DR. W. D. HAINES, the essayist, first called attention to the importance of autopsies, the difficulties of making them in private practice, and the generally slovenly manner in which they are performed under such circumstances. He called attention to the important preliminary observations to be made and laid especial stress on the position of the patient, of course referring to official cases. He carefully differentiated between post-mortem staining and ecchymosis, stating that the latter might be a most valuable medicolegal clew. In this relation he stated that the physical condition preceding death and the way in which death was produced greatly modifies the staining which follows. For instance, a man killed by lightning, one who succumbs to hemorrhage, and one dead of some long-continued exhaustive disease, will have little or no staining. On the contrary, those dying from acute diseases or accidents without great hemorrhage have the staining well marked. He then narrated one case in the practice of Dr. George W. Twitchell in which post-mortem staining took place before death. The skin covering the fingers, hands and forearms and that covering the toes, feet and ankles of the patient was livid for several hours before dissolution. Muscular rigidity was absent, the temperature subnormal. The patient, a robust girl, 34 years of age, had been seized suddenly thirty-six hours previously with a fatal malady. On post-mortem examination there was found appendicitis, gangrene of the bowel and perforation. The essayist further stated that probably the most troublesome class of cases that come to the attention of the examiner are those of sudden death, with few or no details as to the health or whereabouts of the deceased for some days

previous to the finding of the body. Such instances are by no means infrequent in any large city, and it is almost always assumed that some crime has been committed or suicide has taken place. The duties of the examiner are numerous and often embarrassing to a degree. Where poisoning is suspected the appearance of the mucous membranes lining the mouth, esophagus and stomach are valuable, but often exceedingly misleading signs. For instance the congestion of an acute stomatitis or pharyngitis from simple cause may resemble exactly that due to poisons; the finding of some poisonous substance in sufficient quantity to produce death is the only reliable proof that the suspicion of poisoning has been confirmed. The essayist then discussed fully the causes of post-mortem rigidity and called attention to the curious attitudes assumed by the deceased in sudden and violent death. Coming down to the examination of the lungs, he said that the fact that these organs floated when thrown into a basin of water was by no means proof positive that the infant had been born alive, and quoted Taylor's "Medical Jurisprudence" very extensively in support of this statement. Attention was then called to the differentiation between the vesicles scattered over the anterior surface of the lungs in case where death had taken place several weeks previously, and the vesicles found in the same location in victims of asphyxiation, and the following case was reported. A mother attempted to kill her two children by chloroform inhalation, and to make everything sure she turned on the gas after carefully sealing the room. The younger child died and the following autopsy report was handed the coroner: "Autopsy twenty hours after death. Post-mortem staining extensive; rigor mortis absent; blood very dark, fluid, and did not coagulate. A great number of vesicles were found over the surfaces of the lungs. Microscopic examination revealed many of the alveoli ruptured." The opinion was given that the child died of asphyxiation by coal gas.

Do the lungs of persons dead of drowning contain water? The essayist made the following experiment to determine this point. A subject dead of uremia was placed in a vat and sufficiently weighted to prevent floating. Water was then added until the body was completely submerged. Twenty-four hours later the chest was opened and, after ligation of the trachea, the lungs were carefully removed and examined. On slitting the trachea and larger divisions of the bronchi, ten grams of a mucous-aqueous fluid was obtained. A large number of examinations of the lungs of persons dead of drowning have been made since the above experiment, with special reference to this feature, and the conditions were similar to those found in the experiment, with the exception that in some instances the lungs contained less fluid than did those the subject of the experiment. It follows from the above that the lungs of persons dead of drowning do not contain water. On the other hand, neither do the lungs of persons known to be dead before being placed in water permit the entrance of fluid. Therefore, one may not say whether the subject was alive or dead when placed in water.

Philadelphia County Medical Society.

Meeting held Oct. 10, 1900.

President Dr. J. H. Musser, in the chair.

SUCCESSFUL REMOVAL OF CATARACTS IN INSANE PATIENTS WITH RECOVERY OF MIND AND SIGHT.

DR. WM. CAMPBELL POSEY read this paper. He reported the case of a man aged 45, whose vision had gradually failed for three years. Soon after the mind also became affected, until finally he became subject to delusions of persecution and was committed to the insane asylum at Norristown. Examination showed cataract affecting each eye. One of them was removed by linear extraction and recovery from operation occurred within one week. Two weeks after the operation the man showed marked improvement of mental symptoms. Some time later the other cataract was removed. Glasses were given and at the end of one month vision was almost normal. At this time the mental functions had so much improved that he was allowed to return home, apparently free from the evidences of insanity, and now, at the end of two years, apparently is well.

The second case was that of a woman aged 60, who had also complained of gradual loss of sight, followed by delusional insanity. She also suffered from cataract affecting each eye. In this case the cataract was removed under cocaine. After the operation almost normal vision was restored and with it the mental symptoms improved rapidly.

DR. CHARLES W. BURR, in discussion, stated that he had seen the first one after the operation had been performed and after the patient was apparently well. The explanation of recovery as given by the man was that he was a laboring man with a family and who, on finding that the vision was gradually failing, became despondent from loss of work and increased care, finally becoming insane. However, as soon as vision was restored he again found that he could once more do manual labor and support his family and the mind once more began to re-assume its normal functions. The speaker believed that in such cases of insanity the eye, like other organs, should be put in the best condition possible.

DR. COLLOCK stated that he had seen two similar cases benefited by operation.

DR. MORDECAI PRICE believed that every deviation from the normal lowered the cerebral functions, the correction of which would be followed by improvement of the symptoms. If the eye was at fault in cases of insanity the sight should be restored if possible and in most cases of insanity in which there is some special organ at fault he thought an early operation is indicated.

DR. GEORGE E. DESCHWEINIZ had operated probably twenty times on insane patients who also suffered from cataract. Some of these cases had been suffering with delusional insanity, senile dementia, alcoholic insanity and other forms of insanity. In one case of melancholia only, there was some improvement shown, such as cheerfulness, but in the others there was no improvement whatever. In his opinion operation for cataract on insane patients was generally followed by no improvement in the mental symptoms.

DR. POSEY, in closing the discussion, stated that in performing the operation on insane patients ether should be preferred. In these two cases presented, improvement of the mental symptoms followed after the operation. He had, however, operated in fifteen other cases without improvement being shown.

CLINICAL LAWS OF IMMUNITY OF DISEASE.

DR. LAMBERT OTT referred to the peculiar characteristics and manifestations of symptoms of such diseases as pneumonia, erysipelas and others which had a tendency to leave the patient more susceptible, while in others, such as scarlet fever, measles and the like, there was the opposite tendency. It had occurred to him that a patient suffering with one form of infectious disease in a measure was immune from some of the other infectious ones. For instance, sufferers of follicular tonsillitis seemed to be somewhat immune from diphtheria. In one family he had seen several members suffering from follicular tonsillitis, while another member of the same family had acute articular rheumatism. Immunity from the paternal side is not so readily transferred as from the maternal. This is well exemplified in the case of syphilis. The combined immunization conferred by different diseases combats infection from certain sources.

DR. JUBSON DALAND stated that the immunity transferred through the influences of heredity was an attractive one. The influences exerted by peculiar body characteristics seemed variable. As for instance, a plethoric person might suffer from a sthenic or asthenic attack of pneumonia. The high mortality in sthenic cases might in some cases depend on the amount of fibrin present, and the coagulability of the blood. As to the coexistence of two infectious diseases, he referred to cases of typhoid, combined with malarial fever. In such a case he had seen the influences of the malarial parasite first exerted, then subsiding while the symptoms of typhoid gained the ascendancy, after which the malarial parasite again became active.

DR. W. M. L. COPLIN referred to the antagonism existing between one organism and another. Admixture of dif-

ferent kinds of bacteria results frequently in certain ones being destroyed. The consensus of opinion seems to be in the specificity of immunity.

DR. SOLOMON SOLIS-COHEN referred to the natural immunity which is evidenced by tracing the history of certain diseases. For instance, syphilis and other diseases are now less virulent than formerly. He desired to know the data on which one might determine the clinical laws governing this subject.

DR. OTT, in closing, stated that his data had been derived solely from clinical experience gained at the bedside of the patient.

HEART DISEASE OR EPILEPSY.

DR. F. SAVARY PEARCE read a paper with the above title. He referred to several cases in which the patients had suffered from attacks of syncope, and marked by such symptoms that it was hard to determine whether the attacks were brought on by cardiac involvement or whether they resulted from cerebral origin.

DR. ERNEST LAPLACE exhibited his new inhaler for ether and chloroform. The apparatus was designed several years ago, and consists of a tortoise-shaped device composed of two thin pieces of nickel-plated metal, with a cross-shaped aperture in the top, and so united by a hinge at one end that they can be opened for the introduction of layers of gauze on which the anesthetic is allowed to drop. The under surface conforms to the shape of the face. The inhaler can be used for ether or chloroform. Its principal advantage is that it can be readily sterilized.

DR. E. W. HOLMES could not see that the new instrument had any advantages over the Allis inhaler, since the latter permitted a more ready inflow of air during inspiration. The idea in giving ether was to administer air saturated with ether, which is obtained by the Allis inhaler.

DR. LAPLACE stated that he had employed the instrument for nearly two years with success. As to the inflow of air in giving an anesthetic, all that is necessary with this apparatus is to slightly elevate the cone. In giving chloroform less gauze should be placed in the apparatus than in the case of ether.

Meeting held Oct. 24, 1900.

Acting President Dr. F. M. Perkins, in the chair.

DR. ARTHUR DARE presented a new hemoglobinometer, with which he has made over a thousand estimations. Compared with other methods, he had found that the results conformed closely with that of the Oliver method, but differed considerably with the Gower instrument. The instrument consists of a series of graduated pieces of colored glass corresponding with certain percentages of hemoglobin and are read off rapidly, using a candle as the light to be projected through the glass.

DR. J. ALLISON SCOTT had used the instrument several times and believed that the results obtained were approximately correct.

DR. H. W. STELWAGON gave a brief account of a report of Professor Finsen's light institute at Copenhagen. The speaker first reviewed the history of the treatment of diseases by the use of light rays in this institution. At the present time twenty people were under treatment every hour, with from 100 to 200 on the waiting list. Of these some were cases of tuberculosis of the skin, alopecia areata, and erythematosis. The light principally used was either direct sunlight or arc light. The rays are focused on certain diseased areas through long lenses. In this way very small surfaces could be treated. The light is transmitted through a piece of glass disc placed in contact with the skin. The eyes of patients and attendants are protected by dark glasses. In addition to the treatment by light, local measures are also employed, such as the application of pyrogallol, the galvanocautery, etc. The results have so far been quite satisfactory. The treatment is carried on for about one hour daily and the course extends over a period of several months. As to relapses, one must express an opinion with a considerable amount of reserve. The criticism has been that other plans of treatment had been of equal value to that of light.

DR. M. R. HARTZELL believed that some of the good results had followed probably from the other local applications employed. Such applications as iodine and pyrogallol are of distinct value in many cutaneous affections. The great expense attending the establishment of a place where the work can be carried on militates against its employment. Under certain conditions he believed the light treatment was of value.

DR. A. A. ESINER reported some anomalous cases of typhoid fever. In some of these cases the Widal reaction had been of decided value in making a diagnosis. In certain types the disease is really a septicemic process, probably depending on the mode of infection. In some instances the symptoms closely resemble military tuberculosis.

TYPHOID BACILLI IN THE URINE AND ITS DISINFECTION.

DR. NORMAN B. GWYNN read a paper on this subject. Reviewing the history, it was found that Bouchard had, in 1881, claimed to have isolated typhoid bacilli from urine in 50 per cent. of the cases. Other writers had spoken of finding the micro-organism in 20 to 30 per cent. of the cases. As a rule, pure cultures are obtained. The urine may appear quite clear and is generally acid in reaction. In one instance he had found five million typhoid bacilli in ice of urine. He had experimented with various reagents to disinfect this urine, such as milk of lime, carbolic acid, bichlorid of mercury, chlorid of lime, formalin, and liquid chlorids. The results obtained with slaked lime, or milk of lime, had not been satisfactory. In a mixture of which two-fifths of the bulk had been milk of lime, living bacilli had been found. Carbolic acid was found to be of value when used in large amount. In a solution of 1 to 40, typhoid bacilli lived for days. Bichlorid of mercury was useful in a strength of from 1 to 40 up to 1 to 20, the latter disinfecting in about one hour. Formalin in a solution of one-tenth of 1 per cent. disinfects completely within half an hour. Chlorinated lime was found to be one of the best disinfectants, especially in those cases in which the urine is acid. To disinfect 1200 c.c. of urine requires 30 c.c. of chlorinated lime solution. Liquid chlorids have been found to be of considerable value, but must be used in large amount.

DR. HOWARD S. ANDERS referred to the atypical cases of typhoid frequently met with. He had always insisted on careful disinfection of the urine in this disease.

DR. J. P. CROZER GRIFFITH referred to certain cases of typhoid in which no intestinal lesions had been found at necropsy. Typhoid fever in children is nearly always anomalous when compared with the disease in adults. As a rule, in children it only lasts from 14 to 17 days. Sometimes it may simulate meningitis.

DR. SOLOMON SOLIS-COHEN spoke of the necessity of disinfection of urine in typhoid cases. He referred to a case that he had treated recently in which there had been cystitis, and in the urine pus and typhoid bacilli had been found.

DR. DAVID RIESMAN thought that since the Widal reaction had been generally used more anomalous cases of typhoid had been discovered than formerly. In these cases in which death had been due to a bacteremia, the pathologist might have overlooked the real disease. At the present time in such cases the typhoid bacillus may be isolated from the spleen.

DR. A. G. ROUSSEL had recently treated an anomalous case of typhoid in which there had been no intestinal lesions post-mortem.

New York Academy of Medicine—Section on Pediatrics.

Meeting held Oct. 11, 1900.

CONCLUSIONS FORMED AFTER SIX YEARS' EXPERIENCE WITH THE ANTITOXIN TREATMENT OF DIPHTHERIA.

DR. HENRY F. KOESTER opened the discussion with a paper having this title. It was founded on a large experience as one of the inspectors of the health department, and on 170 cases seen in private practice. He advised 2000 units as the minimum dose, and recommended giving 3000 units in severe cases, and repeating this dose in twelve or twenty-four hours. If the case were one of nasal diphtheria, he would give 4000 or 5000 units as the initial dose, and if there was laryngeal dip-

theria present, a dose of 4500 to 6000 units. In the cases of mixed infection, or so-called septic cases the first dose should be as high as 5000 or 6000 units. The foregoing figures show that Dr. Koester has absolute confidence in diphtheria antitoxin as a curative remedy in diphtheria, and moreover that he believes it is perfectly harmless. For immunizing purposes he was accustomed to give 200 to 500 units, and as a result of his observations in 1800 cases of immunization he had learned to think very well of this method. In addition to using antitoxin he syringes out the throat with bore acid, or better still with a neutral solution of hydrogen peroxid, taking care to have the patient's mouth open during the syringing to guard against the entrance of fluid into the Eustachian tube. He strongly condemned calomel fumigations in laryngeal diphtheria on the ground that they were unnecessary where antitoxin is used, and by their irritating action predispose to pneumonia or bronchitis. The most common sequelæ of the antitoxin treatment of diphtheria were urticarial eruptions and joint pains. For the former, he advised sponging with cold water and vinegar; for the latter, rest and the internal administration of the salicylates. His conclusions were: 1. Antitoxin is a positive cure for diphtheria when used early and in sufficiently large doses. 2. Even when employed too late to secure its specific curative action, it can not do harm under any circumstances. 3. When administered before the invasion of diphtheria antitoxin possesses a positive immunizing power, which lasts about 30 days.

WHAT QUANTITY AND GRADE OF ANTITOXIN SHOULD BE GIVEN IN DIPHTHERIA AND HOW SHOULD IT BE ADMINISTERED?

DR. WILLIAM H. PARK, of the Health Department, read this paper. He said that he had experimented at the Willard Parker Hospital during the last two months with small doses, giving to the cases in rotation as they were met with, 1000, 2000 and again 1000 units, without regard to the severity of the disease. During the time these experiments on small doses were being carried on the type of the disease was rather mild. Of the 93 cases, 42 received 1000 units. Of this series, 16 per cent. died. Of the 51 cases receiving 2,000 units, 13 per cent. died. Ten cases in the first series, and twelve in the second developed rashes. The local condition seemed to improve more slowly under the smaller doses. For severe cases of ordinary faucial and laryngeal diphtheria, he now advises beginning treatment with a dose of 3000 to 5000 units, and repeating it in 12 or 15 hours if no improvement has been observed. He does not think there is much prospect of our being able to eliminate the antitoxin rashes.

ANTITOXIN IN THE TREATMENT OF DIPHTHERIA.

DR. JOHN H. MCCOLLOM, resident physician of the Boston City Hospital, presented a paper detailing his experience with very large doses of antitoxin. In one desperate case, that of a child admitted on the third day of the disease, a total of 60,000 units of antitoxin had been given in doses of 4000 each, yet the only troublesome symptom had been an urticaria. The patient had recovered. In another "septic" case, occurring in a girl of 4 years, and apparently doomed, recovery followed the use of 48,000 units of antitoxin. This amount had been reached before the characteristic effect of antitoxin had been observed. These cases were fairly illustrative of a large number which Dr. McCollom said had deeply impressed him because recovery had taken place, although from previous experience one would have been justified in assuming that they were hopeless, if not indeed, moribund at the time of their admission. He believes, therefore, it is the physician's imperative duty to resort to these enormous doses of antitoxin if smaller doses do not suffice or if the condition is especially desperate. He said that since September, 1895, 104 cases of clinical diphtheria had developed among the physicians and attendants at the Boston City Hospital. Antitoxin had been used in all of them, and every one had recovered. Paralysis had not occurred, and the duration had been below the average. Frequent urinary examinations had been made in 633 cases. In 42.3 per cent. there was no albumin; in 57 per cent. there was a minute trace. While the prognosis varies with the quantity of albumin in the urine, it is of no great significance. Of the 71

autopsies, not one showed a state of the kidneys such as could have had much to do with the fatal issue. Paralysis had not been observed more frequently among the cases receiving antitoxin than among those treated without it. The author's conclusions were as follows: 1. The ratio of mortality of diphtheria per 10,000 living was very high in Boston prior to 1895. 2. This ratio has been very materially reduced since the introduction of diphtheria antitoxin. 3. The percentage of mortality in the South Department of the Boston City Hospital is lower than in any other of the hospitals used in his paper for purposes of comparison. 4. Since the larger doses of antitoxin have been used there has been a decided diminution in the mortality in apparently moribund cases. 5. There have been no injurious effects from the use of the serum. 6. To obtain the best results the diphtheria antitoxin must be given at the earliest possible moment.

DR. W. C. DEMING opened the general discussion, speaking from an experience in the Health Department represented by 277 cases of diphtheria and 479 cases of immunization. For ordinary cases he preferred an initial dose of 2000 units, and for severe or for laryngeal cases, a dose of 4000 units. For immunizing purposes he uses 200 units for infants, 300 to 400 in young children, and 500 units for adults.

DR. L. K. NEFF said that in "septic" cases or in laryngeal diphtheria he used about 7000 units for a child of 10 years, and gave half this quantity as a second dose within twenty-four hours, if no improvement had occurred. In ordinary tonsillar diphtheria, 3000 units would effect a cure.

DR. JOSEPH E. WINTERS commented on the very large number of cases of diphtheria developing in the Boston City Hospital. He said that on three different occasions he had observed a higher rate of mortality at the Willard Parker Hospital in those cases of diphtheria receiving the larger doses of antitoxin. This had been the experience last summer; the highest mortality had coincided with the use of the very large doses, and the lowest mortality with the period in which the small doses had been employed.

DR. H. W. BERG said that after careful observation of the cases at the Willard Parker Hospital he had become impressed with the fact that those that had received the very large doses of antitoxin had not done as well as those treated with the smaller doses. He had also noticed more albuminuria, the more frequent occurrence of erythematata and a larger proportion of these cases of broncho-pneumonia during the period when the large dosage had prevailed. In his private practice he never used more than 1000 units at a single dose, though he often repeated this two or three times. He was opposed to the very large doses simply because of the large quantity of heterogeneous serum that must be introduced at one time.

DR. CHARLES HERMANN said that it was generally stated that an immunizing dose of antitoxin confers immunity for 30 days, yet it had been demonstrated recently that this period is not over 21 days. Where measles and diphtheria are associated, the immunity lasts only two weeks, and the immunizing dose should be 500 instead of 300 units. It is well to remember that the antitoxin eruption may at times very closely simulate the eruption of scarlatina.

Philadelphia Pediatric Society!

Meeting, Oct. 9, 1900.

Dr. Alfred Stengel in the chair.

DR. W. O. XANDER presented two cases of infectious nephritis secondary to mumps before the Society and gave their histories briefly as follows: The boys were cousins, nearly the same age, and both lived practically under the same circumstances. Neither of the cases had suffered from scarlet fever, typhoid, nor diphtheria. The speaker did not see the first case until recovery had practically occurred, but the history had been that there had been enlargement of the glands of the neck. There was general edema, pallor of the skin and glandular enlargement. The urine contained blood, casts and albumin (one-third by volume). In the other case there were distinct evidences of nephritis. Neither gave a history of desquamation of the skin.

DR. A. A. ESHNER did not concur entirely as to the nomenclature employed. Calling these cases nephritis of infectious origin resulting from mumps might be open to some doubt, since such a condition is very rare and the infectious nature which was supposed to have caused the nephritis occurred some time before. The fact that nephritis arose did not necessarily imply that the cause was due entirely to some infection. Parainfections seemed a better name to use.

DR. W. M. WELCH believed that nephritis following mumps was very rare. He had seen certain cases of scarlet fever in whom there had been but very slight cutaneous involvement, but with glandular enlargement, and it was possible that the cases might be of this nature.

DR. ALFRED STENDEL had seen these cases some time after the attack. In his opinion the diagnosis of mumps was somewhat doubtful, since the glandular enlargement had been quite low in the neck. He did not believe these cases had suffered from scarlet fever. It seemed probable that they had had the type of acute glandular enlargement described by Pfeiffer and others as a glandular fever.

DR. XANDER, in closing, stated that he did not think these cases had scarlet fever, since there had not been any desquamation, even between the fingers, where it was prone to occur. There had been no epidemic of scarlet fever in the neighborhood.

DR. T. S. WESTCOTT read a paper entitled "A Method for Differential Modification of the Proteids of Milk in Percentage Mixtures." The method for determining these proportions he had arrived at by mathematical calculations. For the most part the calculations were based on the formula of milk as determined by Koenig.

DRS. HAMILL and MACLACHLIN presented a case of supposed congenital syphilis with rapidly destructive lesions. The history was that the child appeared to be normal at birth, but a few days later a deep ulcer developed on the upper lip, which continued to spread until at the end of the twentieth day the upper margin extended almost as high as the outer canthus. Above this diseased area there was a large surface covered with a bright reddish eruption in which there were abundant papules. The child also had nevi affecting the trunk and face. The speaker could determine no manifestations of syphilis on the part of the mother. She had given a history of having had two miscarriages.

DR. JAY F. SCHAMBERG could not altogether agree as to the diagnosis of syphilis. Congenital syphilis was usually accompanied by secondary symptoms and signs, such as blebs and bullae, snuffles and the like. He was rather of the opinion that it was due to a trophic disturbance such as occurs in herpes, leprosy, etc.

DR. J. H. MCKEE and others had seen this case on the twelfth day after birth, and it was the consensus of opinion that it was not syphilis.

DR. D. L. EBSALL coincided with the view of Dr. Schamberg. He believed that the condition was due to vascular disturbance. He had seen a case in which there had been a swelling of both cheeks in an infant about a year old. Both cheeks had within a day assumed a purplish or bluish hue, were cold, and painful on pressure. Subsequently some sloughing occurred and gave rise to a diagnosis of cancerum oris affecting both sides of the face. Within a period of only a few days the condition disappeared and recovery took place. The opinion expressed was that the latter case was due to thrombosis.

DR. F. A. PACKARD, on behalf of the milk commission, appointed by the Society to determine the quality of the milk sold in the market of Philadelphia, stated that since this commission was probably the first one appointed for such a purpose by any society, the work was hard to outline and for that reason time would be required to develop the methods. This commission had, however, gone to work and had endeavored to learn the methods of improving the quality of the milk in different cities. The commission which he represented had obtained legal advice as to the necessary powers to be given and other matters. They had sent out notices to dairymen of the work of the commission, asking if such producers desired their product examined. Of three examined, two came up to

the required standard. The work of the commission will be continued.

DR. M. OSTHEIMER (by invitation) reported a case of fatal intestinal hemorrhage of unknown cause in an infant of 5 months.

DR. J. M. JOPSON reported a case of stricture of larynx following intubation, occurring in a boy 5½ years of age. In this case the tube had been left in the larynx 45 days, and the stricture doubtless resulted from cicatricial contraction due to pressure of the tube.

Therapeutics.

Lumbago.

R. Sodii salicylatis	..... gr. x	66
Potassii iodidi	..... gr. v	33
Ext. sarsaparillæ fluidi	..... ʒii	8
Aquæ destil., q. s. ad	..... ʒss	16

M. Sig. At one dose, to be taken in water after each meal.
—Nestor Tirard.

Trigeminal Neuralgia.

R. Extracti cannabis indicæ	..... gr. vi	36
Acidi salicylici	..... ʒi	4

M. Ft. cachets x. Sig. One wafer three times a day.
—N. Y. Med. Jour.

Rheumatism.

R. Methyl salicylatis	..... ʒii	8
Mucilaginis	..... ʒiiss	80
Rum	.....
Syrupi, aa	..... ʒvss	26

M. Sig. This quantity to be taken in twenty-four hours in divided doses.

This can be used when sod. salicylate is not tolerated.
—Cosma: N. Y. Med.

Habitual Constipation.

R. Sulphuris loti	.....
Potassii bitartratis, aa	..... ʒi	32
Pulv. senne (leaves)	..... ʒiv	16
Syrupi rhei	..... ʒii	8
Syrupi rhamni purshianæ, q. s.	..... ʒiii	96

M. Sig. One teaspoonful morning and evening.

Cirrhosis of the Liver.

R. Sodii phosphatis ʒviii	256
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Sig. Tablespoonful in hot water before meals, for jaundice and gastric disturbances.

R. Potassii acetatis	..... ʒii	64
Infusi digitalis	..... ʒviii	256

M. Sig. One tablespoonful in a glass of hot water after eating, to reduce the asecites by increasing renal elimination.

R. Potassii iodidi	.....
Aq. bullientis, aa	..... ʒi	32

M. Sig. Five drops in milk three times a day, gradually increased in syphilitic enlargement of the liver.

—Dominion Med. Monthly.

Care of the Skin in Acne.

R. Hydrarg. chloridi corros.	..... gr. viiss	5
Tinet. benzoini	..... gr. lxxv	5
Emuls. amygdalæ amare, q. s. ad	..... ʒviii	256

M. Sig. Apply night and morning, first bathing the skin with very hot water, to which a few drops of eucalin have been added.
—E. Lacour: N. Y. Med. Jour.

First Stage of Pneumonia.

R. Tinet. veratri viridis	..... m. xxiv	15
Vini antimonii	..... ʒi	4
Ammonii bromidi	..... ʒi	10
Liq. ammonii acetatis	..... ʒiiss	80
Syrupi limonis, q. s. ad	..... ʒiii	96

M. Sig. One teaspoonful every hour in water until easier, then every two hours.

Blair Stewart states that his object in prescribing the above combination is to reduce the heart's action, equalize the circulation, lower blood-pressure, allay the irritative cough, stop the pain and promote diuresis and diaphoresis.

La Grippe.

R. Acetanilidi	..... ʒi	4
Alcoholis, q. s. ft. sol.	.....
Tinet. gelsemii	..... ʒss	2
Syr. zingiberis, q. s. ad	..... ʒii	64

M. Sig. One teaspoonful every three hours.
—Med. Summary.

Emulsion of Castor Oil.

R. Olei ricini	..... ʒi	32
Pulv. acaciæ	..... ʒss	16
Elix. saccharin	..... m. xx	1 33
Ol. amygdal. dulcis	.....
Ol. cari, aa	..... m. ii	12
Aquæ destil., q. s. ad	..... ʒii	64

M. Dissolve the gum in water, add the oil gradually and then the flavor. Sig. One to two tablespoonfuls at bedtime according to age.
—Med. Times and Hosp. Gaz.

Sluggish Eczema.

R. Tinet. saponis viridis	.....
Picis liquide	.....
Alcoholis, aa	..... ʒiii	12

M. Sig. Apply locally twice daily.
—Stelwagon.

Eczema of the Eyelids.

R. Resorecini	..... gr. iii	2
Unguenti aque rose	..... ʒiiss	10

M. Sig. Apply three or four times daily, avoiding the application of water to the lids.

Scrofulous Ophthalmia.

R. Hydrarg. oxidii rubri	..... ʒiiss	10
Zinci oxidii	..... ʒi	4
Adipis	..... ʒiii	96
Cere albæ	..... ʒss	16
Camphoris—dissolve in ol. olive	..... ʒi	4
Glycerini	..... ʒi	32

M. Sig. Apply two or three times daily on the edges of the lids and corners of the eye, and

R. Quinina sulphatis	..... ʒiiss	6
Liq. potassæ arsenitis	..... m. x	66
Ext. hyoscyami	..... gr. iii	2

M. Ft. pil. No. lx. Sig. One after each meal.
—C. Fronefield.

Chronic Conjunctivitis in Children.

R. Acidi borici	..... gr. xl	266
Sodii chloridi	..... gr. x	66
Zinci chloridi	..... gr. ii	12
Aquæ destil.	..... ʒiv	128

M. Sig. Instil a few drops in each eye three times a day.
W. L. Pyle, in *Internat. Med. Magazine*, recommends the above in treatment of chronic conjunctivitis following blepharitis.

Rachitis.

R. Ol. terebinthinae	..... ʒv	20
Alcoholis—camphorated	..... ʒiiss	48
Spiritus lavandulae	..... ʒii	8
Eau de cologne	..... ʒv	20

M. Sig. Apply by friction with hair gloves steeped in this liniment.

Also systematic exercise, consisting of active and passive gymnastic movements, should be practiced to stimulate general nutrition.
—Province Med.: N. Y. Med. Jour.

Seborrhea Preceding Baldness.

R. Formalin	..... ʒi	4
Glycerini	..... ʒii	8
Eau de cologne	.....
Alcoholis, aa	..... ʒiii	96

M. Sig. Apply locally to the scalp with friction.
—Ravogli: St. Louis Courier of Med.

Otorrhea.

R. Liq. plumbi subacetatis	..... m. xx	133
Acidi acetici dil.	..... m. vi	36
Vini opii	..... m. x	133
Aquæ destil., q. s. ad	..... ʒi	32

M. Sig. Drop ten drops into the ear three or four times a day, previously warmed.
—N. Y. Med. Jour.

Sclerosis of Locomotor Ataxia.

R. Hydrarg. chloridi corros	gr. 1/40	0015
Auri et sodii chloridi	gr. 1/30	002
Zinci phosphidi	gr. 1/20	003
Strychnina sulphatis	gr. 1/60	001

M. Ft. pil. No. i. Sig. One such pill every three or four hours.
—Thompson: *Jour. Med. Sciences.*

Ointment for Scabies.

R. Unguenti sulphuris		
Ungenti zinci oxidi, aa	ʒi	32
Styracis	ʒiiss	12
Saponis viridis	ʒiiss	14

M. F. Unguentum. Sig. Cleanse the parts well and apply two or three times daily.

To Cleanse the Naso-Pharyngeal Passages.

R. Sod. bicarb		
Sod. boratis		
Sod. chloridi, aa	ʒi	32

M. Sig. One teaspoonful in a cupful of warm water as a gargle and insufflation.

Loss of Appetite in Children.

Dr. Prüssian has used orexin tannate with unusual good results in anorexia of children, either simple in character or as a symptom of tuberculosis and chloranemia.

R. Tablets orexin tannatis—chocolate coated		
aa	gr. iv	25

Sig. One tablet one hour before meals three times a day.
—*Merck's Archives.*

Delayed Resolution in Pneumonia.

R. Potassii iodidi	ʒi	4
Ammonii chloridi	ʒiiss	6
Mist. glycyrrhizæ comp.	ʒvi	192

M. Sig. One tablespoonful four times a day.

Baldness.

R. Pilocarpina hydrochloratis	gr. v	3
Otto rosæ	m. viii	3
Ol. rosamarinii		
Lin. cantharidis, aa	ʒiv	16
Glycerini puri	ʒi	32
Ol. amygdalæ dulcis	ʒii	64
Spts. camphoræ	ʒiiss	96

M. Sig. Rub well into the scalp night and morning.

—Whitla: *Ther. Rev.*

J. H. Hobert Egbert, in *Merck's Archives*, states that the antipyretic action of quinin may be augmented by combining it with other remedies: 1, which relax the peripheral capillaries, as powdered ipecac and opium; 2, remedies which are antipyretic through action on nerve centers and vasomotor system, as acetanilid, antipyrin, etc., which may be given preferably in liquid form:

R. Quinina sulphatis		
Acetanilidi, aa	ʒi	4
Arom. elixiris	ʒi	32
Syrupi—chocolate—q. s ad	ʒiv	128

M. Sig. One to two teaspoonfuls every four hours.

He also states that the action of quinin is augmented by combining it with other cinchona alkaloids:

R. Quinina sulphatis		
Cinchona sulphatis		
Cinchonidina salicylatis, aa gr. xxx		2

M. Ft. capsula No. xxx. Sig. One to three capsules every four hours.

Gonorrhœal Urethritis.

R. Protargol		
Iodoformi, aa	gr. xii	75
Balsami peruviani	m. vi	36
Ext. belladonnae	gr. i	66
Cacao butter, q. s.		

M. Ft. crayons No. xii, each two inches in length and one-eighth inch in diameter. Sig. One crayon to be introduced into the urethra twice daily.

—H. B. Sheffield: *N. Y. Med. Jour.*

Antiseptic Dusting Powder.

R. Salol	ʒiv	16
Zinci sulphatis	ʒvi	24
Puly. benzoini	ʒii	8
Puly. talci	ʒviii	32
Olei feniculi	m. vii	5

M. Thoroughly triturate until a fine powder is made and use freely.

Of use in treatment of chronic ulcers, suppurating sores as an iodoform substitute.

Infusion of Normal Salt Solution.

IN PNEUMONIA.

Dr. Pelligrene uses:		
R. Sodii chloridi	gr. xl	266
Sodii bicarb	gr. xx	133
Aquæ destil., q. s. ad	ʒviii	256

M. Sig. Use subcutaneously.

Dr. Galvanzi, of Modena, has had success with the following:

R. Sodii chloridi	gr. xii	75
Sodii bicarb	gr. viiss	5
Aquæ destil., q. s.	ʒviiss	208

M. Sig. To be used subcutaneously.

IN DIABETIC COMA.

Dr. Lepine uses:

R. Sodii chloridi	ʒi	4
Sodii bicarb	ʒiiss	10
Aquæ destil	Oii	1024

M. Sig. For subcutaneous use.

The conclusions as to the mode of action to relieve suffering from shock and effects of hemorrhage:

1. Hypodermoclysis at a temperature of 110 F. is a direct tonic to the sympathetic nerve-centers.
2. It is a tonic to the muscles of the blood-vessels.
3. It is a tonic to the heart, by distending its chambers with increased bulk of fluid.
4. It washes out the tissues and dissolves the toxins, urea and other excrementitious products and passes through the kidneys rapidly.
5. A short time after a normal salt solution is injected into a vein a chill may occur, followed by perspiration and labored respiration. With subcutaneous injections these symptoms do not occur.

—John R. Maynes: *South Cal. Pract.*

The Treatment of Leprosy with Oil of Chaulmugra.

At a recent meeting of the Charité Society of Berlin, Dömitz (*Berliner klin. Wochenschrift*, 1900, No. 36, p. 733) reports successful results from the treatment of two cases of leprosy with subcutaneous injections of chaulmugra-oil. The drug has long been administered internally for this purpose, but it is not always well borne. It was found that the subcutaneous injection was followed by both local and general reaction, the former consisting in redness of the affected areas and the latter in distinct elevation of temperature continuing for several days. Pericyclic redness of both eyes, persisting for some time, was especially noteworthy. The injection was repeated only when the ocular irritation had subsided. There was soon no doubt that the infiltrations were disappearing. Their turgescence diminished; the skin became finely wrinkled and again mobile; and the color improved. In the course of four months, extensive infiltrates disappeared, leaving only a bluish discoloration. The face, from having presented a typical leonine appearance, acquired its normal expression. In this case sulphur-baths also were employed, and it is thought these may have exerted a salutary effect; but the other patient received only injections of oil. In the latter instance also the results were eminently satisfactory. In both vision was improved through a clearing up of the cloudy cornea. The dose selected was that just small enough to excite reaction, and it was not repeated until the effects of the previous injection had subsided. For this purpose 0.1 or 0.2 grams were required at intervals of from ten to fourteen days. It is suggested that possibly the same method of treatment may be successful with regard to other cutaneous affections, as for instance those of syphilis.

Medicolegal.

Expert May Give Opinion on Facts He Relates.—While it is true that an expert can not be asked to give his opinion based merely on the testimony heard by him, whenever there is a conflict in such testimony, yet, when the material facts are within such expert's own knowledge, and related by him in his own testimony, he may, the Supreme Court of Utah holds, in *Wells vs. Davis*, give an opinion based wholly on such personal examination and knowledge, without having such facts hypothetically stated.

Professional Secrecy in the French Courts.—The plaintiff, in a recent case decided in France, insured in May the life of a man who died in November. The insurance company claimed that it had been fraudulently induced to insure an incurable, and proved this fact by the testimony of the physician of the deceased. The testimony, however, was thrown out by the supreme court as inadmissible on account of its having been obtained by violation of professional secrecy. The company was therefore compelled to pay the insurance.

Still Liable for Medical Attendance for Wife.—In *Ort vs. Hentall*, brought to recover from a husband for medical attendance, nursing and board, furnished his wife, at her request, she pledging his credit, after he had so treated her as to seriously injure her health, in consequence of which she had left him, the Supreme Court of New Hampshire holds that the statutes of the state enabling married women to hold to their own use property acquired by them, and enlarging their rights and liabilities, do not affect the wife's authority to pledge his credit, in such a case as this, for necessities.

Conclusive Determinations as to Sick Benefits.—In *Myers vs. Jenkins*, the Supreme Court of Ohio holds that when a member of such an order as that of the Independent Order of Odd Fellows claims to be entitled to sick benefits, he must seek his remedy, in the first instance, in the lodge and the tribunals of the order. And the determination of the matter by such lodge and tribunals, in substantial accordance with the laws of the order, it declares, will be final and conclusive of the right to receive such benefits. If the lodge refuses or neglects upon proper demand to have the right to such benefits determined in substantial accordance with the laws of the order, or refuses to pay such benefits after the same have been awarded to such member, then, it says, such member may sue in the civil court for the recovery of such benefits.

Contract With Physician Not Binding on New Board.—The Supreme Court of New York holds, at a trial term in Ulster county, in the case of *Connelly vs. the Commissioners of the Alms House of the City of Kingston*, that a contract made with a physician to render surgical and medical services to the city poor for a term of years, as for instance for two years, by a board constituting a department of the city government, is not binding upon a succeeding board, formed in consequence of the term of office of one-third of the members of the board expiring each year. It says that the good of the public service would seem to demand that, apart from legislative provision, incoming boards should not be bound, against their will, by contracts made by outgoing boards extending far into or through the term of the new board. And it holds that one who deals with the officers or agents of a corporation is bound to know their powers, and the extent of their authority. Besides which, it suggests that, the duration of the position of physician to render medical and surgical services to the city poor not being prescribed by law, treating the position as an office, or an employment under contract merely, it would seem to be one that could be terminated by the employing board at pleasure, in that state, although it does not find it necessary to here pass upon that point.

Manager Not Authorized to Employ Physician.—In the case of the *Pittsburg Coal and Coke Company vs. Shaley*, it appears that an employee, at a place in Indiana, of a corporation having its principal office in Chicago, was injured, while in the line of duty, so that he suffered extreme torture and severe pain, and required immediate relief in the way of

medical attention. The manager of the company's office and yards at that place, who was at the time the highest officer there, employed, on its behalf, a physician to render to such employee such medical aid and attention as he required and his injuries demanded. But a statement of these facts, the Appellate Court of Indiana holds, was not sufficient to withstand a demurrer where it was sought to hold the company for services so rendered, there being no allegation that the employment of a physician for injured employees came within the scope of the duties of the manager mentioned. The court declares that it can not hold as a matter of law that such employment would come within the scope of the duties of the manager of the coal company. It has often been held, it says, that the manager of a railroad has authority to employ physicians and to bind his company for their services, and the same power has been given subordinate officers of railroads in cases of emergency. But the reasons for such a rule as is applied to railway companies, the court holds, do not obtain in such a case as this.

Board of Health Orders Must be Reasonable.—An order was issued, in the name of the Mississippi State Board of Health, which provided, "On account of yellow fever at several places along the coast in this state, and several cases of yellow fever at Edwards, and reported suspected cases at various other points through this state, until further ordered by this board no person will be allowed to get off trains and boats at any point or station in the state of Mississippi," etc. Now, this order, the Supreme Court of Mississippi holds, in the case of *Wilson vs. the Alabama Great Southern Railroad Company*, must be held void by unreasonableness. All orders of the board of health, it declares, must stand the test of reasonableness, and their reasonableness is for the court to determine. Regard, it goes on to say, must, of course, be had to the maxim, "Salus populi suprema lex," or "the welfare of the people is the supreme law," but regard must be also had to the liberty of the citizen, and both principles must be given reciprocal play. The public health must be vigilantly cared for, but with due caution that no order intended to secure it shall be so sweeping and arbitrary as to interfere unreasonably with the citizen's rights, say, of return to his home, neither be nor it having been exposed to infection. For example, the plaintiff in this case was from Meridian, Miss., a noninfected point, and had a duly-issued health certificate, and was returning from Nashville, Tenn., a noninfected point, to his home, in Meridian, on a valid excursion return ticket. He had not been exposed to infection. Yet he was put off the train in compliance with the above-quoted order. The order, as will be observed, and the court points out, was not that no person who had been exposed to infection, or who came from an infected point, or who was destined for an infected point, should be allowed to come into the state, but that no person whatsoever, from any point whatsoever, should be allowed to get off anywhere in the state. The authorities, it insists, are uniform that this sort of order is wholly indefensible, so it pronounces this order void for unreasonableness, and holds that it was error to grant a peremptory instruction for the defendant railroad company, in this action for damages against it. A railroad company, it holds, must take the risk—as all citizens do—as to the validity of such orders, when it yields to the order alone. But when its defense is, not that it yielded obedience because of the order only, but because, also, of vis major, or irresistible force—a shotgun quarantine, for example—its defense, the court adds, will be maintained, if it shall appear that such vis major, such uncontrollable necessity, was the real cause of action. It need not go to the extent of actual collision with force marshaled by necessity; but it must show that its action was due to such force, existing and capable of controlling its action.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below
New York Medical Journal, Nov. 10.

- 1 Endothelioma of Bone, with Many Metastases. (To be continued.) Franz H. Brandt.

- 2 Report of a Case of Facial Neuritis, Associated with Unilateral Retro-Orbital Neuritis. Wm. M. Leszynsky.
- 3 *Ruptured Urethra, with Report of Cases. Nathan Jacobson.
- 4 A Case of Congenital Ocular Defect (?) E. E. Blauw.
- 5 *What the Law Requires of the Surgeon. Dudley S. Reynolds.
- 6 A Case of Mastoid Abscess; Recovery without Operation. Joseph D. Harrigan.
- 7 *An Unusual Case of Meralgia Paresthetica, with Intermittent Lameness (Claudication Intermittente—Type Charcot). Alfred Gordon.
- Medical News (N. Y.), Nov. 10.
- 8 *Some Observations on Anesthesia by Intraspinal Injections of Cocain. S. Ormond Goldan.
- 9 *Further Experience with Subarachnoid Injections of Cocain for Analgesia in All Operations Below the Diaphragm. John B. Murphy.
- 10 The Examination of Stomach-Contents. W. A. Bastedo.
- 11 The Hydratic Treatment of Tuberculosis. J. H. Kellogg.
- 12 *Bronchial Disease Not Invariably a Contraindication for Ether Anesthesia in Abdominal Surgery. Thaddeus A. Henry.
- 13 Clinical Memorandum. Persistent Slow Pulse. James J. Walsh.
- Philadelphia Medical Journal, Nov. 10.
- 14 Aneurysm of the Heart with Thrombosis of the Left Coronary Artery. Judson Baland.
- 15 *The Treatment of Syphilis—A New and Tolerable Form of Administering Mercury, with Report of 65 Cases treated at Bellevue Hospital, Winfield Ayres.
- 16 Value of Potassium Bicarbonate in Colds and Influenza. Stephen Harnsberger.
- 17 *Localization of a Bullet-Wound of the Spinal Cord; Removal of the Bullet from the Spinal Canal. Howell T. Pershing.
- 18 Study of a Mummy Affected with Anterior Poliomyelitis. John K. Mitchell.
- 19 Analgesin in Obstetrics Produced by Medullary Injections of Cocain. (Concluded.) S. Marx.
- Medical Record (N. Y.), Nov. 10.
- 20 *Some Clinical Aspects of Gout. Beverley Robinson.
- 21 *The Relief of Prostatic Enlargement. Joseph B. Bisell.
- 22 *The Constant Quantity in the Various Climatic Treatments of Tuberculosis. C. G. Campbell.
- 23 *Chronic Copper Poisoning Among Artisans. Henry A. Kurth.
- Cincinnati Lancet-Clinic, Nov. 10.
- 24 Union District Medical Association. Garrett Pigman.
- 25 Prevention of Insanity. Brooks F. Beebe.
- 26 Gall-Stones. W. H. Hawley.
- 27 Bleeding. E. E. Armstrong.
- Boston Medical and Surgical Journal, Nov. 8.
- 28 *A New Test Meal. A. E. Austin.
- 29 Spinal Caries with Abscess: Analysis of Cases. Ernest B. Young.
- 30 Cellulose as Material for Flat-foot Supports. Albert H. Freiberg.
- 31 *The Agglutination by the Patient's Serum of the Bacteria found in Cystitis and Pyelitis, with a Consideration of the Pleomorphism of the Bacteria Found in These Infections, Especially as Regards Chromogenic Properties of the Staphylococci. Thomas R. Brown.
- 32 The Management of Abdominal Testicular Ectopia Associated with Inguinal Hernia. Charles A. Powers.
- St. Louis Medical Review, Nov. 10.
- 33 *President's Address Before Mississippi Valley Medical Association. Harold N. Moyer.
- 34 Impetigo Contagiosa Bullosa; Its Relation to Pemphigus Neonatorum with the Bacteriology of Eight Cases. Martin F. Eagan.
- American Practitioner and News (Louisville, Ky.), Oct. 15.
- 35 Early Experience with Brown Sequard's Elixir and Recent Experience with the Roberts-Hawley Lymph. Frank C. Wilson.
- 36 A Brief Report of Some Interesting Surgical Cases. William H. Watten.
- Medicine (Detroit, Mich.), November.
- 37 Examination of the Stomach Contents with Respect to Digestive Ferments and Digestive Products. Frederick A. McGrew.
- 38 Multiple Ossified Eochondrosis and Exostosis of the Trachea and Larger Bronchi. I. B. Diamond.
- 39 *The Blood in Neurasthenia: A Study of Thirty-three Cases, Based on a Differential Leucocyte Count. Theodore H. Romeiser and Joseph Collins.
- Dominion Medical Monthly (Toronto), October.
- 40 President's Address, Executive Health Officer of Ontario. T. V. Hutchinson.
- American Journal of the Medical Sciences (Phila.), November.
- 41 *A Report of Cases of Pernicious Anemia, with Special Reference to the Blood-Findings. Frank Billings.
- 42 *A Report of Two Cases of Echiniasis. Howard A. Lothrop and Joseph H. Pratt.
- 43 *Recurrent Vomiting in Children. (Cyclic Vomiting.) J. P. Crozer-Griffith.
- 44 Aneurysm of the Arch of the Aorta, with Rupture into the Superior Vena Cava. Alfred Stengel.
- 45 Subpectoral Abscess. John H. Masser.
- 46 *Biologic Studies with Reference to Pathology. Theo. Klingmann.
- 47 *The Role of the Aloxuric Bases in the Production of the Cardio-Vascular Changes of Nephritis. Alfred C. Croftan.
- Medical Herald (St. Joseph, Mo.), October.
- 48 *The Curability of Inebriety by Medical Treatment. T. D. Crother.
- 49 Some Experiences with Goat's Lymph. T. L. Putman.
- 50 Contusion of the Brain. J. Cameron Anderson.
- 51 The Marcy-Bassini Operation for Hernia. C. H. Wallace.
- 52 Stab Wounds of the Liver—Enormous Hemorrhage—Hypodermoclysis—Recovery. Daniel Morton.
- Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), November.
- 53 A Cystoscopic Prostatic Incisor for Bottini Operation. F. Bierhoff and A. Freudenberg.
- 54 *Leucopathia Ungulum. M. L. Heidingsfeld.
- 55 *Monilethrix. E. Wood Ruggles.
- 56 An Unusual Case of Non-Malignant Papilloma. G. S. Whiteside.
- Annals of Surgery (Philadelphia), November.
- 57 *A Skiagraphic Study of the Normal Membral Epiphyses at the Thirteenth Year. Eugene R. Corson.
- 58 *A Contribution to the Study of Intra-Abdominal Omental Torsion. Joseph Wiener, Jr.
- 59 *Retrenchment of Lipomatous Abdominal Wall Combined with Operation for Radical Cure of Umbilical Hernia. James B. Bullitt.
- 60 Report of a Case of Actinomycosis Hominis. John C. Oliver.
- 61 Traumatic Rupture of the Small Intestine; Abdominal Section; Recovery. John J. Buchanan.
- 62 *A Study of One Thousand Operations for Acute Intestinal Obstruction and Gaugrenous Hernia. (Concluded.) Charles L. Gibson.
- Medical Summary (Philadelphia), November.
- 64 Why Do Remedies Act? W. F. Ball.
- 65 Syphilis. Drs. Poncebaker and Tripp.
- 66 A Physician's Life. George J. Monroe.
- 67 Some Thoughts on Therapeutics. William H. Russell.
- 68 Impotency and Sterility. J. J. Caldwell.
- 69 Mitral Insufficiency with Loss of Compensation—Treatment. C. E. Tucker.
- 70 A Few Hints and Suggestions. M. G. Price.
- Journal of Experimental Medicine (N. Y.), October 25.
- 71 *Amyloid Substance and Amylaceous Bodies in Multiple Syphilitic Tumors of the Bones, with Remarks on the Relation of Amylaceous Bodies to Amyloid Substance. W. Ophuls.
- 72 On the Presence of New Elastic Fibers in Tumors. Alice Hamilton.
- 73 A Case of General Gaseous Emphysema with Gas Cysts in the Brain Formed After Death and Due to Bacillus Mucosus Capsulatus, with a Consideration of the Gas-Producing Properties of Certain Members of This Group in the Cadavers of Animals. W. T. Howard, Jr.
- 74 *Two Cases of Necrotic Bronchopneumonia with Streptothrix. Charles Norris and John H. Larkin.
- 75 Acute Internal Hydrocephalus. A Clinical and Pathologic Study. Charles W. Burr and D. J. McCarthy.
- 76 A Preliminary Report of an Acid-resisting Bacilli, with Special Reference to Their Occurrence in the Lower Animals. D. Murray Cowie.
- Bulletin of the American Academy of Medicine (Easton, Pa.), October.
- 77 The Essential Condition for Habitation to Develop and Maintain Healthful Family Existence. Rosa Engelmann.
- 78 On the Influence of Early Training of Manly and Womanly Qualities, to Avoid Degeneracy. J. Cheston Morria.
- 79 Medical Supervision of Growing Children. John M. Taylor.
- 80 The Home and the School. E. Stuver.
- 81 School Hygiene and Medical Inspection of Schools. W. M. D'A. Carhart.
- 82 Defectives and Delinquents Inside and Outside the Family Circle. James W. Walk.
- 83 Is the Habitual Use of Alcoholic Intoxicants in the Home Consistent with Its Thorough Sanitation. J. W. Grosvenor.
- 84 The Hygiene of Vision in the Home. S. D. Risley.
- 85 The Physician's Influence in the Vacation Schools. H. C. Putnam.
- 86 How One College Endavors to Teach Social Health Problems. Charles McIntire.
- Journal of the Boston Society of Medical Sciences, Oct. 16.
- 87 *The Antitoxin Unit in Diphtheria. Theobald Smith.
- 88 *Artificially Produced Mitotic Division in Unfertilized Archaeta Eggs. M. M. Andrews.
- 89 *The Toxic Effects of Formaldehyde and Formalin. Martin H. Fischer.

Toledo Medical and Surgical Reporter, November.

- 90 Sewage Disposal in Cities. W. C. Chapman.
 91 Cosmetic Surgery. O. T. Sears.
 92 Treatment of Eczema in Children. Louis Miller.
 93 Report of a Case of Tenia Solium. Belle C. Stocum.
 94 The Continuous Current in Endometritis. Harry L. Hall.
 95 The Treatment of Acute Articular Rheumatism. James O. Carroll.

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- 96 *Pyloric Stenosis Without Dilatation of the Stomach. N. Stone Scott.
 97 A Case of Acute Catarrhal Laryngitis in a Child Four Weeks Old, Accompanied by Severe and Prolonged Spasms of the Larynx. John J. Thomas.
 98 *Some Practical Points in the Management of Labor. F. S. Clark.
 99 *A Case of Fibroid Tumor Complicating Labor. John J. Thomas.
 100 Knot of the Umbilical Cord. W. Wallace Holliday.
 101 Left Tubo-Ovarian Abscess and Right Pyosalpinx. Wm. H. Humiston.
 102 The Influence of Sex Upon the Production of Nervous Diseases. William C. Krauss.
 103 *Popliteal Aneurysm Cured by Digital Pressure of the Femoral Artery. C. A. Hamann.
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 104 *The White Death, and the Sanatorium or School for Consumptives. Edward M. Schaefer.
 105 *An Inquiry into the Role of the Domestic Animals in the Causation of Typhoid Fever. Wm. Royal Stokes.
 106 A Case of Intravesical Dilatation or Ballooning of the Ureter. Hugh H. Young.

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- 107 Cancer of the Uterus and its Treatment. Stansbury Sutton.
 108 *The General Pathology of the Urethra Treated by Electrolysis. Robert Newman.
 109 *The Diagnosis of Ectopic Pregnancy Before Rupture, Based on Eleven Cases. J. F. Baldwin.
 110 The Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
 111 Regional Minor Surgery. (Continued.) George G. Van Schaick.
 112 Excision of External Carotid for Inoperable Epithelioma of the Floor of the Mouth—Osteomyelitis of the Tibia. Joseph A. Blake.

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- 113 Lipoma, Vesical Calculus, Antrum Disease, Hemorrhoids. Nicholas Senn.
 114 *The Vectis. John Bartlett.
 115 *The Management of the Defective Classes. L. L. Skelton.
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- 116 A Résumé of Some Surgical Work. M. Goltman.
 117 Syphilis of the Larynx. Richmond McKinney.
 118 The Financial Problem in Medicine. W. T. Watson.
 119 Report of a Case of Tobacco Amblyopia. Geo. S. McReynolds.
 120 A Case of Continued High Temperature Resisting Antipyretics. R. S. Stanley.

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- 121 Recent Pathologic Studies of the Blood. L. H. Warner.
 122 *Physical Training—Its Range of Usefulness in Therapeutics. B. E. McKenzie.
 123 The Physician's Vaster Empire. John Hunter.
 124 Intussusception in Children with Illustrative Cases. A. Primrose.

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- 125 Alcohol as an Etiologic Factor in Diseases of the Nervous System. E. M. Dupaquier.
 126 Report of a Case of Acute Phosphorus Poisoning with Demonstration of Postmortem Findings. J. B. Guthrie.
 127 A Note on the Medical Relief Work Done in Galveston After the Storm. Isadore Dyer.
 128 A Case of Double Intraligamentous Cyst, with Remarks. C. Jeff Miller.

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- 129 *On the Abuse of Certain Stimulants and Cardiac Remedies. G. Baumgarten.
 130 *The Diagnosis of Ectopic Pregnancy Before Rupture, Based on Eleven Cases. J. F. Baldwin.
 131 Maggots in the Ear. M. A. Goldstein.
 132 Report of a Sporadic Case of Cerebrospinal Meningitis. James S. Cleland.
 133 Report of a Case of Cesarean Section. Chas. H. Dixon.
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- 134 Hay Fever. Oia S. Hendrixon.
 135 *The Diagnosis of Ectopic Pregnancy Before Rupture, Based on Eleven Cases. J. F. Baldwin.
 136 Abortion. N. E. Aronstam and J. F. Rosenberg.
 137 The Recent Epidemic of Smallpox in Columbus. H. M. Platter.
 New England Medical Monthly, (Danbury, Conn.), November.
 138 The Rights of Children. F. W. Searle.
 139 Asthma and the Uric Acid Diathesis. S. S. Garst.
 140 Case of Ulcerative Colitis. T. J. Biggs.

- 141 The Value of Glyco-Thymoline (Kress) in the Local Treatment of Diseased Mucous Membrane. George A. Hewitt.
 142 The Feeble-Minded: Care of Them, and Returns for Amount Expended. Martin W. Barr.
 143 Secondary Anemia: Its Treatment. J. W. P. Smithwick.

AMERICAN.

3. **Ruptured Urethra.**—Four cases of this accident are reported by Jacobson, who has selected them from a number treated in hospitals and private practice. They show, in his opinion, that only a slight degree of force is necessary, not only to lacerate but to completely sever the urethra, that the necessity for early diagnosis is apparent and immediate relief imperative. If urinary leakage and constant infection of the soft parts is not prevented, gangrene and danger to life from sepsis may be expected. The author does not consider repeated catheterization wise or the wearing of a permanent catheter advisable. On the other hand, satisfactory drainage of the bladder and soft parts is readily accomplished by perineal incision. He believes that the perineal catheter, after having been worn forty-eight hours, can, on removal, be replaced in the dark, so readily and thoroughly do the tissues cement. It should be removed once a day for thorough cleansing and this, with daily irrigation of the bladder, keeps the parts in good condition. Granulation tissues spring up on all sides and the mucous membrane grows in from the severed ends of the urethra until the tube is relined. The shaping of the canal is accomplished by the daily passage of a full-sized curved sound into the bladder or, if this is very painful, the sound can be inserted on alternate days for two weeks. Its use should be begun on the third or not later than the fourth day, and if systematically carried out, using a sound of 32 to 36 French, no danger of stricture is to be feared. He calls special attention to the recognition of the proximal end of the severed urethra by palpation and feels sure that careful search will often locate this end and permit the ready introduction of the catheter into the bladder.

5.—See abstract in THE JOURNAL of October 20, p. 1051.

7. **Meralgia Paresthetica.**—This condition, first noticed within the last five years, has been since frequently observed, but the majority of cases are atypical. The operative treatment of the external cutaneous nerve by resection is the method for its relief. Gordon reports a case which varied from the usual type in the involvement of other branches of the cutaneous nerve and in producing the intermittent lameness described by Charcot and Goldflam. The whole of the external cutaneous nerve, with both its branches, and also the cutaneous branches of the crural nerve, were involved. The patient declined surgical intervention and therefore remains un cured.

8.—See abstract in THE JOURNAL of November 10, p. 1232.

9. **Subarachnoidean Injections of Cocain.**—Murphy's article is similar to, though not identical with, the one recently noticed in THE JOURNAL of October 20, 176, p. 1056, and the illustrations are similar. He reports, however, a number of additional cases and believes that the range of usefulness of the method is increasing as confidence and security are assured by the results. He ranges it, however, after nearly all other anesthetics as regards safety, and recognizes for it after all only a limited utility so far as present experience warrants.

12. **Bronchial Disease and Ether.**—Reamy maintains that the existence of bronchitis is by no means a contraindication to the use of ether and, in fact, he uses ether in all cases excepting those of strongly-marked disease of the kidneys or respiratory organs. He insists on the purity of the ether used and the use of a modified Trendelenberg position in case of weak heart or bronchial trouble, and on care in the method of administration. He prefers the closed inhaler in cases of bronchitis, reports cases in which he has used it, and remarks that his records show that he has also employed it in the acute stage of bronchial disease with the result of arresting the cough and destroying the congestion present. In conclusion he reiterates the statement that his clinical studies justify him in the belief that in properly selected cases ether inhalation

tion is positively curative of bronchitis. Its action in these cases is largely local. To avoid unpleasant complications and to secure the desired results, the following points are essential: 1, proper preparation of the patient; 2, preparation of the operating-room with a temperature of 98 to 100 F.; 3, pure ether; 4, a proper inhaler; 5, proper methods of administration; 6, due caution against exposure in removing the patient from the operating-room to her own room. The temperature of her room should not be below 80 degrees for several hours after the operation; 7, proper care of the patient during convalescence. She should be permitted to drink large quantities of water and should keep the bowels freely open.

15. **Treatment of Syphilis.**—Ayres reports his experience in the treatment with mercurio, a remedy which he thinks is of great value. It caused gastric irritation in but one case, and he thinks it better in this respect than any other preparation of mercury used internally. It controls skin eruptions better than other preparations, while the mucous eruptions are affected by it as well as any other. It offers the further advantage that it can be taken in pill form.

17.—See abstract in THE JOURNAL of September 1, p. 579.

20. **Gout.**—Robinson's paper is a somewhat critical one on the prevailing views on gout. He is sceptical as to dietetic treatment, maintaining that no absolute theory of gouty treatment based on mere diet will answer many of the requirements of the condition and that functional disturbances of various forms may arise seemingly without cause. There is little doubt, he thinks, that many gouty manifestations which appear to be functional are really inflammatory in their nature, and credits some disorders of the prostate, uterus and ovaries, more rarely the intestines, and also appendicitis, to this taint. He says there are forms of peritonitis not connected with appendicitis and that there is much operative interference for the local conditions when the disease is one of general systemic taint and, of course, is untouched. The general tone of his article is to emphasize the value of long experience, utilizing all the data, as against scientific and especially operative enthusiasm with less experience.

21. **Prostatic Enlargement.**—Bissell recapitulates his article by stating that dissections of the pathological prostate show that hypertrophy is almost never confined to the middle lobe alone, but that the whole of the prostate is involved. This involvement is glandular and fibroid in character. The older the case, the greater the predominance of the fibroid element. At times there is a venous congestion and a stasis also of the capillaries, which adds a vascular element to the size of the prostate and its adjacent tissues. Any operation which does not attack the hypertrophy of the lateral lobes is not radical and can not effect a permanent cure. The removal or destruction of the middle lobe, in the great majority of cases, only partially if at all removes the cause of the obstruction, although the multiple cauterizations may so relieve the capillary stasis and edema of this portion as to give a very decided temporary relief; and if most of the obstruction in any special case is due to this condition the relief may be marked and last for considerable time, provided the bladder and kidneys have little or no secondary disease, and provided sepsis does not follow. From the above he assumes that prostatectomy with drainage is an operation, under modern aseptic conditions, as little dangerous as an interval-operation for appendicitis in properly selected cases where general tissue-degeneration of the body has not progressed to a hopeless extent, the bladder and kidneys are not too seriously damaged and septic infection, if it exist, is not too profound. Even with a part of these conditions existing, complete removal of the prostate with free drainage is rational and scientific treatment, and offers the best hope of relief and the best chance of a permanent cure with the least danger to life.

22. **Climatic Treatment of Tuberculosis.**—The various climates for tuberculosis are discussed by Campbell, who enumerates the following conditions as destroying to germ life: High percentage and volume of sunlight; temperature of sun sufficiently high to promote sterilization; dryness of

atmosphere; porousness of soil; constant freezing temperature; infrequency of habitation, and unfavorable conditions for the formation of dust. The first three of these conditions are actually germicidal and positive in their action, the last four simply unfavorable for the formation of germ-life. He thinks each case should be treated individually and speaks of the lower regions of Arizona and their advantages for tuberculous patients.

23. **Chronic Copper Poisoning.**—The accidents to which artisans in copper are especially liable are noticed by Kurth, who finds the true characteristic symptoms to be the dyspepsia, which is the earliest to appear, anemia, which is also early and comes before emaciation, loss of strength or painful facial expression, and lastly, nervous irritability. If, together with these facts, the patient works in copper or brass, the diagnosis is not difficult. The facial expression is drawn and anxious, like that of marked phthisis. The complexion is darker than that usually seen in anemia. The term "sallow" comes close to describing it. Nervousness is very pronounced. The prognosis is uniformly good when organic changes have not occurred. The treatment is prophylactic above all. If the patient can not give up his occupation, a vacation for two or four weeks will sometimes be of the greatest benefit. He suggests intermittent occupation in this particular line of work, similar to that prescribed by law in Germany as regard lead-workers in potteries. The chief reliance, however, must be on prophylaxis and change of occupation.

28. **A New Test-Meal.**—A new test-meal suggested by Austin consists in 2 grams of dried egg-albumin compressed into tablets to be taken with two glasses of water and the contents withdrawn one hour later. He considers that this better meets the conditions, as it is free from the objections of indefiniteness of the amount of the food elements employed and the clogging of the tube in the removal of the usual test-meals. He compares this with Ewald's test-meal commonly employed and discusses the different features observed in patients subjected to his experiments. He considers that the unreliability of the presence of lactic acid as a diagnostic symptom is well brought out in these experiments, and maintains that the tablets fill all the necessary conditions of the usual test-meal for testing the stomach secretions.

31. **Agglutination of the Bacteria in Cystitis and Pyelitis.**—Brown has experimented with the bacteria found in four cases of cystitis, in one of which the kidney was also involved. In two of the three cases in which a complete test was made there was an absolute positive agglutination reaction and a suggestive reaction in the third, with the patient's serum. This suggests that it may be frequently found to occur in cases of cystitis and pyelitis and may be a means of differentiating the bacteria where there is doubt. One notable point made was the pleomorphism of many micro-organisms, the bacillus coli in particular. He finds that by cultures and transplantations on the different media the chromogenic properties of the staphylococci are notably changed: starting for instance with a growth almost white in color after six successive transplantations, colonies were obtained of the typical color of the staphylococcus pyogenes aureus. He offers the suggestion that many which we now consider separate species originated from a common source and that the variations in cultural peculiarities and chromogenic tendencies may have been directly dependent on the favorable and other factors surrounding the organisms.

33.—See abstract in THE JOURNAL of October 20, p. 1046.

39. **Blood in Neurasthenia.**—Romeiser and Collins find that while the hematology of neurasthenia is by no means invariable and while some cases have apparently normal blood, the following conditions are usually present: A relative increase of the large and small lymphocytes with a corresponding decrease of neutrophils, a relative increase of eosinophils and degenerate leucocytes, a leucopenia often, oligochromemia, microcytes, and variation in size of the erythrocytes, which often show nucleoids or are associated with an increase of platelets. In general these conditions correspond with what we might

expect. The variations in individual cases also correspond with the clinical types of the disease.

41. **Pernicious Anemia.**—Billings reports nineteen cases with special reference to the blood-count. The symptoms noticed are: general weakness, gastric disturbance, nervous symptoms, yellow tint, cardiovascular disorders, elevated temperature, hemorrhage, etc. The hemoglobin varied from 15 to 74 per cent.; the red corpuscles from 156,000 to 1,000,000; the color-index in 53 of the 65 observations was below normal. The specific gravity bore more constant relation to the number of red corpuscles than the hemoglobin. During rapid improvement, it was noticed there was a tendency of the hemoglobin to lag behind the other solids of the blood. The leucocytes in the average where below normal generally corresponded to the degree of anemia. The average percentage of mononuclear cells were about normal. The eosinophiles tended to increase with improvement and to diminish with failing health, though their behavior was too fickle to formulate a rule. The myelocytes were most abundant, generally speaking, when the patient was low, but they were of little diagnostic or prognostic import. These cases seem to show that the nucleated red cells are an essential feature of the disease. They are present in every case though they may disappear when the patient makes a decided gain in health. The actual number was sometimes very large, but more often it was small, averaging 71 cubic millimeters. In individual cases, a comparison of these cells taken from time to time was of value, but a small number was not necessarily a favorable sign. The quality seems to be of greater significance than the number. The regenerative forms of normoblasts are of little consequence, but the degenerative forms of megaloblasts are very characteristic. Their proportion varied with the severity and stage of the disease, usually gaining as the disease advanced. The irregularity of the megaloblasts is more often extensive in the process of degeneration and absorption and this peculiarity was noticed in almost every one of the series. It is rare if at all seen in secondary anemias. Poikilocytosis was present at some time in all cases, but was not a constant factor during the course of the disease and especially during the stage of improvement.

42. **Filaria.**—Lothrop and Pratt describe two cases in which filaria were found in the blood, both coming from Barbadians and members of the same family. They discuss the general pathology and treatment of the condition at some length.

43. **Cyclic Vomiting.**—Four cases of this condition are described by Crozer-Griffith, who notices the paucity of the literature in regard to it. Vomiting may be the first and most striking symptom. From the offset it is obstinate and oft-repeated. It may cease temporarily and then re-commence. Generally it continues very frequent until the close of the attack and then gradually or suddenly ceases. Constipation is a very constant but not necessary symptom. The abdomen was retracted and flat in two cases. Abdominal pain is almost entirely absent. Thirst is intense, appetite lost. The tongue is not usually very greatly coated; the breath is bad. There is no rule in regard to the temperature which may be febrile, sub-febrile or normal. Respiration is decidedly affected and may be irregular and rapid. The urine is affected, but no conclusion can be drawn in regard to it. Asepsis was present in two cases at least. The nervous symptoms are interesting. Convulsions occurred in one case reported by Snow. Exhaustion is extreme; emaciation is marked, but consciousness is not usually lost. The duration of the attack is variable, and recovery rapid. The longest duration of any of Crozer-Griffith's cases was ten days, the shortest, possibly a week. Even with extreme exhaustion and excessive vomiting, recovery is rapid. The symptoms suggest that it may be a gastric neurosis but he is not satisfied as to the nature. He thinks it may be of toxic origin in some connected with fatty metabolism. The diagnosis is easy in well-marked attacks. Obstruction of the bowels may be suspected or meningitis may cause confusion, but they are distinctly characteristic to this disease. Nephritis is to be excluded by a study of the urine. The prognosis is generally good, though not necessarily so. Two of

the cases reported have died. Treatment is generally unsatisfactory. Alterations in diet should be tried. If prodromal symptoms threaten, a purgative may possibly do good by removing the poisonous matter. Care should be taken to keep up a constant action of the kidneys. If the attack has actually commenced, he opens the bowels with a saline injection, but after this it is not well to give anything by the mouth. Calomel or bismuth may be given in enemata and morphia has done good in some cases. Stimulants by the rectum, and strychnin and digitalis by the skin are to be used as needed. Hypodermolysis seems to offer some help in severe cases. Ice or counter-irritants to the epigastrium may be tried. If a full in the vomiting ceases, as disease advances, it may be well to give Rochelle salts or phosphate of soda, but there is nothing to be gained by merely emptying the bowels, as if the constipation were the cause of the disease.

46. **Biologic Studies with Reference to Pathology.**—This will be noticed editorially.

47. **Alloxuric Bases in Nephritis.**—Croftan reports experiments to determine the cause of cardiovascular changes in the forms of nephritis in which retention of the excrementitious substances precedes a lesion of the heart and arteries, and this he finds in xanthin and hypoxanthin as representative members of the group of alloxuric bases. He concludes that these play an important rôle in the production of cardiac changes observed in all forms of nephritis with the exception of the chronic indurative form sometimes seen as a result of senile arteriosclerosis.

48. The abstract in THE JOURNAL of October 20, p. 1051.

49. **Leucopathia Unguium.**—The whitening of the nails often seen in small patches and which has been a matter of superstition, etc., for generations is noticed by Heidsingfeld. He mentions the three divisions made by Unna, viz., leuconychia punctata, where the predominating lesions are in the form of spots; leuconychia striata, where they are in the form of bands or striae; and leuconychia totalis where they involve the nail in its entirety, and criticizes the classification. Leuconychia striata is not so uncommon a condition as has been supposed. He has seen seven well-marked cases in fourteen months, while slight degrees of the condition have been observed in almost twice as many. Several cases are illustrated and he finds that in all well-marked ones the cuticle knife has been used to trim and keep back the nail fold. There are no doubt other agencies than traumatism which cause leuconychia. It is a well-established fact that it has been noticed in anemia, multiple neuritis, typhoid, measles and other febrile diseases associated with general malnutrition. The striate and punctate forms indicate an intermittent cause, while the total form indicates a constant factor or one with but slight intermittence so that normal nail substance has not been produced. The almost universal statement that the pathologic change in leuconychia is due to infiltration of air is opposed by the author on the basis of microscopic examinations. He finishes his paper by saying that leuconychia is the result of some pathologic change of structure of a plane of nail-cells, approximating a failure of the affected cells to undergo normal, physiologic keratinization. The cause may be trauma, malnutrition, febrile diseases, neuroses, or any agency which disturbs the growth, development or keratinization of matrix cells in their change to nail structure. Infiltration of air is absent and there is no rational physiologic basis for such a theory.

50. **Monilethrix.**—This disorder is a disease of the hair characterized by a nodose or beaded condition and resulting in baldness of the involved area of the scalp or other parts of the body. It is a very rare affection and the case here reported by Ruggles is said to be the fourth one observed in this country. This case and one observed by Gilchrist are the only ones on record where other parts than the scalp were involved. The contracted portion of the hair is the seat of the disease, and fracture usually occurs there without much fringing out of the ends. The microscope shows the cuticle to be intact throughout save that in a very few hairs transverse cracks or splitting at the ends is found. The etiology is very obscure; no bacterial cause has been discovered and the most plausible

theory is that the disease is an intermittent trophoneurosis as yet unexplained. The origin is intrafollicular since the hair emerges from the follicle with the nodes already formed. Hereditarily seems to have something to do with the cause as it has been discovered in several generations. There is practically no treatment for the affection, though Crocker advises attention to defects of the general health, and stimulation of the scalp with the faradic brush.

57. **Skiagraphic Study of Normal Epiphyses.**—Corson's paper is a very thoroughly illustrated study of the epiphyses of the long and short bones at the age of 13, impossible to be fully abstracted here.

58. **Omental Torsion.**—Wiener reports personal observations of omental torsion in cases of hernia and gives a summary of the literature on the subject, condensing and reporting briefly all the cases that have been published, including his own. He says "from these it will be seen that omental torsion occurs more often in males than in females (presumably on account of the more frequent occurrence of inguinal hernia in men), that it is not met with in youth, and that it is found only in persons who have a hernia; although the diseased omentum is not always found in relation with the hernia. The portion of omentum affected may be small or may be composed of almost the entire omentum. The etiology of the cases in which the omentum is not connected with a hernia is very obscure. In other cases the etiology can generally be traced to forcible attempts at reduction of the hernia. In not a single case was the diagnosis made before operation. The cause for this is not far to seek. Not only are omental tumors extremely rare, but they have no characteristic symptoms; the symptoms they call forth are those produced by an abdominal tumor through its mechanical action. When the tension takes place in connection with a hernia, the diagnosis is naturally made of an incarcerated hernia. In all the cases the urgency of the symptoms was recognized, and prompt operation was performed. There is a practical point of some value. If we cut down on a hernia that produces the symptoms of strangulation and find only a strand of omentum in the inguinal canal, we should always investigate the intra-abdominal portion of the omentum to make sure that there is no torsion present there."

59. **Retrenchment of Lipomatous Abdominal Wall.**—In the case reported by Bullitt the subject was a very adipose woman, 38 years old, suffering from umbilical hernia. The operation performed consisted in taking a reef in the abdominal wall by dissecting out and removing a large portion of skin and muscle, which weighed several pounds. The abdomen, though greatly reduced, was still somewhat pendulous, and he thinks it somewhat of a mistake that the retrenchment was not more extensive. He remarks that resection of a fatty abdomen, which he has described, constitutes a procedure of which he has not been able to find a description, though doubtless it has been done before. The incision down to the deep fascia is at right angles to the line of least resistance of the deep abdominal wall. Its extent gives ready access to the hernial ring and permits unembarrassed closure of the deeper structures. Most of all, it reduces the ponderous, distressing and entirely superfluous abdominal pouch. If this case can be taken as an index, there need be no fear of failure. The patient, writing under recent date, reports herself in excellent condition, able to attend to her household duties, and with no signs of recurrence.

62. **Acute Intestinal Obstruction.**—Gibson's article is included in this issue and his summary is given as follows: "**Intestinal Obstruction.**—The most frequent causes of intestinal obstruction are intussusception and bands. The mortality is 47 per cent. The mortality of resection is 74 per cent. The mortality of artificial anus is 77 per cent. The mortality depends on the duration of obstruction and on its nature, being least in foreign bodies inflicting little or no damage to the intestine (25 per cent.), and most in such conditions as produce a tight constriction as 'openings' (67 per cent.). **Hernia.**—The ratio of mortality of inguinal hernia to femoral is as one is to two. The proportion of femoral hernia is 59 per cent.

The ratio of mortality of inguinal hernia to femoral is as three is to four. The mortality of resection and primary enterorrhaphy is 26 per cent. The mortality of artificial anus is 53 per cent. **In General.**—Resection and primary reünion by apparatus (including Murphy button), mortality, 36 per cent. A large proportion of deaths is due to failure of technic, such as removal of too little intestine or imperfect suture. At least 13 per cent. of resections are attended with defects of technic, either resulting fatally or in the formation of intestinal fistula. **Artificial Anus.**—The mortality is lowest in internal obstruction, such as a foreign body, and highest in obstruction by an unyielding constriction, such as a band, and lower in hernia than in internal obstruction, chiefly because the surface exposed to absorption is less. The chief sources of mortality are: The desperate character of the majority of the cases. Failure to establish the opening above the site of constriction. Failure to provide for the relief of absorption of gangrenous changes in the intestine; death often necessarily occurring on this account, although the obstruction is perfectly overcome. Prominent among the drawbacks of artificial anus is the fact that it must subsequently be repaired. For in most cases there is no tendency to spontaneous closure, while minor plastic operations are rarely efficient. Formal liberation of the intestine and secondary resection is usually an exceedingly difficult operation, as is evident by its mortality—after intestinal obstruction, 43 per cent.; after gangrenous hernia, 27 per cent.; average, 30 per cent. The causes of death after operation fall into three main groups: 1. From causes inherent to the condition and little amenable to treatment, such as shock and pre-existing peritonitis—these causes accounting for the majority of fatalities. Improvement can only be hoped for by earlier recognition of the condition, thereby securing the performance of operative relief before the severer changes take place. 2. From causes depending chiefly on the nature and details of the operation, such as failure to relieve obstruction and defects in technique or failure to take account of the conditions to be dealt with. 3. On intercurrent conditions. **Prognosis.**—The most essential feature in the prognosis is the duration of the obstruction. In early interference there is generally only one condition to be fulfilled, removal of the obstruction. With long continuance of this condition, secondary changes of the greatest gravity supervene, requiring for their relief measures of great extent and difficulty. The nature of the obstruction is the next most important factor, acting in the same way as in the first instance as to changes in the intestinal walls, the prognosis being best in internal obstruction, and worst in tight external constrictions."

71. **Amyloid Substances.**—The pathologic findings of a case of apparently specific disease, the neurologic aspects of which will be discussed in *extenso* elsewhere by Dr. Newmark, are described by Ophuls with special reference to the origin and nature of the amylaceous bodies found. The general conclusions reached are: The substance of the amylaceous bodies is identical with, or at least similar to, amyloid substance. In the amylaceous bodies this material is present in crystalline form, in the amyloid substance in amorphous form. It would be advisable to use the word "lardaceous" instead of "amyloid," and perhaps to include under this term the peculiar form of "hyaline" which sometimes precedes and accompanies the amyloid substance.

74. **Necrotic Bronchopneumonia With Streptothrix.**—Two cases are reported by Norris and Larkin of bronchopneumonia characterized by intense catarrhal and necrotic inflammation of the bronchi and by the presence of streptothrix colonies in the bronchial lumina. Inoculation experiments on rabbits produced pulmonary abscess and empyema of the pleura and pericardium in two cases. The empyeal pus of these rabbits contained filaments and rods morphologically identical with those found in the human subject. The previous observations of various authors are noticed and they conclude that the streptothrix found was closely related if not identical with the streptothrix Israeli, obtained from typical cases of actinomycosis by Wolff and Israel in 1889, and the species isolated by Kruse in the case of a diabetic barber last year.

87. **Antitoxin Unit in Diphtheria.**—Smith reviews the facts in regard to the antitoxin unit as accepted and shows its unreliability. The old method of using ten times the minimum fatal dose to test the antitoxin strength of sera is not reliable, even when the toxins are prepared under uniform conditions, and at present we can do no better than utilize the standard provided by Ehrlich, and using the entire unit instead of only one-tenth unit in the operation of standardizing.

88. **Artificial Divisions in the Unfertilized Eggs.**—Matthews reports experiments similar to those of Loeb in the development under special chemical and physical conditions of the sea-urchin's egg. He gives credit to Morgan for the first experiments in this direction and to Loeb for the first carrying out of the embryo to full development. His own experiments were carried on coexistent with, though independent of Loeb, and he has succeeded in setting up a cell-division in the unfertilized sea-urchin's egg by depriving the egg of oxygen, by the action of heat and by exposure to ether, alcohol and chloroform. All the methods thus found for inducing cells to divide are those in common use to cause protoplasm to liquefy, and strongly indicate that the old view of Butschli that the karyokinetic figure is but the expression of the movement of the liquid cell, is true, hence he concludes that any means that will produce localized liquidation will set up karyokinesis. In closing he emphasizes the analogy between the egg and the nerve cell. The means which cause cell division or liquefaction are strong stimulants to nerve cells, indicating that in the production of nerve impulses we are dealing also with liquefaction of some portion of the cell body.

89. **Experiments With Formalin and Formaldehyde.**—Experiments have been carried on by Fischer on the toxic effects of formalin and formaldehyde, and he notes and gives in his preliminary communication the results. He finds that they produce intense congestive phenomena and edema and believes the fact explainable on the ground that the osmotic pressure of injected formalin is higher than that of the body fluids and thinks that trying to establish a mean between the two causes these symptoms. He therefore thinks that formalin causes the death of the cell in two ways: 1. By surrounding the cell with a fluid that has a higher osmotic pressure than the cell itself, thereby causing abstraction of the water from the cell. 2. By a deleterious chemical action on the cell. From certain histological evidence it is believed that it is a reducing property of the chemical which produces the death of the cell.

90. **Pyloric Stenosis.**—The hypertrophy of stenosis is especially noted by Scott and the possibility of its occurring when the muscular apparatus is such as to make dilatation of the stomach very slow. These cases are difficult to diagnose and may be even serious before dilatation occurs. The results of operation in, of course, the non-malignant, is so uniformly successful that it is often demanded for the best interests of the patient.

98.—See abstract in THE JOURNAL of October 13, p. 974.

99.—Ibid.

103.—Ibid.

104. **Sanatoriums for Consumptives.**—After describing one or two of the sanatoriums in the Black-Forest region of Germany, Schaffer reproduces in a somewhat condensed form an article on the treatment of pulmonary tuberculosis by Fraenkel, of Badenweiler, which was previously published in the *Munchener medicinische Wochenschrift*, June 3 and 20, 1899. He does not lay much stress himself on the curative effect of these institutions, as he says the percentage of really cured is exceedingly small even under the best conditions. Fraenkel's article insists on the importance of early diagnosis and believes in the value of the tuberculin test, which he does not seem to consider dangerous. The importance of dietetic and hygienic treatment are the principal features of his article. He considers the sanatorium a resource for cases difficult to control in the initial stages as a sterner school and intermediate station for the open-air cures, and

recommends it as the best asylum for all seriously ill who are alone in the world.

105. **Domestic Animals in Typhoid Fever.**—Stokes reviews the history and reports experiments made on chickens, rats, and cattle and concludes as follows: "In our experiments we have endeavored to produce infection through the natural route and by natural means by simply allowing the various animals to take in very large quantities of typhoid bacilli in their daily food. Although at least 500 colonies from the feces were carefully tested, we were not able to demonstrate the presence of any typhoid bacilli in two chickens, two white rats, two rabbits, two guinea-pigs, one calf, and two pigs. Although we have not employed a large number of animals, we feel justified in expressing the opinion that the typhoid bacillus can not, as a rule, maintain its struggle for existence in the intestines of the domestic animals. We therefore conclude that the dejecta of animals play no considerable part in the distribution of typhoid fever."

109.—See also ¶135.

114. **The Vectis.**—Bartlett describes the mechanism and use, as well as the history, of this somewhat antiquated instrument and shows that it has certain advantages even with other modern methods in obstetrics. His clinical experience has been limited, but in a few cases it has been very satisfactory. The reader is referred to the paper for details.

115. **The Management of the Defective Classes.**—Skellon reviews the facts in regard to the production of defectives, criminals, epileptics, idiots, etc., and holds that their prevention and the purification of the stock is the best remedy for this social evil. He formulates tentatively: 1. The obliteration of the stock of the worst cases of defectives by the removal of the procreative organs. 2. The same remedy applied to the insane with strong hereditary and nervous instability, especially those discharged from asylums as improved, slightly improved, etc., and generally classified under the general head of recovery with defects. 3. Medical examination of applicants for marriage licenses, the benefit of which he thinks would be largely indirect and educational. The efficacy of the examination would be sometimes counterbalanced by the deception of the examined, as it would be looked on as an infringement of personal rights. Lastly, proper education and knowledge of the facts in the case. A certain proportion of society would avoid evil consequences when they were explained to them. Heretofore the facts of heredity and evolution and the relation of these to disease have been unknown to the general public, but in their place we have metaphysics, mysticism, diabolism and deism, etc., supplanting physiologic and pathologic knowledge.

122. **Physical Training.**—McKenzie finishes an illustrated article on the subject of physical training, in which he shows its value in correcting deformities, meeting the conditions of diseases, etc., with the following conclusions: 1. Special physical training is rendered necessary for the young by the conditions of modern life. 2. The work is made special and scientific, having for its object the development and strengthening of every organ and faculty of the patient. 3. As we conduct this work it is mainly educative. Force from without the patient, however, is largely employed in such cases as can not of their own volition correct the deformity. To name affections benefited in the order in which good results have been observed I would place them thus: Hysteria, rotolateral curvature, flat-foot, round shoulders, pigeon-breast, flat chest, anemia, parietic weakness, chorea, imbecility. In this list I have placed hysteria first, because I have not known any method by which this condition, generally so unsatisfactory to deal with, has been brought so successfully under control.

129. **Abuse of Cardiac Remedies.**—Baumgarten notes the employment of digitalis and alcohol beyond the early desirable effects into their later undesirable ones in cases of disease. Strychnin also is noticed in the same connection, and is liable also to be abused. Digitalis is valuable only when it is necessary to raise the blood-pressure, alcohol simply for its

stimulating effect and not its later depressing effects. Strychnin should be given only when low blood-pressure exists, not so much by any immediate effect on the heart, but by its increasing the velocity and functions of the blood in vital organs—the brain, kidneys, etc., including of course the muscles of the heart itself. Over-stimulation of the spinal centers by strychnin may so increase the tension of the peripheral arteries as to overwork the weakened heart. He also notices the abuse of nitroglycerin, which is often carelessly used as a substitute for digitalis and has exactly opposite effects. The action of digitalis can be supplemented or modified, but never substituted by nitroglycerin. It is of use in collapse when the enfeebled heart is no longer able to keep up the blood-pressure to the lowest degree necessary for bare life. When we have arrived at the end of the utility of one drug, digitalis for instance, and have still to keep up the fight, we should try other remedies, caffeine and strychnin in cases of low pressure, or in cases of contracted arteries nitroglycerin. The piling in of stimulants has never helped a failing heart and is strongly condemned.

130.—See also ¶135.

135. **Ectopic Pregnancy.**—Baldwin first notices the earlier dicta of Lawson Tait as to the impossibility of diagnosing ectopic pregnancy before rupture, and remarks that in the last ten years we have come to know a great deal more of that condition, and there are many cases in which symptoms arise where a presumable working diagnosis is possible. There are no pathognomonic symptoms, but usually we find the following: There is a history of several years of sterility (with many exceptions); missing of a menstrual period or two (with exceptions); some unusual pain in the pelvis situated usually in the region of an ovary, possibly for a few days more or less irregular hemorrhage, while there is generally to be found on one side or another of the uterus or back of it a fusiform cystic tumor, quite symmetrical in outline, painful on pressure, with usually evidence of pulsation. With these phenomena it is reasonable to suspect extrauterine pregnancy. Too much stress, however, must not be laid on menstruation or sterility. The pain is usually sharp and colicky or it may be of a dull throbbing constant character. When the presumable diagnosis has been made operation is advisable. He reports eleven cases.

FOREIGN.

British Medical Journal, November 3.

The Diagnosis of Diphtheria. H. B. DONKIN.—The distinction between croup and diphtheria, and the discovery of the bacteria, are noticed by Donkin, who calls attention to the fact that certain evils follow too much dependence on the bacteriologist by the physician. The practical teaching that the present stage of knowledge seems to demand is, according to Donkin, somewhat as follows: 1. Diagnosticians should at once regard and treat, without waiting for a bacteriologic report, all cases as diphtheria, in which the clinical signs and symptoms are such as would have raised little or no doubt in their minds as to their nature in the days before the coming of the bacillus. 2. They should also regard and treat as diphtheria all cases which, although lacking the usual clinical "stigmata," are shown by bacteriologic examination to be associated with bacilli whose products kill animals and cause the characteristic lesions; albeit even here they may be in error, though on the better side. 3. The mere presence of bacilli—in the nose or elsewhere—"morphologically indistinguishable" from the pure diphtheria bacillus, the host being healthy and inoculation results negative, may probably be ignored in practice, and so also are any clinically recognized symptoms or signs of the concrete disease. In fine, does not the diagnosis of diphtheria still rest mainly for its surest foundation on the old ground of careful clinical observation, tempered and aided in some cases, it may be, by a judicial study of the report of the bacteriologist?

Myelopathic Albumosuria. T. R. BRADSHAW.—Myelopathic albumosuria may be defined, according to the author, as a disease characterized by the invasion of the cancellous

tissues of the bones of the trunk by cellular growths, by the disappearance of osseous tissue, and by the presence in the urine of large quantities of peculiar albuminous substances belonging to a class of bodies known as the albumoses. The morbid anatomy of the disease consists in the peculiar change of the bones, chiefly the ribs, sternum and bodies of the vertebrae, in which the hard substance is reduced to a mere shell. The cancellous tissue almost entirely disappears and spontaneous fractures become common. The interior of the bone is occupied by a reddish gelatinous mass something like splenic pulp, which can be readily squeezed out by pressure on the thin and brittle bone. Microscopically it consists of a vascular mass of cells round or spindle-shaped, in some cases islets of cartilage. The whole structure resembles sarcoma and the condition is generally known as "multiple myeloma," a term which we owe to von Ruszizky, who described four cases of multiple tumors in the bone, in 1873. It is not certain whether the disease is the same condition, as there was no reference made to the condition of the urine. The organs, as a rule, are healthy. The kidneys seem to show nothing characteristic, excepting an occasional blocking of tubules and more or less degenerative changes. The disease usually occurs in the second half of life, and is apparently more frequent in men than in women. The symptoms may be classed under two heads, those connected with the bones and those with the urine. The first complaint is generally of pain in the lumbar region, generally aggravated by movement. The patient probably looks anemic, the pains do not yield to treatment, but there is nothing to suggest the serious condition excepting the urine. The pains become aggravated and the patient declines to exert himself. They are referred to the bones, tender spots arising in the course of the bones, the chest wall seems to yield, and actual fractures takes place, curvature of the spine appears and the mobility of the vertebral column is lost. In spite of all this the patient is still able to leave his bed and walks about until nearly the end, which is in striking contrast with another disorder sometimes confounded with it, namely, osteomalacia, in which the long bones are early affected. The characteristic feature of the urine is the presence of a proteid resembling albumin, but that differs in several ways. It coagulates at the low temperature of 140 F. and coagulation is redissolved on boiling. It is readily precipitated by hydrochloric acid and uric acid and the precipitations are dissolved on boiling. The hydrochloric-acid precipitate is, according to Bradshaw, the most satisfactory test.

The diagnosis presents no special difficulties, but the condition of the urine might lead to the diagnosis of large white kidney, or, if the albumose is spontaneously coagulated, to that of chyluria. The disease is apparently almost always fatal, but sometimes is very prolonged in its course. In one instance it began eight years before death. As a rule, the patients seldom go long without the symptoms causing them to seek advice. Intermissions are frequently noticed, which given rise to false hopes. Death occurs from exhaustion or from some intercurrent disease, usually pneumonia. No treatment seems to do any good, and great care must be used in handling the patient in the advanced stages. The association of albumosuria with new growths in the bone has no close analogy in any other disease, and the author considers its formation and excretion in the urine no less an essential part than the lesions of the bones. He suggests therefore the term myelopathic albumosuria. He concludes his paper with a tabulated list of published cases and a bibliography.

Suprarenal Gland Extract as a Hemostatic. O. F. F. GREENBAUM.—Having earlier suggested the administration of suprarenal gland in cases of hemorrhage from the walls of the alimentary canal, the author briefly notices the physiologic action and therapeutics. The rationale of his suggestion was that the suprarenal extract caused the contraction of the plain muscular fibers of the blood-vessels when locally applied, its evident use in epistaxis together with the results of a series of experiments which led him to conclude that the administration of the gland by the mouth did not cause rise of the blood-pressure in normal individuals. One or two crushed 5-grain tablets given by the mouth is the most satis-

factory method of administration in hematemesis. The advantage of the extract over the more popular hemostatics arises in the fact that it acts in very dilute solution and does not tend to combine with albumin and become inert. It must, however, be remembered that it does not cause coagulation of the blood and therefore does not seal the bleeding points with clots. Very small doses can be given, as the drug acts in dilute solution, but it must be repeated at short intervals, for the vessel wall will only remain contracted while under its influence and coagulation is not accelerated. Two or three crushed tablets, mixed with a few ounces of water, injected into the rectum is the most satisfactory way of applying the remedy in hemorrhage from that viscus. He has not found it of any advantage in hemophilia and would not expect it if we accept the theory that congenital hypoplasia of the vessel-walls is the associated condition of the disease.

Mode and Rapidity of Reduction of Temperature by Quinin. WILLIAM SYKES.—Observations are here reported on the action of quinin as an antipyretic given in cases of high temperature in single large doses. The temperature was closely watched for two or three hours in each case. He finds that the quinin was rapidly absorbed, the temperature began to fall in forty-nine minutes, probably in less time in the first case, and in the second and third series within twenty minutes. The size of the dose did not seem to affect the rapidity of the diffusion. In the cases experimented on we have respectively 20, 40 and 20 grains without corresponding differences in the time of its effect. The methods of its action are obscure: 1. Destruction of pathogenic bacteria, which he thinks is negated by the temporary nature of deferescence. 2. Neutralization of their resulting toxins, which is improbable, as they seem to bear no relation to each other. There remain only two probable methods of action, namely, on the heat-centers and on the sweat-centers. He thinks if it acted on the heat-centers the proportional decrease of temperature after exhibition of the drug would not be as irregular as it is, and the speed would not be affected by the amount of dosage. The drug acting on the nerve-centers might be liable to produce an immediately great and regular effect on its function which would be expected to agree in rapidity of action with the size of the dose administered. If, however, we accept the notion of its action on the sweat centers as true, an explanation of many of the difficulties is furnished. Since deferescence by diaphoresis depends on the sweating itself and not on its action, it is obvious that the size of the dose of the drug administered, so long as it was sufficient to produce perspiration at all, would have no result on the speed of the deferescence. Since slight movements in bed, by which the surface becomes chilled, would temporarily stop the diaphoresis, the stationary and even retrogressive intervals would be quite explicable. Moreover, most or all the antipyretic groups possess one quality in common when given for reduction of temperature; they produce violent diaphoresis: it also occurs in night-sweats produced by the toxins of the tubercle bacilli, which are in like manner succeeded by a normal or subnormal temperature.

Bulletin de l'Academie de Medecine (Paris), October 23.

Method of Hemostasis in the Xiphopagus Operation. PORAK.—In this official report on Chapot-Prévost's communication in regard to his operation on the xiphopagus, Porak describes the method of hemostasis as compression on each side of the proposed incision in the connecting band by rolls of gauze placed on the skin and drawn tight together with a double, No. 5, silk thread which passed through all the layers of the abdominal wall on both sides and the liver at the same time. The compression was preliminary to the operation and kept up for a week afterward. The connecting band measured .155 by .0975. In the Indian twins it was .015 by .08, and in the Siamese twins, .075 by .06. Porak defines the monster as a monophalian intermediate between the xiphopagi and thoracopagi. The surviving twin has five of the stigmata of hereditary syphilis; malformation of the head and body, dextrocardia, displacement of the liver, disturbances in vision and stammering; but there are no syphilitic antecedents known in the family and the three other pregnancies

resulted in normal children before and since 1893, the date of the birth of the monster. Porak summarizes the latest research on the production of monsters: that it is due to a disturbance in nutrition, in either the ovum or the mother. Any infectious disease of the mother may make its influence felt on the development of the embryo. He rejects the conception of a pathologic heredity, observing that heredity is a preserving force, perpetuating the remotest ancestral characteristics of the race. It is pre-eminently preservative, fixed, constant, immutable, durable. What is called pathologic heredity, on the other hand, is destructive and conflicts with true heredity. It is necessarily accidental, variable and exceptional in its appearance and brief in its persistence. Porak adds that a certain number of apparently normal twins are in reality a monstrosity, due to the development of two germinal discs grafted on a single vitellus. This can be surmised when the twins are of the same sex, when the membrane separating the ova is absent or only constituted by the two amnions, and when there is a vascular communication between the placental circulation of the two amnions.

Echo Medical du Nord (Lille), October 28.

Needle in the Heart. R. LE MORR.—A lad of 11, in falling, drove a needle in his coat into the wall of the thorax in the fifth intercostal space. It was removed without trouble after a transverse incision one-half centimeter above the entering point. From the length and direction of the needle it was evident that it had penetrated deep into the right ventricle, but after a brief disturbance of the circulation—the pulse becoming imperceptible for twenty seconds—the conditions returned to normal and the lad was at play in a day or two. In 23 cases of the kind collected by Loison the mortality amounted to 60.8 per cent., always due to internal hemorrhage when cause is specified. In 3 cases the needle was extracted without incision and 3 times with incision, all recovering. The present case makes the fourth of the latter class. Seventeen new cases of surgical intervention on the heart have been reported during the last two years. The total number of successful sutures of the heart is now 9 out of 24, with 2 cases of long survival. Podrez deliberately undertook the search of a foreign body in the heart, with the intention of incising for it between preventive sutures if a trace had been found of it in the course of bimanual exploration and ten exploratory punctures.

Revue Internationale de Therapie Physique (Rome), Oct. 20.

Absorption Under the Influence of Massage. A. KELLGREN and C. COLOMBO.—The experimental research described in this communication, concluded from the preceding number, was conducted at London on rabbits. It was impossible to obtain governmental sanction for control experiments on dogs. The fluid injected was Prussian blue and lycopodium spores in gelatin. Massage invariably favored the absorption in all the organs to which it could be applied. It is logical to conclude that the same effect occurs in case of pathologic exudates. The absorption always takes place through the nearest lymphatics and their ganglia, supplemented by absorption through the veins. Deep "effleurage" is more effective in case of fluids injected under the skin or into muscles or articulations, but kneading or "petrissage" best promotes absorption in the deeper tissue.

Presse Medicale (Paris), October 31.

Treatment of Hydrocele by Turning the Vaginalis Inside Out. L. LONGUET.—Excellent results have been attained in the cure of hydrocele by inversion or eversion of the vaginalis, after subserous deortication and hemostasis. The principle is to turn the serous membrane with the secreting surface outward, when the secretion is absorbed as it forms. Longuet has modified the original procedure and claims several advantages for his new technique, which requires neither deortication nor hemostasis. A transverse fold is taken up over the testis and cut with the scissors down to the vaginalis, which is then drawn up into a cone and cut in the same way with the scissors and the wound enlarged to 3.5 cm. The testis is then drawn out and up as far as possible, the assistant pulling the scrotum down at the same time. The vaginalis follows and

turns inside out with this maneuver. A couple of stitches are taken to hold it in place. The testis is not replaced in its former position, but a new cavity is made for it in the middle of the inner lip of the incision, lightly separating the tissues with the forefinger. The recess thus formed is inside of and parallel to the old cavity. The testis is not in normal anteversion, but in retroversion, twisted inward a quarter of a circle, the elements of the cord twisting with it. The entire operation is complete in a minute. Not a drop of blood is lost and the patient returns to business next day as usual. Out of twenty-two cases thus operated on nearly two years ago, twelve have been seen recently, and all are completely cured of their hydrocele, with no inconveniences at any time. If the hydrocele is very large, Longuet excises a portion of the vaginalis, otherwise proceeding as above. He reports six cases thus treated in 1898 with perfect success. He operates with local or general anesthesia or none, according to the sensitiveness of the patient.

Semaine Medicale (Paris), October 31.

Ozenous Pleurisy. G. DIEULAFOY.—There are three varieties of fetid pleurisy, simple fetid, putrid, and gangrenous. They can not be diagnosed without an exploratory puncture, which should be prompt. Immediate surgical intervention is the only treatment. There is little difference between the putrid and gangrenous forms. They may develop parallel or successively. The putrid effusion usually occupies the large pleural cavity, while the fetid is encysted. The former is frequently due to embolism; the original focus may have been in the vagina or appendix or elsewhere. It is usually distinguished by a pneumothorax without perforation of the pleura. Several instances are described of recovery after prompt evacuation of a gangrenous pleuritic effusion, uncomplicated by gangrene of the lung.

Deutsche Med. Wochenschrift (Leipzig), October 18 and 25.

Tuberculosis of the Bladder. L. CASPER.—Among the points emphasized in this article are the necessity of refraining from cystoscopy, in case of tuberculosis of the bladder and also from distending the organ with fluids. The amount introduced should never be sufficient to cause pain nor even a sense of fullness. Casper believes that the combination of appropriate hygienic, internal and local measures will always relieve and frequently cure this affection. In his experience with thirty-five cases he has had no success with local remedies except with lactic acid and sublimate, and he has been compelled to discard the former on account of the pain it induces. In 20 cases treated with instillations of sublimate, 14 have been improved, 2 cured, and 4 were unaffected. He first instills about 20 c.c. of a 1 per 10,000 to 1 per 1000 solution, repeating every fourth to eighth day, and progressively increasing to a 1 per 10,000 to a 1 per 5000 solution, the fluid retained as long as possible without much pain. He has never noted any symptoms of intoxication from the sublimate, but discontinues it if no benefit is apparent after three or four applications. He finds gonorrhoea a frequent predisposing factor.

October 25.

Gonorrhoeal Nervous Affections. A. EULENBURG.—This address by the editor of the *Wochenschrift* was delivered at the recent Congress of Physicians and Naturalists. He stated that nervous affections of gonorrhoeal origin have been too much neglected hitherto, and that they deserve at least as much attention as syphilitic nervous affections. He classifies them as neuralgia, atrophy of the muscles and atrophic paralysis, and neuritis or myelitis. The continuance of a gonorrhoeal lesion elsewhere, with or without the discovery of gonococci, suggests gonorrhoea in the etiology, and certain special characteristics of the nervous affection aid in differentiating it. Ischialgia is the most frequent manifestation of the neuralgic process. The lumbosacral nerve roots are usually involved, especially the genital nerves, more rarely the nerves of the arm. The symptoms appear as a sudden violent paroxysm of pain, sometimes accompanied by intermittent fever with no indications of any other cause than the preceding or concomitant gonorrhoeal affection. It is frequently accompanied

by sexual or general neurasthenic manifestations. Atrophy of the muscles and atrophic paralysis usually affect the shoulder or knee in the form of periarticular atrophy of the muscles or atrophying myositis, occasionally as neuritic atrophy, progressively spreading and involving symmetric portions of the opposite side of the body. The gonorrhoeal forms of spinal affections present a clinical picture with a superficial resemblance to that induced by degeneration of the posterior column. They are distinguished, however, by greater involvement of the motor sphere, manifested as atrophy of the muscles on a basis of neuritic or poliomyelitic degeneration. The absence of the eye and pupil symptoms is also specific. Eulenburg concluded with the statement that he has found iodipin remarkably effective in the treatment of severe neuralgias and gonorrhoeal ischialgia, as others have reported in various venereal nervous affections. "The introduction of iodipin and bromipin into therapeutics can be considered one of the most important advances in the application of iodine and bromine to the treatment of nervous diseases."

Muenchener Medicinische Wochenschrift, October 23.

Bacteriotherapy and Yeast for Constipation. E. ROOS.—The influence of the bacteria in the intestines on their normal function has been very little studied. Roos conceived the idea that by introducing bacteria from a normal intestine in cases of constipation, the conditions might be made to approximate normal. Cultures of the bacillus coli from healthy individuals were ingested by himself and seven other physicians. In three the effect was surprisingly favorable. After the second day they had one or two stools a day of soft consistency, for the first time in ten years in one case. Of the two subjects with normal stools, one was unaffected and the other had diarrhea. The effect of the bacteriotherapy continued for two weeks after taking the cultures and then gradually subsided. Experiments with killed bacilli were negative. Roos also administered yeast to relieve constipation. The results were negative in four out of twenty cases. In all the remainder a marked influence of the yeast on the stools was manifest. They became soft, regular, and sometimes more frequent. Similar results were obtained with yeast killed by heat. All but four out of eighteen were cured of their constipation. The effect of the yeast persisted for weeks after its discontinuance. In all the experiments the cultures or yeast were taken in capsules coated with collodion and then with keratin, to avoid contact with the gastric juice.

Surgical Treatment of Noma of the Face. H. VON RANKE.—The writer had occasion to observe five cases of noma of the face consecutive to measles in a severe epidemic of the latter in 1885. Since then he has not seen a case until after a mild epidemic of measles last winter, when three cases of noma were brought to his clinic. Each was treated with extensive excision and thermocauterizing of the region involved, without waiting for the gangrene to assume large proportions. Each was cured and with comparatively little disfigurement. All his previous patients had died from the effects of the progressive gangrenous process.

Wiener Klinische Rundschau, October 7.

Surgical Treatment of Anasarca. MENKO.—The writer's experience with the tapping of anasarca has been extremely favorable. He reports, among others, a severe case complicated by gangrene of the lungs and acute nephritis completely cured by continuous drainage of one extremity in combination with other measures. He uses a Curschmann canula, slightly modified, and prevents infection afterward by a spring bandage, something like a tourniquet. A strip of iodoform gauze is placed over the wound and the metal spring is applied with the convex side toward the skin, fastening it in place with moderate pressure. This prevents oozing and the wound closes effectively in three days, with none of the maceration or inflammation that frequently follows other methods.

Wiener Klinische Wochenschrift, October 11.

Trachoma. C. ZIEM.—In this long article Ziem shows how the prevalence of trachoma has kept pace with the destruction of forests and consequent production of dust and sand storms,

and also with the amount of decaying vegetation and soil in marshy or inundated regions. He traces this connection from the remotest antiquity. The influence on the eye may be direct or by the mediation of a nasal catarrhal affection. Treatment is certain to be ineffectual unless the nasal affection is cured and the frequent relapses in trachoma are usually due to neglect of this precaution. Miasmatic surroundings may affect the eye indirectly by inhalation of the malarial emanations and consequent catarrhal lesions of the upper respiratory passages, or by way of the circulation after ingestion of decaying organic matter in the drinking water or cooked with the food. He makes a convincing plea for international forest laws and prophylactic measures in miasmatic regions. Mesopotamia and Egypt have suffered most, perhaps, from the destruction of the forests mentioned by the ancient writers. The present dust and sand swept treeless region is the home of trachoma, especially where the inundations of the Nile add another element. Contagion is a subordinate factor in the etiology of trachoma.

Toe Reflex in Children. F. PASSINI.—Investigating the Babinski sign in large numbers of children, Passini's experience has confirmed the invariable occurrence of extension instead of the normal flexion of the big toe in case of organic injury of the pyramidal tracts. In tubercular meningitis the sign varied from day to day, probably due to periodical edema in the tracts. In children less than a year old, the pyramidal tracts are still so undeveloped that extension occurs as in case of a lesion.

St. Petersburg Med. Wochenschrift, October 20.

Symptoms of Latent Syphilis. C. STROHEMBERG.—Three or four weeks after the primary manifestation, the glands may swell and for a long time remain the only appreciable lesion. Indications of fever, circumscribed reddish spots and erosions on the mucous lining of the mouth and lips, especially at the corners, and on the genitals, herald the arrival of pronounced symptoms of syphilitic infection. A catarrhal cold in the head is also a frequent premonitory symptom. Much harm results from contagion during this period if the physician waits for unmistakable symptoms before starting treatment. General lymphadenitis is the cardinal symptom of the latent stage, and the occasional accompanying anemia. Leucoderma of the back and sides of the neck is a positive sign of the condylomatous period. It is found ten times more frequently in women than in men. Neisser has noted it in 45 per cent. of his female patients in the condylomatous stage and the writer in 74 per cent. In men buccal leucoplasia, psoriasis of the tongue with pachydermia of the mucosa of the ear are more frequent. These manifestations can be considered "independent latent symptoms," as also the falling of the hair and indistinct ring, horse-shoe or arch-shaped erythematous. Slight wounds and scratches heal with extreme slowness and leave pigmented scars. Consecutive phenomena are the predisposition to tuberculosis, rachitis, scorbutus and carcinoma. Among the subjective symptoms of the latent stage are fatigue, cephalalgia, insomnia, psychic depression, neuralgia, rheumatoid pains in the muscles and joints, loss or increase of appetite, palpitations and disturbances in sight or hearing. Among the rarer manifestations of latent syphilis are affections of the nails, swollen lymphatics leading from the primary lesion, brownish spots after rosola, slight swelling of certain joints, periosteum, tendon sheaths and bursa and also of the muscles, with enlargement of liver or spleen, bronchial or intestinal catarrh, icterus, stricture of the rectum, albuminuria or diabetes, premature arteriosclerosis and endocarditis. Central or peripheral disturbances in the central nervous system have also been observed during the condylomatous stage, also disturbances in speech, memory or mind, and hemiplegia, neuritis, especially in the domain of the trigeminal and optic nerves, and circumscribed paralysis of the facial, oculomotor nerves, etc. Iritis, cyclitis, choroiditis and retinitis have also been noted and catarrh of the middle or internal ear. The cases of syphilis precox warn against concluding that persons with gummatous manifestations are necessarily non-infectious. Hemorrhages from lungs or stomach are extremely rare at an early stage.

Queries and Minor Notes.

DRUGGISTS AND PRESCRIPTIONS.

KANSAS CITY, Mo., Nov. 12, 1900.

To the Editor:—As a solution to the problem referred to in the issue of November 10, by two correspondents concerning the rights of physicians and druggists in relation to prescriptions, I beg leave to submit the following, which I will maintain until refuted by legal authority.

When a physician delivers a prescription to a patient, and the patient pays for it, or it is charged to his account, or is given to him gratuitously, the transfer is the same as in other property: to all meaning and intent, the physician sells the prescription to the patient, and it becomes the property of the purchaser, and he has the right to deliver it to any druggist he chooses; but after delivering it to a druggist who fills it, he loses his title to it, and the prescription becomes the property of the druggist, who should preserve it for his own protection, as well as for that of his customer. The druggist should not hold the prescription for the purpose of refilling it without the advice of the physician who wrote it, but as a voucher to protect himself in case of alleged poisoning, or violation of the law. As an example, where intoxicants, or other poisons have been furnished on a prescription, the druggist becomes the sole owner of the prescription, and neither the physician nor patient is entitled to any property interest in it. When a prescription is filled it becomes the property of the druggist who fills it, and he has a moral and legal right to preserve it; and he has the same legal right to refill it, that he has to sell the same preparation without a prescription; but he has no moral or legal right to refill any prescription without permission, which contains an ingredient, the sale of which is prohibited by law, when not prescribed by a physician; and he has no moral, social, or professional right to refill, or to transfer to be refilled, any prescription, no matter how harmless its ingredients may seem to him, without the written request of the prescriber.

Have your own prescription blanks, without the name of any druggist on them, and have printed on the backs, in plain, but fine type, the following:

Notice: Never have a prescription filled a second time, without the advice of your physician to that effect; because a medicine which has a curative effect in one attack, may not be the proper remedy in a subsequent one; owing to new complications which may set in.

Never use a preparation which has been prescribed for some other person; because a medicine which will cure one patient, may not be a safe remedy for others, even though they have some of the same symptoms; owing to the fact, that different diseases may present similar symptoms, and yet require different treatment.

For the safety of patients, druggists are requested not to fill this prescription a second time, without the written advice of the prescriber.

After considerable deliberation of both the professional and legal faces of this subject, I devised the foregoing plan, which has assisted me, and will probably aid in reviving "a Slain Victim," and be worth something to Bro. J. B., of Essex, and other readers of THE JOURNAL. Respectfully,

J. L. SNORT, M.D.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Nov. 1 to 7, 1900, inclusive.

Charles N. Barney, acting asst.-surgeon, from Fort Monroe, Va., to Fort Dade, Fla., for temporary duty during the absence of Acting Asst.-Surgeon J. J. Shafer.

Edward G. Beeson, captain and asst.-surgeon, U. S. V., recently appointed from first lieutenant (36th U. S. V. Inf.), with rank from Oct. 30, 1900, is assigned to the 29th U. S. V. Inf.

John E. Bingham, acting asst.-surgeon, when relieved from duty at Fort Walla Walla, Wash., by Acting Asst.-Surgeon Whitney, to report by letter to the surgeon-general for assignment of contract.

Isaac W. Brewer, captain and asst.-surgeon, Vols., recently appointed from first lieutenant and asst.-surgeon, 26th U. S. V. Inf., with rank from Oct. 12, 1900, is assigned to the 36th U. S. V. Inf. William H. Brooks, acting asst.-surgeon, from Fort Hamilton, to temporary duty at Fort Schuyler, N. Y. after which he will proceed to San Francisco, Cal., for duty with troops en route to Manila, P. I., and on arrival at Manila will report for assignment in the Division of the Philippines.

Lawrence C. Carr, major and surgeon, U. S. V., relieved from further duty in the Division of Cuba, to report to the surgeon-general at Washington, D. C., for instructions.

Henry R. Carter, acting asst.-surgeon, previous orders revoked; he will proceed from Seattle to Vancouver Barracks, Wash., for port duty at the latter place.

Jefferson R. Keen, major and surgeon, Vols., previous orders revoked; his duty in the Division of Cuba and assigning him to port duty at Fort McHenry, Md., revoked.

James H. McCall, acting asst.-surgeon, leave of absence granted. George J. Newgard, captain and asst.-surgeon, U. S. A., previous orders directing him to proceed from Fort McHenry, Md., to Fort D. A. Russell, Wyo., revoked.

Seaton Norman, major and surgeon, Vols., recently appointed from captain and asst.-surgeon, 29th U. S. V. Inf., with rank from Oct. 30, 1900, is assigned to the 29th U. S. V. Inf.

J. J. Shafer, acting asst.-surgeon, leave of absence granted.

Samuel S. Turner, acting asst.-surgeon, from the recruiting office at Chicago, to duty at Fort Sheridan, Ill.
 Walter Whitney, acting asst.-surgeon, from Fort Sheridan, Ill., to duty at Fort Walla Walla, Wash.
 Robert N. Wynn, lieutenant and asst.-surgeon, U. S. A., leave of absence granted; thereafter to report for duty at Fort Riley, Kan.
 Edwin P. Wolfe, lieutenant and asst.-surgeon, U. S. A., relieved from further duty in the Department of Eastern Cuba and assigned to post duty at Fort Hamilton, N. Y.
 Charles L. Wych, acting asst.-surgeon, from St. Louis, Mo., to San Francisco, Cal., for duty with troops destined for service in the Division of the Philippines and on arrival in Manila, to report for assignment in the Division.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy, for the week ending Nov. 10, 1900:
 Medical Inspector C. Boyd, detached from the *New York* when out of commission, and ordered to the *Kearsarge*.
 P. A. Surgeon E. S. Bogert, Jr., detached from the *New York* when out of commission, and to duty on the *Massachusetts*.
 P. A. Surgeon M. S. Elliott, detached from the naval station, Port Royal, S. C., and ordered to the *Annapolis*, when placed in commission.
 Asst.-Surgeon W. M. Garton, detached from the *Massachusetts*, and ordered to the *Washington*.
 Asst.-Surgeon J. St. J. Butler, appointed asst.-surgeon from Oct. 26, 1900.
 P. A. Surgeon J. M. Moore, ordered to the naval station, Port Royal, S. C.
 P. A. Surgeon E. M. Shipp, detached from Norfolk Hospital and ordered to duty on the *Michigan*.
 P. A. Surgeon H. D. Wilson, detached from the *Michigan* and ordered to Norfolk Hospital, Va.
 P. A. Surgeon L. W. Sprating, detached from Yokohama Hospital, and ordered to Cavite naval station.
 Pharmacist S. Douglass, ordered to additional duty on the *Massachusetts*.

Marine Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned service for the seven days ended Nov. 8, 1900:
 Surgeon D. A. Carmichael, granted leave of absence for thirty days from Oct. 23.
 Surgeon G. M. Magruder, granted leave of absence for seven days from Nov. 17.
 P. A. Surgeon W. P. Wertenbaker, to proceed to Natchez and Jackson, Miss., on special temporary duty.
 P. A. Surgeon G. B. Young, granted leave of absence for two days. Granted leave of absence for five days, on account of sickness.
 Asst.-Surgeon M. H. Foster, to proceed to Seattle and Tacoma, Wash., on special temporary duty.
 Hospital Steward R. H. Gibson, granted leave of absence for thirty days from Dec. 7.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ending Nov. 10, 1900:

SMALLPOX—UNITED STATES.
 Colorado: Arapahoe County, Oct. 13-25, 5 cases; Elber County, Oct. 19, 1 case; Saguache County, Oct. 14, 1 case.
 District of Columbia: Washington, Nov. 3, 1 case.
 Kansas: Wichita, Oct. 27-Nov. 3, 3 cases.
 Kentucky: Lexington, Oct. 27-Nov. 3, 2 cases.
 Louisiana: New Orleans, Oct. 27, Nov. 3, 2 cases.
 Massachusetts: Fannin, Oct. 27-Nov. 3, 1 case.
 Michigan: Detroit, Oct. 27-Nov. 3, 1 case.
 Ohio: Cleveland, Oct. 28-Nov. 3, 1 case.
 Oregon: Portland, Oct. 31, 1 case.
 South Dakota: Sioux Falls, six months ended Oct. 31, 1 case.
 Utah: Salt Lake City, Oct. 27, Nov. 3, 5 cases.
 Tennessee: Memphis, Oct. 27-Nov. 3, 1 case.

SMALLPOX—FOREIGN.
 Bohemia: Prague, Oct. 13-20, 2 cases; West Hartlepool, Oct. 13-20, 1 case.
 France: Paris, Oct. 13-20, 11 deaths.
 Greece: Athens, Oct. 6-13, 1 case.
 Italy: Rimini, Oct. 24, black smallpox reported present.
 Mexico: Mexico, Oct. 14-21, 1 case; Vera Cruz, Oct. 20-27, 3 cases, 1 death.
 Russia: Moscow, Oct. 6-13, 1 case, 2 deaths; Odessa, Oct. 13-20, 4 cases, 4 deaths; Warsaw, Oct. 6-13, 18 deaths.
 Scotland: Glasgow, Oct. 19-26, 29 cases, 2 deaths.
 Spain: Oct. 13-20, 1 case.

YELLOW FEVER—UNITED STATES.
 Mississippi: Natchez, Nov. 6, 1 case.

YELLOW FEVER—FOREIGN AND INSULAR.
 Colombia: Barranquilla, Oct. 13-21, 2 cases, 2 deaths; Bocas del Toro, Oct. 24, 1 case.
 Cuba: Cienfuegos, 16, 1 death; Havana, Nov. 2, 16 cases, 1 death; Sagua, Nov. 2, 1 case.
 Mexico: Mexico, Oct. 14-21, 1 death; Tampico, Oct. 21-28, 3 cases, 1 death; Vera Cruz, Oct. 20-27, 12 cases, 7 deaths.

CHOLERA.
 India: Bombay, Oct. 9, 30 deaths; Karachi, Oct. 7, 3 cases, 2 deaths.

PLAGUE—UNITED STATES.
 California: San Francisco, Oct. 14-Nov. 6, 4 deaths.

PLAGUE—FOREIGN AND INSULAR.
 Germany: Bremen, Nov. 6, one death from plague, a seaman on a vessel from Buenos Ayres.
 India: Bombay, Oct. 30, 87 deaths.
 Japan: Kobe, Nov. 2, reported present; Osaka, Sept. 11-Oct. 7, 25 cases, 20 deaths.
 Mauritius: Port Louis, Sept. 7, 7 cases, 4 deaths.
 Scotland: Glasgow, Oct. 19-26, 10 cases.

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Original Articles.

GASTRIC ULCER: NON-PERFORATING—HEMORRHAGE.*

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PHILADELPHIA, PA.

One need not believe that gastric ulcer is so common an affection as Ewald¹ claims, before admitting that its treatment is of the greatest importance.

Ewald thinks that 5 per cent. of the Germans suffer with ulcer of the stomach, and this estimate is supported by clinical statistics and post-mortem records drawn from various German hospitals. DaCosta² and Welch³ think it less common in America, and in this opinion they are supported by a preponderance of authors and practitioners.

When one recalls how constantly the stomach is at work, the great variety of substances taken into it in the form of food and drink—regularly and irregularly—the wonder is that its diseases—resulting in inflammation particularly—are not more frequently encountered.

While gastric ulcer was until recently looked on as strictly a medical disease, some of its complications are now generally recognized as beyond the physician's province, and to have only a surgical bearing; others, again, occupying intermediate ground, claim the best consideration of both physician and surgeon.

Perforation and subphrenic abscess must always be met by prompt surgical interference; hemorrhage may be in many cases, and must be in some; while pain, vomiting, and other symptoms common in the evolution of an ulcer may be so pronounced as to not only justify, but demand, surgical intervention.

There is no disease, I take it, not even excepting the protean one, appendicitis, in which it is more necessary for a perfect understanding between physician and surgeon than in the treatment of gastric ulcer. When it is recalled that in mild cases—even latent ones—the worst complications may unexpectedly develop, whereas, in seemingly the most severe cases they may be escaped, there is but one safe rule to follow, and that is for the physician to either treat all cases of ulcer in a hospital, or at a residence, in conjunction with a surgeon.

The rather careless and slipshod fashion, altogether too common, of treating such cases by office consultation, and allowing them to continue their business, can only result, as it now does, in patients frequently falling

in the streets with perforation and hemorrhage, and being hopelessly lost, when they could, under better environments, have been easily saved. A joint interest in such cases will lead to a more accurate knowledge of the subject. Notwithstanding his unquestioned superior knowledge and greater acumen in the diagnosis of internal diseases, the physician has not found it so necessary to study the subject of ulcer topographically to the same extent and with the same accuracy as the surgeon undoubtedly will. It makes little difference to the physician where the ulcer is situated, as his treatment is not materially influenced thereby; it makes every difference to the surgeon, and will decide for or against operative procedures.

Morbid Anatomy.—Welch,⁴ who is quoted by every medical authority I have read, reports 793 cases, in which the ulcers were situated as follows:

Lesser Curvature	288	36.3 per cent.
Posterior wall	235	29.6 " "
Pylorus	95	12 " "
Anterior wall	69	8.7 " "
Cardia	50	6.3 " "
Fundus	29	3.7 " "
Greater curvature	27	3.4 " "

"From this table, it is apparent that ulcers occupy the lesser curvature, the posterior wall, and the pyloric region three and a half times more frequently than they do the remaining larger segment of the stomach."

It is also maintained by Welch that ulcers of the posterior border and lesser curvature were generally at or about the pylorus. Nolte, on the contrary, found ulcers more frequently on the anterior wall of the stomach than elsewhere.

In one case in five, or more frequently, the ulcers are multiple; generally, there are but two or three, but in one of his cases, Osler⁵ saw five, and refers to another case on record—Berthold's—with 34 ulcers.

Cicatrices are more frequently found and in greater number at autopsies than fresh ulcers. Mikulicz⁶ found them three times as common.

Etiology.—Owing to time limits and the occasion, it will be impossible for me to review all of the different theories as to the factors, predisposing and exciting, of gastric ulcer.

The theory so forcefully advocated by Reigel and his followers, namely, that an excess of acid—hyperchlorhydria—is always found in the gastric secretion in case of ulcer, while denied by few, notably Ewald, is admitted by practically all to be true of a great majority of cases.

Ewald, Leube, and others maintain,⁶ however, that the hyperchlorhydria is only one, and probably not the essential, factor, being of less importance probably than a coexisting anemic state of the blood. Ulcer of the stomach is found too frequently associated with anemia, chlorosis, and after acute hemorrhage not to have some

*Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

TABLES COMPILED WITH THE ASSISTANCE OF DRs. STILLWELL C. BURNS AND W. HERSEY THOMAS, GIVING DETAILS

NO.	OPERATOR.	SEX AND AGE.	OCCUPATION.	HISTORY.	SYMPTOMS.	DIAGNOSIS.	DATE OF OPERATION.
1	Armstrong, O. E.	F. 46.		Suffered with indigestion for 8 to 10 years. Diagnosis of ulcer made 9 years ago, at which time she had a slight hemorrhage.	Pain, vomiting and recurring hematemesis.	Gastric ulcer.	Oct. 12, 1899.
2	Berg, I.					Gastric ulcer.	
3	Berg, I.					Gastric ulcer.	
4	Berg, I.					Gastric ulcer.	
5	Berg, I.					Gastric ulcer.	
6	Bernays.		Laundress. Servant.	Four and a half years ago had two attacks of hematemesis. These were severe. No trouble for a year after these two hemorrhages. Gastric disturbances for 12 years.	Pain, vomiting, loss of weight, gastric dilation. Vomit contains sarinæ, blood-corpuscles, red and white, acid in reaction. Vomiting. Violent pain in stomach. Tumor beneath left costal margin.	Gastric ulcer.	Nov. 14, 1898.
7	Billroth.	F. 50.					Dec. 4, 1888.
8	Brenner.	F. 52.		Healthy until 23 years of age, when she began to vomit after eating. Had similar attacks at 28, 32, 41. At 42 pain and vomiting became still more marked.	Vomiting, pain. During the last year has had very severe pain in abdomen and left leg. Systolic murmur.	Gastric ulcer.	Sept. 15, 1896.
9	Brenner.	F. 53.		Gastric symptoms since July, 1895.	Loss of weight, vomiting. Pain in epigastrium. Melena on several occasions.	Gastric ulcer.	Sept. 16, 1896.
10	Cordua.	F. 46.			Gastralgia for 10 years. Movable tumor in the left hypochondriac region.		
11	Czerny,	M. 41.			Gastric symptoms for 3 years. Hard movable tumor above umbilicus.		
12	Czerny.	M. 41.	Cabinetmaker.	Previous good health.	Two years ago taken with pain in epigastrium radiating to back, with vomiting which continued on and off up to time of operation.	Dilation of stomach. Gastric ulcer.	1882.
13	Doyen.	F. 59.			All the symptoms of pyloric stenosis. Hard tumor felt in the neighborhood of the umbilicus.	Diagnosed as carcinoma. Proved subsequently to be an immense callous ulcer.	
14	Elliot.	M. 47.	His work entails constant pressure of tools on abdomen. Servant.	Markedly tubercular family history. Moderate drinker. Diseases of childhood. Morning cough for 30 years. Subject to attacks of indigestion.	For last 3 months constant pain in epigastrium, not relieved by food. Five days ago vomited 2 quarts of thick brown matter. Since then has had coffee-ground vomit.	Gastric ulcer, recurring hemorrhage.	
15	Gilford, Hastings.	F. 19.	Servant.	Had 3 attacks of dyspepsia in course of 2 years; epigastric pain and vomiting. Had on two occasions hematemesis. Had been ill for past two years.	Sudden, acute abdominal pain, tenderness over whole epigastrium, vomiting. After taking food had pain, nausea, and vomiting, with occasional hematemesis.	Gastric ulcer.	
16	Grad, Herman.	F. 32.				Chronic gastric ulcer.	
17	Hofmeister.	F. 34.		Stomach trouble since 17. In January, 1892, noticed tumor in abdomen which was painful.	Frequent attacks of vomiting and pain.		July 18, 1895.
18	Keen, W. W.	F. 61.		Good personal and family history. Her attacks began before 1886 and were insidious, but had gradually become severer.	Repeated attacks of pain and vomiting and on one occasion hematemesis. Weight 88 pounds. Absence of HCl. Lactic acid present. Dyspnea and irregular attacks of fever. Constipation obstinate. A small tumor could be felt in the epigastrium a little to left of median line.	The diagnosis lay between cancer and possible non-malignant gastric tumor due to ulcer.	Feb. 25, 1892.
19	Klausner.	F. 21.	Servant.	Symptoms began September 18, 1891, and recurred again in following year. During last 3 years has never been free from pain.	Intense pain and vomiting. Mass between xiphoid cartilage and costal margin.		Feb. 29, 1896.
20	Könlg, Jr.				Continual hematemesis.	Gastric ulcer.	
21	Krogfus.	F. 51.	Fish dealer.		Gastric symptoms for the last 3 or 4 years. Vomited blood on one occasion. Mass in epigastrium.		June 11, 1895.
22	Lange.	M. 25.	Butcher.		Pain in region of stomach. Vomited only twice during illness. Never any blood.	Owing to absence of symptoms of gastric ulcer the gall-bladder was thought to be the seat of trouble.	Oct. 25, 1891.
23	Lindner.	F. 30.		Had been ill a long time.	For some weeks had been vomiting all food. A large, hard, and tender tumor could be felt under xiphoid cartilage.	Tumor of inflammatory product. Gastric ulcer.	

OF FORTY CASES OF ULCER OF THE STOMACH TREATED BY PYLORECTOMY, PARTIAL GASTRECTOMY AND EXCISION.

CONDITIONS FOUND AT OPERATION.	OPERATION.	REMARKS.	RESULT.	REFERENCE.
Deeply excavated ulcer on lesser curvature, two inches from pylorus. Blood flowed freely from several points around margin.	Excision of ulcer. Opening in stomach closed as in a Heineke-Mikulicz pyloroplasty.	Patient did well. Convalescence complicated on fourteenth day by femoral thrombosis. All pain, sickness and discomfort have gone. She is gaining flesh rapidly.	Recovery.	<i>British Med. Journal</i> , March, 1900, p. 574.
	Pylorectomy.		Recovery.	<i>Nordiskt Medicinskt Arch.</i> , xxxi, 1898, Nos. 22-25.
	Partial gastrectomy.		Recovery.	<i>Nordiskt Medicinskt Arch.</i> , xxxi, 1898, Nos. 22-26.
	Partial gastrectomy.		Recovery.	<i>Nordiskt Medicinskt Arch.</i> , xxxi, 1898, Nos. 22-26.
	Partial gastrectomy.		Recovery.	<i>Nordiskt Medicinskt Arch.</i> , xxxi, 1898, Nos. 22-26.
Simple ulcer anterior wall of stomach 3 inches from pylorus.	Partial gastrectomy. Wound closed by 3 rows of sutures.	Total abstinence for 48 hours. Milk diet resumed on third day. Thirteen months after operation in best of health.	Recovery.	Not reported. Details sent in private letter to author.
Great retraction on anterior surface of stomach near greater curvature. Stomach opened in separating adhesions.	Partial gastrectomy. Callous area excised.	Six months after operation patient had gained 13 pounds. Eats food of all kinds. No pain since operation.	Recovery.	Reported by Eiselsberg in <i>Arch. f. klin. Chirurgie</i> , 1899, 30, page 845.
Ulcer near lesser curvature surrounded by an area of infiltration.	Ulcer excised by extensive partial gastrectomy. Mucous membrane united by continuous suture, muscularis and serosa by interrupted sutures of silk.	Left hospital November 7, 1896. Free from pain. Eats food of all kinds.	Recovery.	<i>Wiener Klin. Wochenschr.</i> , 1896, p. 1117.
Ulcer on posterior wall near lesser curvature. Firm adhesions. Very small ulcer on anterior wall, size of linseed. Ulcer found on the anterior wall of stomach.	Partial gastrectomy, continuous suture of mucosa, interrupted suture of muscularis and serosa.	Discharged November 7, 1896. Had gaueia in weight, feels well and strong. Gave excellent result.	Recovery.	<i>Wiener Klin. Wochenschr.</i> , 1896, p. 1117.
Tumor located on greater curvature.	Resection of affected portion followed by suture.	On the inner surface of excised portion 2 round ulcers were found. Tumor also presented histological peculiarities of myxosarcoma. Patient well at the end of 2 years.	Recovery.	<i>Rev. de Sciences Medicales</i> , xxxiv, p. 279.
On the lesser curvature was found a hardness which extended to the left and posteriorly. Posterior surface of stomach adherent.	Partial gastrectomy.	Microscopic examination confirmed the diagnosis. No digestive trouble after operation.	Recovery.	<i>Beiträge zur klin. Chirurgie</i> , ix, p. 681.
	Pylorectomy. Gastric and duodenal wounds closed and anterior gastroenterostomy performed.	Patient collapsed and died at end of 48 hours.	Death.	Reported in Doyen's <i>Travail. Chirurgicale des Maladies de l'estomac et du duodenum</i> , 1895.
Pyloric stenosis complete or nearly so.	Partial gastrectomy. Excision of pylorus and all diseased tissue which included $\frac{1}{2}$ of stomach, including whole of lesser curvature.	Stood operation well. On third day awoke in pain. Gradually sank and died. Cause of death not determined.	Death.	Reported by E. G. Cutler in <i>Boston Med. and Sur. Jour.</i> , 1897 p. 54.
Ulcer found near greater curvature on anterior aspect of stomach.	Excision of ulcer.	Vomiting and retching continued after operation and lasted until her death, 32 hours after operation.	Death.	<i>Guy's Hosp. Reports</i> vol. III, 1896.
Ulcer found on anterior wall near cardiac orifice, about $\frac{1}{2}$ inch in diameter.	Partial gastrectomy.	After operation patient improved steadily. For first few days fed per rectum, then food by mouth cautiously given. Recovery slow but uneventful.	Recovery.	<i>Medical Record</i> , N. Y., 1898, iv.
Tumor densely adherent.	Partial gastrectomy. A piece of spleen as large as a cherry was excised with the ulcer, as well as a large piece of the gastric wall, and a piece of the liver. Length of operation 2 $\frac{1}{2}$ hours. This mass was excised by a partial gastrectomy.	The excised portion showed an ulcer on its inner surface as large as a dollar. Microscopic diagnosis: Simple ulcer. Patient rapidly recovered.	Recovery.	<i>Beiträge zur klinischen Chirurgie</i> , xv, p. 356.
Hard dense mass, 3 cm. in diameter and 5 cm. to left of pylorus on lesser curvature.	Partial gastrectomy.	Patient in best of health 5 months after operation. A careful examination of tumor showed ulcer with greatly thickened edges and no signs of malignancy.	Recovery.	PHILADELPHIA MEDICAL JOURNAL, May, 1898.
Immediately beneath the skin several layers of scar-tissue were found which were removed. In doing this the stomach was opened. Opening packed with gauze and a secondary resection done several days later.	Partial gastrectomy. Excision of entire infiltrated area. All adhesions carefully broken up.	When seen 6 months after operation had no pain. Complete cure.	Recovery.	<i>Münchener medicinische Wochenschrift</i> , 1896, p. 863.
Ulcer situated near the pylorus.	Resection.	The resulting cicatrix caused obstruction and the abdomen was opened again and a gastrointestinal anastomosis made. A third celotomy was made necessary by the closure of this opening.	Recovery.	PHILADELPHIA MEDICAL JOURNAL, April, 1899, p. 529.
Stomach adherent to liver and anterior abdominal wall.	Partial gastrectomy. Removal of part of stomach as large as the hand. In separating adhesions stomach was opened.	Microscope showed the case to be one of simple ulcer. Pain ceased immediately after operation. Patient now in good health.	Recovery.	<i>Centralblatt f. Chirurgie</i> , 1896, Band 23, S. 538.
On opening the abdomen palpation revealed a hard disc on anterior wall of stomach.	Partial gastrectomy, the affected portion being excised.	The ulcer occupied a central area of this excised portion 3 inches in diameter. Pain has never recurred.	Recovery.	<i>New York Med. Journal</i> , May, 1892, p. 584.
Stomach adherent to liver.	Partial gastrectomy. Resection of the whole of the inflamed tissue.		Recovery.	<i>Med. Press and Circ.</i> , 1898, p. 334.

TABLES COMPILED WITH THE ASSISTANCE OF DRs. STILLWELL C. BURNS AND W. HEISEY THOMAS,

NO.	OPERATOR.	SEX AND AGE.	OCCUPATION.	HISTORY.	SYMPTOMS.	DIAGNOSIS.	DATE OF OPERATION.
24	Maydl.	.....	.....	.....	.....	.....	.....
25	Murphy, J. B.	F. 58	.....	.....	Emaciation, emesis after every meal. Marked gastrectasis.	Pyloric occlusion probably malignant.	Nov., 1899.
26	Navaro.	F. 65	.....	.....	Extremely emaciated. Presented a hard tumor the size of hen's egg above umbilicus.	.....	1889.
27	Postemski.	.....	.....	.....	.....	.....	.....
28	Robson, Mayo.	M. 54	.....	.....	.....	Ulcer of pylorus.	June 25 1881.
29	Robson, Mayo.	F. 44	.....	Well until 2 years ago, when patient had colic and lost flesh. On September 15, 1897, same kind of attack.	Pain on right side over pylorus. Loss of weight and strength.	Ulcer of pylorus.	July 23, 1898.
30	Roux.	M.	Brewer.	.....	Hematemesis. One liter, one half liter, and two liters several days before operation.	.....	.....
31	Rydygier.	F. 30.	.....	Since 1875 has felt a sense of constriction in gastric region.	Frequent sour belchings, vomiting several times weekly, finally becoming daily. On one occasion hematemesis.	Gastric ulcer. Dilation of stomach.	Nov. 21, 1881.
32	Rydygier.	M. 48.	.....	Gastric disturbances for 6 years.	Hematemesis on several occasions.	Gastric ulcer.	1894.
33	Rydygier.	M. 33.	.....	.....	.....	Dilation of stomach. Pylorus thickened.	.....
34	Schuchardt.	M.	.....	.....	Very cachectic. Presenting all symptoms of gastric ulcer.	.....	.....
35	Van Kleef.	F. 37	.....	Had suffered with gastric disturbances for 15 years. Came under my care in 1876.	Dilation of stomach. Periods of violent gastralgia. Vomiting. Several severe gastric hemorrhages.	Gastric ulcer. Pyloric stenosis.	Jan. 27, 1882.
36	Price, Joseph.	F. 31	.....	Typical history of benign ulcer. She for a year prior to operation had frequently recurring small hemorrhages.	Hemorrhage, pain, and progressive emaciation.	.....	.....
37	Price, Joseph.	F. 37	.....	Hemorrhages frequently repeated in Europe and after immigration to this country, where she was operated on largely on this account.	She had a fresh hemorrhage about 3 weeks before operation, being pale and anemic, so much so that the operation was postponed for a time until she became in better general condition.	.....	.....
38	Brown, F. Tilden.	M. 5t.	.....	Admitted to hospital December 29, 1898. During September preceding this date, was seized with severe pain in epigastrium and vomited blood-stained food. Pain persisted.	Emaciation, pain, tenderness in epigastrium. Examination of stomach-contents showed free HCl. Ten days after being admitted, and while in hospital, had a number of copious black stools.	Gastric ulcer.	About Jan. 2, 1899.
39	McCosh, A. J.	.....	.....	.....	.....	Gastric ulcer.	.....
40	Czerny.	.....	.....	.....	Acute gastric hemorrhage.	Gastric ulcer.	.....

NOTE.—Several operations by Mikulicz are not included in these tables for want of accurate details.

direct etiologic connection with the condition of the blood.

It is this changed or abnormal composition of the blood more than the hyperacidity of the gastric juice, which predisposes to ulcer. Both facts are of great importance from a diagnostic, as well as an etiologic, standpoint.

All agree that the female is more liable than the male (60 per cent. females, 40 per cent. males—Welch), some placing the difference as two to one, and three to one respectively. Occupation has a doubtful significance. It has been claimed, but by no means proved, that female servants, especially cooks who habitually taste hot food, suffer frequently. It is very unlikely that one would take food or drink at such a temperature as to immediately injure the mucous membrane of the stomach, for when hot enough to be a menace, it would either be expelled from the mouth or at once mixed with water and its temperature reduced before reaching the stomach, as the custom of drinking water freely with meals is practically a universal one.

Certain occupations which lead to more or less constant traumatism of the region over the stomach, such as shoemaking, weaving, turning, etc., have been credited with producing ulcer. Tight lacing has also been considered a cause. It would seem a priori that if such were the case, ulcers would be more frequently situated upon the anterior wall of the stomach, instead of, as they are, upon the posterior wall, which is certainly more favored, so far as traumatism from without is concerned.

The same line of reasoning would discredit the statement so frequently made by authors, that hot food may cause ulcer. Food and drink passing into the stomach first come in contact with its anterior wall and greater curvature, while we have shown by Welch's statistics that ulcer of the anterior wall is about one-fourth as common as it is on the posterior wall—8.7 to 29.6—and only one-twelfth as frequent on the greater curvature as the lesser—3.4 to 36.3. This, I take it, destroys confidence in these theories, if it does not actually dispose of them.

GIVING DETAILS OF FORTY CASES OF ULCER OF THE STOMACH, ETC.—CONTINUED.

CONDITIONS FOUND AT OPERATION.	OPERATION.	REMARKS.	RESULT.	REFERENCE.
.....	Partial gastrectomy. Resection of stomach to great extent for tumor simulating carcinoma.	It was a cicatricial tumor surrounding 3 simple ulcers.	.....	<i>Semaine Médicale</i> , 1891, p. 174.
Pyloric ulcer originally in stomach, extending out through pylorus and down the duodenum $\frac{3}{4}$ of an inch.	Pylorotomy. End of duodenum approximated with button to posterior wall of stomach. Stomach wound closed.	Uninterrupted recovery. All symptoms have subsided. Patient has gained in weight.	Recovery.	Not reported. Details sent in private letter to author.
.....	Pylorotomy.	Microscopical examination showed cicatrizing ulcer. Patient died of bronchopneumonia 12 days later.	Death.	Contributo alla Chirurgia dello stomaco, <i>Semaine Médicale</i> , 1890, p. 46.
Cicatrizing ulcer. Pylorus narrowed.	Pylorotomy.	.....	Recovery.	Eighth Congress of Italian Surgeons, 1891, <i>Lancet</i> , London, March 10, 1900, p. 680.
.....	Pylorotomy. Some adhesions broken up.	Gained flesh rapidly and went home within a month. Tumor proved to be thickening around an ulcer of the pylorus.	Recovery.	<i>Lancet</i> , London, March 10, 1900, p. 680.
The ulcer at the pylorus was adherent to the liver, which formed its base. There was also pyloric stenosis.	Excision of ulcer followed by pyloroplasty.	Patient lived for several years. After death old erosion of coronary artery was found.	Recovery.	<i>Lancet</i> , London, March 10, 1900, p. 680.
Circumscribed ulcer at lesser curvature near pylorus.	Excision of ulcer. Ligation of arteries of lesser curvature.	Patient died of erosion of coronary artery was found.	Recovery.	<i>Congrès de Chirurgie</i> , p. 203.
Ulcer on posterior wall of pylorus. Pyloric stenosis.	Pylorotomy.	Patient made a quick recovery. Eight months after operation was in the best of health.	Recovery.	<i>Berliner Klin. Wochenschrift</i> , 1882, Bd. 19, S. 29.
A loop of small intestine was found adherent to pylorus. The effort to detach it resulted in a perforation at the site occupied by the ulcer.	Pylorotomy. The perforation having been temporarily closed the pylorus was resected and the open end of the duodenum was brought into the wound in stomach. Opening in stomach closed.	At end of 7 weeks patient had gained 11 kilograms in weight and digested all his food.	Recovery.	<i>Med. Week.</i> , Vol. iii, No. 39, p. 459.
Pylorus contained an ulcer, at the bottom of which an open vessel was seen. The patient had never had hæmatemesis.	Pylorotomy.	Death caused by bronchopneumonia 4 days after operation.	Death.	<i>Wien. Min. Wochenschrift</i> , 1894, March 8-15-22.
An ulcer was found at the level of the lesser curvature.	Excision of ulcer.	Death after 2 weeks. Autopsy showed a second inaccessible ulcer, although the cavity of the stomach had been examined with great care at the time of operation.	Death.	<i>Semaine Médicale</i> , 1894, p. 203.
Pylorus very much contracted. Round ulcer 1 centimeter on anterior wall.	Pylorotomy.	Patient gained in weight and made an excellent recovery.	Recovery.	<i>Centralblatt f. Chirurgie</i> , 1882, Band ix, No. 46.
Ulcer found at pylorus on posterior wall.	Partial gastrectomy. Removal of ulcer and part of gastric wall 1 x 3 inches.	Recovery uneventful. Is still living. No symptoms of stricture since operation.	Recovery.	Case not reported. Details sent to author in private letter.
The ulcer was located on the anterior wall near cardia.	Partial gastrectomy. A portion of the stomach-wall as large as the hand being removed with the ulcer.	Recovery was uneventful, and she is still in good health. No microscopic examination was made.	Recovery.	Case not reported. Details sent to author in private letter.
Stomach presented a $\frac{3}{4}$ -inch ulcer, about 1 inch from the cardia and $1\frac{1}{2}$ inches from the junction of the posterior wall with the fundus.	Ulcer excised by a partial gastrectomy. Component layers of the wound were brought together with chromicized catgut, except the serous coat, which was inverted with two rows of fine silk.	Microscopic examination proved simple ulcer to be the correct diagnosis. Patient made a good recovery.	Recovery.	<i>Annals of Surgery</i> , July, 1899, p. 95.
.....	Excision of ulcer.	.....	Recovery.	Not reported. Details sent in private letter to author.
.....	Excision and gastroenterostomy.	Checked the hemorrhage immediately.	Recovery.	Reported by Petersen in <i>Deutsche medicin. Wochenschrift</i> , 1899, No. 24-25.

If ulcers are common, and I do not question that they are, in housemaids, cooks, tailors, weavers, and shoemakers, can not their frequency be explained in all by a common cause, namely, unhygienic surroundings, insufficient food and clothing, want of sunlight, and exercise in the open air? Are not such persons usually anemic and therefore predisposed to ulcer?

Stockton believes that gastric ulcers are neuropathic in origin.

Age.—The following table from Welch, based upon 607 autopsies, and therefore accurate, shows the age incidence for each decennium.

Age	1-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of cases.....	1	32	119	107	114	108	84	30
		226		222		114		
Age	80-90	90-100	over 100					
No. of cases.....	6	0	1					

While from the above statistics it will be apparent that young persons frequently suffer from ulcer of the stomach, it will be none the less striking that it is about equally common during the four decades from 20 to 60, and that contrary to what is generally taught, it is

relatively more common between 40 and 60 as there are fewer persons living at that time of life than between 20 and 40. While many of these ulcers may, and undoubtedly did, exist for years prior to death, no one would hesitate on this account to estimate them as of more value than statistics based upon clinical data alone. The following tables were compiled by Lebert from diagnoses made during life:

Age	5-10	11-20	21-30	31-40	41-50	51-60	61-70
No. of cases	1	24	87	84	34	17	5
Per cent.		25	92	171	51	5	
				67.85	20.24	1.99	

The mean age at which ulcer begins is greater in males than females.

Age.....	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	Total
Males.....	9	33	44	39	37	20	5	1	188
Females....	13	35	25	25	18	18	9	0	143

(Welch, Pepper's System of Medicine.)

Symptoms.—Pain, severe and boring in character, situated one or two inches below the xiphoid cartilage, also felt at a point nearly opposite, near the heads of the last two ribs and materially increased by the taking of

food, and which attains its maximum intensity about two hours after eating, is perhaps the most constant and reliable symptom. There is, in addition, as a rule, marked tenderness on pressure over a very circumscribed spot, so much so that the patient will point to it with a finger rather with the entire hand. While vomiting is present in a majority of cases of ulcer, it is so usual a symptom in other gastric disorders as to be far from characteristic. If, however, the stomach empties itself about two hours or more after eating, the ejected matter contains an excess of HCl, and pain hitherto severe is now relieved, the probability is that such symptoms in a person under 40, especially a female, indicate gastric ulcer.

Hemorrhage.—If in addition to the above symptoms there is added occasional hematemesis or melena, the diagnosis may be considered as practically certain. Von Leube⁶ states that in 1000 cases treated by him hematemesis occurred in 46 per cent. Gerhardt saw it in 47 per cent. of his cases, while Brinton places it as low as 29 per cent. Ewald thinks it considerably less than 50 per cent. Other writers think that hemorrhage occurs in 80 per cent. of all cases.

The amount and color of the vomited blood will depend, of course, upon the rapidity with which it is poured out into the stomach, and the time it has remained undergoing disintegration. A large hemorrhage would provoke prompt emesis and show bright blood, whereas a small and slowly-forming accumulation would give the coffee-grounds vomit. The latter variety of hemorrhage into the stomach may not provoke vomiting but pass off per rectum as it not infrequently does. Hemorrhage causes death in 8 per cent. of the cases in which it occurs. (Leube.) It causes death in 3 to 5 per cent. of all cases. (Welch.)

Physical Signs.—A tumor may be present in ulcers with thick, callous edges, and in those which have formed adhesions or attached themselves to pancreas, omentum or other tissues. Such benign ulcers are not common, and are usually diagnosed as carcinoma. Introducing a stomach-tube for diagnostic purposes is no longer necessary or justifiable, and even physicians, as Ewald and Sée, strongly advise against it, as perforation and hemorrhage may follow its use.

Prognosis.—There is little uniformity in the mortality statistics of ulcer, varying from 2.4 per cent. of Leube, 10 per cent. of Lebert, to 50 per cent. as given by Debove and Rémond. Welch estimates the mortality as 15 per cent., of which 3.5 per cent. are due to hemorrhage and 6.5 per cent. to perforation. Anders⁵ places the mortality at 25 per cent.

Treatment.—The audience, the occasion, and the time-limits placed upon papers, all prevent consideration in detail of the ordinary medical treatment of gastric ulcer. Let it suffice to say that one-half or three-fourths of all cases (Leube) will be cured by four or five weeks' medical treatment. Patients with ulcer should be kept in bed; all solid food withdrawn; and the stomach, as far as possible, placed at rest. Giving liquids largely or wholly digested in the intestines, with rectal feeding, when well borne, so as to lessen the amount of nourishment taken by the stomach, constitutes the usual and best treatment of gastric ulcer.

We, as surgeons, are more interested in that smaller class of intractable ulcer, little or not at all influenced by medical treatment, than in the larger number of cases which will be successfully treated by the physician. That this class is a growing one, now that surgery offers a substantial hope for relief, can not be questioned. Even

Leube, the most optimistic of medical men, says that ulcers that are not cured in four or five weeks by medical means will not be cured by a longer treatment.

Kocher,⁷ from the surgeon's standpoint, emphasizes this opinion of Leube and insists that chronicity, especially in those past middle life, may mean incipient carcinoma. It is in such cases, particularly, that one should remember the teaching of Hauser that 6 per cent. of gastric ulcers become carcinomata, and that other observers, notably Doyen,⁸ would estimate the probability of malignant degeneration as very much greater.

With Tricomi advocating the radical treatment of ulcer by gastroenterostomy, just as he would do a radical cure for hernia; with Mikulicz' statement that "the danger to life from gastric ulcer is at least not less, but probably far greater, than the danger of a complete modern operation;" and Heydenreich's terse and forceful statement that gastroenterostomy gives, as it does, a mortality of 16.2 per cent., we have very positive ground taken by advanced surgeons and sufficient warrant for surgical intervention in serious if not in all cases of gastric ulcer. We have shown, moreover, that there is not wanting excellent medical authority for placing the mortality of ulcer higher than Heydenreich does. If all cases of gastric ulcer would not give so great a percentage of deaths, it is scarcely to be doubted that those finding their way to surgeons on account of their severe type and the previous failure of medical means, would if classed by themselves, yield a very heavy mortality, certainly not less than 25, and more likely 50, per cent.

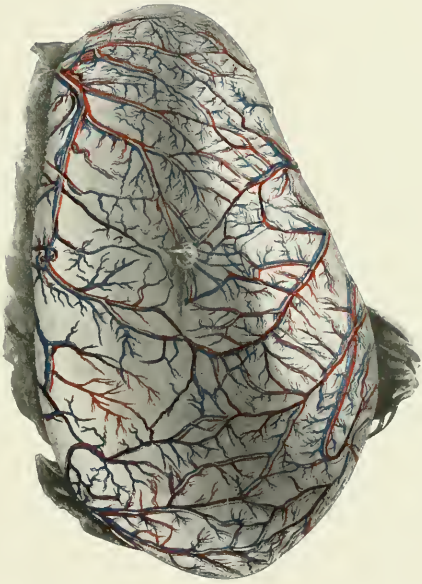
This, it occurs to me, is the only way to consider the matter. The statistics we have are not of as great value as they should be, or will become very soon, now that ulcer is an operable disease. Kocher's insistence that cases be turned over to the surgeon before they are either moribund or so greatly reduced as to be unable to bear the shock of an operation has the right ring to it and should be generally followed.

Given then a case of gastric ulcer resisting medical treatment for a reasonable time, what is to be done in the face of uncontrollable vomiting leading to inanition, severe pain and other symptoms—excluding hemorrhage, or cases in which it was not the prominent symptom—due to its presence?

1. *Shall the ulcer be excised?* If it were certain that individual operators had been as ready in reporting unsuccessful as they have successful cases, it would not be difficult to answer this question. It is, of course, the ideal operation and method of treatment; absolutely prevents malignant degeneration, and leaves the stomach in the best condition for future use.

I have been able to collect from literature and extensive personal correspondence detailed reports of 40 pylorotomies, partial gastrectomies and excisions, with 6 deaths. Certainly this is a good showing when the nature of many of the cases is considered, operation in them having been undertaken for supposed malignant disease on account of a tumor with dense adhesions, and other conditions not conducive to a favorable operative result. This, furthermore, includes cases operated on since 1881, when Rydygier performed the first operation of the kind. (This operation was soon followed—1882—by an equally successful case in the hands of Czerny.)

Certainly the radical treatment of gastric ulcer has steadily gained in favor, and no one would now do as the editor of the journal in which Rydygier published his report of "The First Successful Excision of a Gas-



THE CIRCULATION OF THE HUMAN STOMACH.

(From a photograph.)

Arteries and veins injected with colored plaster by Dr. J. B. Roxy. Halftone engraving made from a wash-drawing over the photograph.

tric Ulcer," namely, to write under it the sharp criticism, "and let us hope the last."

Still, it can not be said in candor that an operation with a mortality of 15 per cent. should be advised in all cases of gastric ulcer, but rather held in reserve for severe ones that will probably not yield to surgical measures less formidable in character.

The size, location, and duration of the ulcer, and, above everything else, the presence or absence of dense adhesions to surrounding organs, as the pancreas, liver, omentum, gall-bladder, etc., will each have great weight in deciding between the merits of a partial gastrectomy and gastroenterostomy, or other less radical procedure. If the lesion is situated at the pylorus, or upon the anterior wall, and is, therefore, accessible and easily removed, pylorotomy is preferable, especially in persons past middle life, and in ulcers that run a chronic course. Per contra, if the ulcer be situated posteriorly, as it so frequently is, and at the same time adherent to adjacent tissues, requiring a difficult and prolonged operation for its removal, gastroenterostomy should, unless we are facing probable malignant degeneration, be preferred, being less dangerous and almost equally as satisfactory in its ultimate results as partial gastrectomy.

It acts by rapidly emptying the stomach, putting the ulcer at rest, and promptly relieving the hyperchlorhydria; all of which facilitates the healing of the ulcer, and in time results in cure. That it will occasionally fail to cure, we must admit, since Kocher had a fatal case of hemorrhage after the gastroenterostomy wound had healed.

I would here emphasize the fact that many cases, supposed to be malignant at the time of operation, on account of enlarged lymphatic glands, induration of tissue, etc., and, therefore, too advanced for resection, have yielded entirely to gastroenterostomy, time demonstrating in several of them that either mistakes in diagnosis actually were, or could easily have been, made, subsequent observation having proved that the enlarged glands were inflammatory, and had entirely passed away. Bidwell⁹ records two such mistakes in his own practice.

2. When there are two or more ulcers suspected, resection of each is out of the question, and gastroenterostomy is the operation of choice. In all cases when the element of shock is presumably to be an important one gastroenterostomy by one of the quicker methods—the Murphy button preferably—should be chosen.

It is not my intention to contrast the merits of the many different methods of performing gastroenterostomy with one another, or the best of them with pyloroplasty, Loreta's operation, and all other methods less radical than resection. I will say, however, that breaking up adhesions, a practice advocated by some, is hazardous, and has very generally resulted in perforation—making immediate resection imperative. In ulcer situated upon the anterior gastric wall with adhesions to the abdominal wall, all attempts, save one, to break up such adhesions have been followed by tearing into the stomach. It so happened to Krogius, Klausner, Hofmeister, and Billroth.

Mikulicz was more fortunate, and separated the stomach without causing a traumatic perforation. Therefore it should be remembered that any attempt to break up adhesions in this situation will, in all probability, lead to a partial gastrectomy.

Before dismissing the subject of non-perforating ulcer without hemorrhage, it is of interest to note that Mr. Mayo Robson¹⁰ in his recent Hunterian Lectures re-

ported 188 operations upon the stomach with a mortality of 16.4 per cent. for gastric ulcer, excluding perforation and hemorrhage. This is a very favorable showing when contrasted with the results following medical treatment, and certainly should encourage a more frequent resort to surgical intervention in intractable ulcers which have resisted dietetic and medicinal measures for a reasonable length of time. I here quote the conclusions of this distinguished English surgeon: "My own experience and a careful study of the subject would lead me to say that the time has not yet come for a sweeping change to be made in the treatment of uncomplicated gastric ulcer except in the way of more rigid and more prolonged medical treatment, but that when the ulcers prove intractable, or when complications supervene, medical should give place to surgical treatment at a much earlier stage than has hitherto been the custom. It is unfair to the surgeon to hand over to him moribund patients, as is at present so often done, and it is, in my mind, unjust to the patients to persist in dosing them with medicine or otherwise treating palliatively cases that can only be benefited or cured by surgical means."

Hemorrhage.—The frequency of hemorrhage as a symptom of gastric ulcer, either in the form of hematemesis, melena, or both, is variously estimated by different writers; some, as Mayo Robson¹⁰ and others, think it present in 80 per cent. of all cases. It may, of course, be arterial, venous, or capillary, and, as with hemorrhages elsewhere, either slowly or rapidly poured out, and in great or small quantity. Its treatment, as we shall see later on from an analysis of every accessible published case, and others reported to me in private communications for the first time, is quite in harmony with the principles underlying the treatment of external hemorrhage in most respects—but not all. There are, too, a sufficient number of cases on record to make conclusions based thereon reasonably reliable.

1. It would be highly injudicious, in my judgment, to subject a patient to laparotomy during the first hemorrhage, even if the surgeon should see the case then, as he rarely will. The treatment of such cases should be absolute rest to the stomach, with astringents, opium, and, possibly best of all, high enemata, as advised and practiced by Tripier.¹¹ Here the treatment is entirely different from that of external hemorrhage: Dienlaffoy,¹² so far as I know, being the only one to advise operation during the first hemorrhage if so much as half a liter of blood is lost.

2. The surgeon has been called in to see a case that has had one severe hemorrhage, but which has probably ceased, and the patient is successfully rallying from shock. Here, too, I take it, "a masterly inactivity" on the part of the surgeon will yield the best results.

Only 8 per cent. of those who bleed die; now, if we knew what per cent. of this number die in or from the first hemorrhage, non-intervention would doubtless seem imperative. The free use of normal salt solution and other approved methods for combating shock should be the only thought of the surgeon at this time. A similar course is often pursued in external hemorrhage, dependence being placed on a firm clot which forms in the mouth of the bleeding vessel, usually preventing subsequent hemorrhage. Certainly a line of practice followed and justified in external hemorrhage is more than allowable here, as a serious operation—one with a mortality *per se*—must be performed if inaction is not to govern.

3. A case has bled freely once, recovers, and in a few days bleeds seriously again. What should be the treatment?

Inaction may be justified even in the face of a second hemorrhage, and if I mistake not, the majority of those who have written upon the subject rather lean to, if they do not positively advise, this course.

I can not, however, do so, unless it be to await reaction and not operate in great shock. A careful study of my tables, in which there are tabulated 40 cases, will convince the hesitating that too great delay after the second hemorrhage is hazardous. Elder's patient was lost by a too long delayed operation, so Armstrong,¹³ who saw the case, had reason to think, and the patients of Tubby and Michaux would in all probability have recovered if they had been operated on after the second hemorrhage.

Per contra, we have quite a number of successful operations after the second hemorrhage, as the cases of Armstrong, Andrews, and Hirsch, all operated upon in a condition of extreme anemia, and the cases of Cazin, Robson and Roux operated on after each had sustained three severe hemorrhages. It will, therefore, be seen that the conclusions drawn by Mr. Mayo Robson from his tables reporting a smaller number of cases are misleading. In the first place that distinguished surgeon has included in his tables 3 cases of Petersen's operated for vicarious menstruation, and 2 cases of Reichard for post-operative hematemesis. Such cases must be thrown out. In the second place, as Mr. Robson intimates, some of Hartman's 12 cases—all I think—are reported twice. These early cases happened to be in a majority of instances fatal, and counting them twice in estimating the mortality from surgical intervention, would naturally make it seem out of the question.

In the third place, I have in my tables several successful operations for acute hemorrhage, not reported by Mr. Robson at all. So that instead of the prohibitive mortality of 64.2 per cent. as given by Mr. Robson's tables for operations in acute hemorrhage, we find it 37.5—32 acute cases with 12 deaths—when all reported cases of hemorrhage from gastric ulcer only are considered.¹⁹

This is a heavy mortality, but certainly not a prohibitory one when all things are considered. In the first place, the cases of hemorrhage operated on thus far have been extreme ones, and only turned over to the surgeon when death seemed inevitable without surgical intervention. This is true of every new operation; as it must demonstrate its *raison d'être* by saving cases admittedly hopeless without it.

Consider the history of operations for perforated ulcer, how they have grown better within the last year, week by week, almost day by day, until the mortality is now certainly not more than one-third of what it was a few years ago.

The conditions are alike up to a certain point, for it is frequently the case that the hemorrhagic and non-perforating ulcer of to-day may in a short time become a perforating one. This is one of the strongest reasons for intervening in hemorrhage, for it has been shown that operations for hemorrhage—even those less radical than partial gastrectomy and excision—have cured the ulcer and therefore prevented subsequent perforation; the only exception thus far reported being a case of Mayo Robson, in which he practiced curettage of the ulcer with application of pure carbolic acid; perforation followed on the eighth day.

Encouraging as have been the results of operation for acute hemorrhage, a great deal more can be said of the results thus far attained in frequently repeated small hemorrhages, which slowly, but none the less surely, lead to anemia, exhaustion and death. An analysis of

all cases thus far operated on give a mortality of 16.1 per cent., there having been 31 operations, with 5 deaths.

Methods.—The following operative measures have been carried out in treating gastric hemorrhage:

1. Partial gastrectomy: pylorotomy, according to location of ulcer.
2. Gastroenterostomy.
3. Gastrotomy.
4. Excision.
5. Excision of ulcer with ligation of artery.
6. Ligation en masse of mucous membrane.
7. Suture of ulcer.
8. Cauterization.
9. Pyloroplasty.
10. Gastrorrhaphy.
11. Ligation of principal artery.
12. Curettage of ulcer with and without cauterization.

Pylorotomy.—As in non-perforating ulcer without hemorrhage, pylorotomy, if at the pylorus, or partial gastrectomy in ulcers situated elsewhere, is the ideal operation in hemorrhagic cases. The presence of hemorrhage and probability of perforation in such cases are two additional and cogent reasons for a complete operation if conditions are favorable. If the ulcer is situated either at the pylorus, or upon the anterior gastric wall, and is reasonably free from adhesions, it should be removed. One is justified in undertaking a radical operation, even in the face of moderate adhesions, on account of the actual danger from hemorrhage and the probability of subsequent perforation. Of the 10 cases thus treated, 8 recovered promptly, giving a mortality of 20 per cent.

Gastroenterostomy.—Up to the present, this has been the most generally practiced operation for open ulcer, and judging from the opinions expressed in a large number of personal communications received from representative American and foreign surgeons, it is likely to remain so for a time. It has also been carried out in a greater number of hemorrhagic cases than any other procedure. Questionable as its choice may be in certain well-selected hemorrhagic and non-hemorrhagic cases, there are many reasons why it is likely to retain its popularity as the preferable method in a majority of instances of bleeding ulcer.

1. One can never be certain that the case in hand is not one of multiple ulcers, as we may expect several ulcerated points once in every five cases—perhaps more frequently. In any case where multiple ulcers are suspected, gastroenterostomy should be selected; putting, as it does, the stomach at rest and thereby leading to the formation of a firm clot in the bleeding vessel, and to the subsequent healing of all the ulcers.

2. It has been found in many cases to be a somewhat difficult procedure to locate the bleeding even after gastrotomy has been done and the entire mucous membrane carefully inspected—with and without the aid of a suitable electric light—and in at least 7 instances it has been altogether impossible to discover the open vessel. This is what might be expected, when we remember that it is at times impossible to locate the bleeding point at autopsy. M. Savariaud¹⁵ records in his very complete and valuable thesis, reports of 55 autopsies following sudden death from gastric hemorrhage, and in 4 of them it was impossible, after the most careful examination, to locate the source of the hemorrhage. The cases operated on have, on account of the delay occasioned by looking for, and inability to find, the bleeding vessel, usually been fatal.

Such failures are less frequent now than formerly, it is true, and will be still rarer with improved technique and a better understanding of *how* and *where* to look for a probable ulcer; but it is altogether unlikely that the possibility of failure to locate the bleeding point—even after the stomach is opened—can be entirely eliminated. Therefore, gastroenterostomy, which cures the hemorrhage by an entirely different principle, would be better in such cases, and the opening made in the stomach-wall in performing gastrotomy can be utilized in doing the subsequent gastroenterostomy.

Of gastroenterostomies for hemorrhage, there have been thus far, 13 cases, with 3 deaths, or 23.07 per cent.

Excision of ulcer with ligation of the principal artery has been done once, and then successfully, by Roux, of Lausanne. Suture of the bleeding ulcer with catgut has been practiced in 5 cases, with 2 deaths, or a mortality of 40 per cent.

Ligation.—Treatment of the ulcer by ligation of the mucous membrane en masse has been practiced three times, once by Cazin and twice by Andrews. All were successful. Andrews draws all of the coats of the stomach forward, so as to make a decided cone, and then ligates. Andrews and Eisendrath¹⁶ afterward experimented on dogs, and found this practice dangerous on account of too great sloughing, unless there was careful



Arterial blood-supply of the interior of stomach. (Original.) The arteries were well injected with plaster, the stomach removed and tacked upon a board and photographed. As soon as the mucous membrane became dry, the vessels in the submucosa were prominent. C. A. Coronary artery; G. E. D. Gastroepiploica dextra; C. Cardia; A. W. Anterior wall; G. E. S. Gastroepiploica sinistra; G. C. Greater curvature; P. W. Posterior wall; P. Pylorus; L. C. Lesser curvature.

mortality, not a bad showing when it is remembered that it was done after other methods had failed in several instances. In small but frequently repeated hemorrhages the operation finds its best field. In 12 cases of this kind its mortality has been nil—a most encouraging showing, and one which should lead to more frequent operation in cases of this kind.

Gastrotomy, or simply cutting into the stomach, can not control hemorrhage, and is only done as a preliminary to something else, as excision of the ulcer, suture, ligation en masse, etc. In the 7 cases in which it and nothing else was done because the bleeding could not be located, 6 died, or a mortality of 85.7 per cent.

Excision of the ulcer has been done three times, with two recoveries and one death.

extrinsic suturing of the stomach-wall at the same time. They therefore advise the placing of Lembert's sutures on the outside of the stomach over the ligated portion. Time is lost in doing this, and it may be just as well to make a less decided cone before ligating.

For all practical purposes, we may say that methods 4, 5, 6 and 7 are essentially the same and involve like principles; so combining all such cases we have eleven operations reported, with three deaths, or a mortality of 27.2 per cent.

Simple Gastrotomy with Cauterization.—This has been practiced but once, and then successfully. The cautery has been used in a number of other cases, but the wound in the stomach has been closed by a gastroenterostomy, as in Küster's two successful cases, and as in,

pyloroplasty in three successful cases operated by Armstrong.

Pyloroplasty.—Though a rival of gastroenterostomy—declining in favor, it is true, but still a rival in the treatment of open ulcers and the stenosis following them—pyloroplasty can in no sense be considered as rational an operation for hemorrhage. There have been 11 pyloroplasties, with 3 deaths, giving a mortality of 27.2 per cent. It should be noted, however, that three of the successful cases were cauterized with the thermocautery, and the good result was probably more due to this than the subsequent pyloroplasty.

Gastrorrhaphy has even less to recommend it than pyloroplasty, and has been followed by death in two of the three cases in which it has been practiced—mortality 66.6 per cent.

Curettage, either with or without cauterization, would seem, a priori, to be unsafe on account of the danger of subsequent perforation. This actually happened on the eighth day after operation in the only case thus treated—Mayo Robson's.¹⁰

Ligation of the Principal Arteries.—If, as we have seen, the bleeding vessel and ulcer can not always be found, even after the stomach is opened, how can it be possible to locate it beforehand? Until the source of the hemorrhage is known one could scarcely tell which vessel to ligate, and at best it would be nothing more than a guess based upon probabilities anatomic and pathologic. We know, of course, that hemorrhage from the coronary and splenic arteries occurs more frequently than it does from other vessels, but the first is difficult to tie, and the second, which bleeds three times as often, is so situated as to be, under the circumstances, almost inaccessible. It has, however, been tied once by Korte,¹⁷ though unsuccessfully. Savariaud¹⁷ has found it both practicable and safe in dogs, and therefore advises it in man, describing how it should be done.

Overlooking, for the present, the impossibility already pointed out, of knowing definitely the source of the hemorrhage and, the additional objection to ligation on account of its difficulty, I should still be opposed to ligation in continuity upon general principles. The anastomoses of the blood-vessels of the stomach are so free that a recurrence of the bleeding from the distal end of the affected vessel would be probable, if not certain. Roux's plan of ligating both ends of the bleeding vessel would be the only safe procedure.

It will here be interesting to give the result of 55 autopsies collected from various sources, and reported by Savariaud.¹⁷ None were operative cases.

Ulcerations of the splenic artery	..... 17	cases.
Ulcerations of the coronary artery	..... 6	"
Ulcerations of the pancreatico-duodenal	..... 7	"
Ulcerations of the gastric arterioles	..... 10	"
Branches of the coronary vein	..... 2	"
Other veins	..... 2	"
Vessel not determined	..... 2	"
No vascular orifice visible	..... 4	"
Vessel not mentioned	..... 4	"

As the pancreatico-duodenalis would be opened in duodenal ulcers, which will frequently be mistaken for gastric lesions and should anyhow be treated in the same general way—as by excision and gastroenterostomy—we may as well include them as is done above.

The splenic artery and vein have both been opened by the same ulcer—Gaillard's case.¹⁷

Contrary to what would be expected, it will be seen from the tables below that there is no constant relation between the amount of the hemorrhage, size of the

vessel opened, and the rapidity with which death ensues. Death may be delayed many days after the aorta or heart are opened, and sudden from capillary hemorrhage. It is then impossible to diagnose the source of the hemorrhage from its amount, or the rapidity with which blood is lost. In a case where the aorta was opened at the duodeno-jejunal angle hemorrhages lasted ten days, notwithstanding the fact that there was an opening into it as large as a haricot bean—Grünfeld.

In Oser's perforation of the heart itself hemorrhages continued for three days before ending in death.

Savariaud's table gives:

Vessel.	No. of cases.	Sudden death.	Rapid death.	Survived considerable time.
Heart	..... 4	1	1	2 (3 days.)
Aorta	..... 2	1	1	1 (10 days.)
Hepatic	..... 2	1	1	1 (10 days.)
Splenic	..... 17	3	7	7 (2 to 8 days.)
Coronary	..... 6	1	3	2
Pancreatico-				
duodenal	..... 6	1	3	2 (8 to 15 days.)
Arterioles	..... 10	1	1	8 (4 to 15 days.)
Small veins	..... 4	1	1	2 (7 to 11 days.)
Invisible veins	..... 3	2	1	2 (21 days.)

Ligation of the bleeding vessel in situ which theoretically looks simple enough, has been attempted in several cases with failure to arrest the hemorrhage in every instance. The mucous membrane is so friable, tears so easily, and bleeds so freely that hemorrhage is more likely to be increased, rather than lessened by an attempt to tie the open vessel, as is done in external hemorrhage with firmer and different kind of tissues to deal with.

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DISCUSSION.

DR. FENTON B. TURCK, Chicago—The indication for surgical procedures in gastric disturbances of various kinds, is now attracting the attention of surgeons throughout the world, not only because of the possibilities of removing the lesion for which the surgeon may operate, but because of the general improvement in the patient, and the restoration of the patient to health as a result. The indications in pyloric obstruction are so well understood that it is unnecessary for me to repeat them. There seems to be considerable doubt in regard to those benign conditions of pyloric obstruction in which we have spasmodic contractions of the pylorus without apparently any tumor. It is in this class of cases that our worst symptoms occur, as they seem to be more marked, owing to the irritation and the apparent stenosis which accompanies spasmodic contraction of the pylorus. As you all know, these conditions as a rule are attributed to lesions located in the region of the pylorus and the indication for surgical procedure is that of gastric myasthenia. It would seem that such a procedure would be unnecessary, as we ought to be able to restore the muscle walls to renewed functional activity, but we know that we usually fail in all medical means, and relapses continually occur. Frequently we have hyperchlorhydria with this condition and considerable general symptoms of auto-intoxication with associated hypertrophy of the gastric glands. This is

caused by the infection of the walls of the stomach due to the mucus accumulation, and as a result we have decomposition and toxin from the micro-organisms present. It will be found that the same toxic condition is present in pyloric obstruction. What occurs in many cases is atrophy of the glands themselves, and I have seen two operations performed on such cases with remarkable success. The indications for operation are: 1, local lesions, and 2, general condition of the patient. Before we can arrive at a knowledge of the indications for operation we must be more exact in our examination and diagnosis. Simply because a patient has dyspeptic symptoms would be no excuse for stating that the patient must be operated on. The methods of determining whether or nor the pylorus is obstructed, are important. In most cases we are able to pass an instrument through the pylorus into the duodenum and in such cases no operation is indicated, as in cases of obstruction demanding operation no instrument could possibly pass. Recently a surgeon made an exploratory incision into the abdomen and subsequently found by blood examination that the case was one of leukemia. The heart and circulation should be considered in all of these cases and any disturbances should be corrected before operation, as all operations on the stomach cause much shock. Patients frequently die from auto-intoxication, which is often present in these cases, and should be diagnosed before operation. Although albumin may not be present, insufficiency of the kidney frequently exists, and in such cases the patients sometimes die on the fourth or fifth day after operation.

The success of the operation depends on the technique, the dexterity of the operator, and the rapidity of the operation. These are all important, but a serious question in opening the stomach is that of infection. We are now able to close the field of operation entirely with rubber dam, and if a portion of the stomach is drawn through the rubber dam the peritoneal cavity will be completely closed off.

In operations such as gastroenterostomy, the shock produced by the handling of the viscera is important. Since the operation of Woller in 1881 down to the present time, surgeons everywhere have been endeavoring to find some method with which they could do the operation with greater facility and procure better results. We find many surgeons of the present day using the Murphy button in order to accomplish these objects, but a number have attempted to discard its use, especially surgeons abroad, their objection being not so much to the button itself as to the fact that it is a foreign body. For this reason some suture is generally preferred, and it is my experience in experimental work on dogs that by rapid suturing I am able to do the operation in a very short time, the dexterity of the operator having much to do with this matter. As to the choice of operation I do not believe the posterior method will ever become popular. Tearing through the omentum and pulling on the tissues produces considerable shock. Gastroduodenostomy, in select cases, will continue to be a popular operation, as we do not have so much regurgitation from the stomach in these cases; in addition, less handling is necessary. In experimental work many different methods have been employed, and I have used them all. But gastroduodenostomy has been the most successful. It is almost as easy to perform as Heinrich's operation, but this is for the operator to decide.

I have simply tried to present the more important facts in connection with the diagnosis of these conditions and the better care of the patient before, during, and after operation.

PATHOGENESIS OF ICTERUS.—Ammonia and the biliary salts seem to be the chief factors in the pathogenesis of grave icterus. This conclusion is announced by A. Bickel after comprehensive research on frogs, rats and rabbits. Intoxication from this source affects the nervous system and induces the icterus. His results suggest the necessity of suppressing nitrogenized elements in the food of persons threatened with this affection.—*Sem. Méd.*, October 17.

THE DIAGNOSIS AND TREATMENT OF CHOLELITHIASIS.*

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An early diagnosis of cholelithiasis is important for the welfare of the patient. When we consider the complications and sequelæ that may arise after prolonged irritation from the presence of gall-stones in the bladder or ducts, this becomes more apparent.

These complications may be septicæmia, ulceration of the gall-bladder and ducts, permitting the calculi to escape into the adjoining viscera, derangement of the liver from obstruction or abscess, cancer from irritation, obstruction of the pylorus, various nervous phenomena, and general debility. Unfortunately there are no pathognomonic symptoms in the early stages that serve to make a positive diagnosis.

From a careful study of 20 cases coming under my notice in the last few years, of which full clinical records are made, I have been able to make some deductions that may prove interesting and valuable to the profession.

My records show quite a number of other cases in which the bile apparatus was affected, but the symptoms were not sufficiently clear to make a diagnosis of gall-stones. These have been excluded, and only those cases reported that I was reasonably certain were cholelithiasis. A study of those not reported in comparison with those of gall-stones would, no doubt, develop some valuable data.

Of the 20 cases diagnosed cholelithiasis, 10 were operated on, and the diagnosis confirmed in 9. The exception was an obstruction of the common duct due to cholangitis.

Of the 10 unoperated cases 3 died, and post-mortems confirmed the diagnosis. Of the other 7 that recovered, there can scarcely be any doubt of the correctness of the diagnosis. Gall-stones were found in the stools of 2 of them.

A summary of the subjective and objective symptoms, and the pathologic conditions will be sufficient for our purpose.

Of the 20 cases, 14 were female, and 6 male. The youngest was aged 26, and the oldest 65 years; the average age was 50. Seven gave the history of "liver trouble" in their ancestors. A permanent biliary fistula followed in one case. This occurred where the gall-stones had passed through the fundus of the bladder. In 7 the fistula closed in four weeks to six months. In the other 2 the opening in the gall-bladder was closed after the removal of the calculi.

The number of the calculi ranged from a single one to two hundred and thirty. In the case where only one existed, the bladder had been largely dilated, and the calculus was found in the folds. Twelve hours before the operation the bladder was distended to the size of a quart cup, but later the tumor disappeared. The stone was three-fourths of an inch in diameter, round and had no facets. It evidently acted as a ball valve in the common duct. The cystic duct was dilated to a large diameter. The patient gave a history of previous attacks similar to the one for which he was operated on. The attacks were followed by jaundice.

The gall-bladder was contracted in 3. In 4 the calculi were found in the bladder alone. In 3 they had

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lodged in the cystic duct, and in one in the common duct.

In the case where no gall-stones were found, there was obstruction of the common duct, and the bladder contained about a quart of semi-purulent fluid.

There was evidence of cholecystitis in 7 of the operated cases, and thickening of the ducts in 7, indicating more or less cholangitis. The gall-stones were found in the gall-bladder and ducts with one exception; in this case they had passed through the fundus of the bladder and lodged in the right inguinal region, where they were encysted. In one case the gall-bladder was displaced downward, and attached to the cecum. In 6 cases there were adhesions to the parietal peritoneum or surrounding viscera.

Of the three cases that died without operation, post-mortems developed gall-stones in all, with carcinoma in one; in one the liver was enormously hypertrophied; and in one there was obstruction of the duodenum, with a necrotic condition of the common duct and surrounding tissues.

Of the 20 cases, all gave a history of recurrent attacks of colic, except 4. All suffered more or less from gastric disturbances. There was a history of typhoid fever in 4, with symptoms of trouble in the region of the gall-bladder, following. Fever was a more or less constant symptom in all the cases, during the attacks. Rigors, at the onset, occurred in 15, and were periodical in 5. Nausea and vomiting were noted in 15. Emaciation existed in 2 of the operated cases, and in the unoperated ones that died.

Jaundice was present in 13. It was constant in the 3 cases that died, and in the 2 operated cases where there was obstruction of the common duct. Jaundice followed the biliary colic in twenty-four to thirty-six hours, and disappeared in ten days to five weeks. Pruritis was an annoying symptom in all of the recurrent jaundice cases.

Constipation was a prodromic symptom in 15; recurrent attacks of diarrhea in 5. Enlargement of the gall-bladder could be detected in 10. The liver was more or less enlarged in 8.

Tenderness in the upper right quadrant of the abdomen was found in all cases. In some the tenderness extended toward the region of the kidney; in others, down the ascending colon, and beyond the median line to the left. There was rigidity of the muscles on the right side of abdomen in several cases, similar to that found in appendicitis.

Pain was a characteristic symptom in all the cases. It varied from an uneasiness over the gall-bladder to lancinating pains extending to the right shoulder, requiring hypodermic injections of morphin to control them. Local peritonitis was a marked symptom in 8 cases. Of the 20 cases ashy-colored stools were found in 15. Biliary calculi were found in the stools of 4. The urine was high colored in all the cases, with bile present in varying quantities.

There were prodromic symptoms in all the cases, extending over a period of several months to several years. The more marked of these symptoms were constipation, flatulency, erratic appetite, migraine, uneasy sensation in epigastrium and right hypochondriac region, sallowness of skin, slight yellowness of the sclera, and at times scanty and high-colored urine.

At this place the writer wishes to emphasize the importance of an early appreciation of the prodromic symptoms just mentioned. While they may not be sufficiently pronounced to warrant a diagnosis of gall-stones,

yet they are suggestive of a disease of the bile apparatus, and early and proper treatment may be followed by permanent relief.

It is evident from this summary that the general diagnostic symptoms of gall-stones may be primarily, pain, nausea, vomiting, jaundice, ashy-colored stools, high-colored urine, tenderness over the region of the liver, tumor, and nervous phenomena. When these symptoms are considered separately, they do not have much significance pointing to cholelithiasis. They are found in other diseases of the biliary apparatus and surrounding viscera. It is, therefore, necessary to consider them both separately and collectively.

Pain may be produced by cholangitis, by the passage of inspissated mucus, local inflammation of surrounding tissues or a gall-stone. In the latter the pain is usually quite severe, comes on suddenly, and terminates quickly. It is usually along the line of the cartilaginous border of the ribs on the right side, and may extend upward over the right thorax to the shoulder. The pain sometimes extend to the stomach, producing severe gastralgia. It comes on usually two or three hours after eating.

Nausea and vomiting are almost constant symptoms, and continue throughout the attacks. In this particular the gastric disturbances differ from those in appendicitis. Nausea and vomiting are more severe when the obstruction is in the common duct. Jaundice as a diagnostic symptom must be carefully considered. When it makes its appearance in a day or two after an attack of colic, and reaches its maximum intensity in a few days, and then gradually decreases, it points strongly to temporary obstruction of the common duct.

A difference must be made between hepatogenous and hematogenous jaundice. The former is due to some trouble with the ducts, causing back pressure of the liver, thus controlling its function. Hematogenous jaundice is due to other causes, such as absorption of toxins, and other foreign products; it comes on gradually, is usually chronic, and marked by absence of pain. Hepatogenous jaundice may be produced by a tumor of adjacent viscera, pressing against the common duct. When it is due to cholangitis, it comes on suddenly, with paroxysmal pain, pruritus, and usually occurs in young subjects. Recurrent attacks are not likely to follow. When due to foreign bodies within the duct, we have to differentiate between inspissated mucus, and gall-stones. When due to gall-stones, there have been prodromic symptoms. The tendency to intermission and remission of the attacks of colic followed by jaundice, in a person who is beyond 35, are perhaps the most distinguishing features.

Murphy, of Chicago, claims that jaundice induced by cholangitis will disappear under the use of hypodermic injections of 1/60 grain pilocarpin, three times daily, while it will have no effect on jaundice induced by gall-stones, or other mechanical obstructions.

That jaundice is not a constant symptom of gall-stones is evidenced by the fact that in post-mortem gall-stones are frequently found where there had been an absence of marked symptoms pointing to their presence during the sickness of the person. Then, again, surgery has demonstrated the same fact on the living. The writer believes that a careful study of the clinical history of such cases would develop symptoms pointing to a disease of the biliary apparatus. In 10 cases operated on by the writer, jaundice was present in 7, and in 2 of these it was permanent. In three of the cases where jaundice was a symptom, it could not have been

due to the passage of gall-stones through the common duct. The calculi were found in the cystic duct, and judging from their size and number none others could have escaped. In these cases the jaundice evidently was produced by cholangitis. It is fair, however, to assume that the acute inflammation was caused by the presence of the calculi.

The urine is always high colored in any form of biliary trouble, therefore it is not particularly diagnostic of cholelithiasis. Tenderness over the gall-bladder is a constant symptom in cholelithiasis, as well as cholecystitis, and cholangitis; and therefore is only symptomatic of disease of these organs and not alone of gall-stones.

A tumor in the region of the gall-bladder is a significant symptom. It is necessary to differentiate from a tumor of the kidney, or a floating kidney. In tumors of the kidney, the overlying tissues are pushed forward, carrying the hepatic flexure of the colon to the front. Percussion, therefore, elicits resonance. If the tumor is an enlarged gall-bladder, the percussion sounds will be dull. A floating kidney, having no fixed position, is easily displaced. A tumor of the gall-bladder is pear-shaped, and extends toward the umbilicus. When quite large it may be mistaken for a cystic tumor of one of the viscera. Enlargement of the liver is a condition that follows in a large percentage of cases, especially where there is obstruction of the common duct.

In making a diagnosis of cholelithiasis, it is important to remember that gall-stones never occur in the first decade of life, rarely in the second, infrequently in the third, and occur more frequently in advanced life; and also that they occur more frequently in women than men. The only pathognomonic symptom is the discovery of gall-stones in the feces; this, unfortunately, does not occur in very many cases.

A summary of the symptoms shows a paucity of characteristic ones. However, with the presence of gastric disturbances, paroxysmal pains in the region of the gall-bladder, tenderness in the right hypochondriac, jaundice with pruritus, ashy-colored stools, highly-colored urine with the presence of bile, enlargement of the liver, age of the patient beyond 30, with sedentary habits, a diagnosis of cholelithiasis can be made with a great deal of certainty.

The treatment of cholelithiasis resolves itself into medicinal and operative. Medicinal treatment includes preventive as well as curative. While we are unable to determine when gall-stones have formed, enough is known of the predisposing causes to recognize the value of increasing the watery constituent of the bile, thus rendering the flow more rapid. To accomplish this, proper exercise, with calomel, saline cathartics, mineral water drinks, and restricted diet should be prescribed. After gall-stones have formed, the value of treatment by internal medication is problematical. Of the 7 cases reported as recovering without operation, there arise two questions: one, as to the correctness of the diagnosis; and the other, as to the permanency of the treatment. They were treated with large doses of olive-oil, Karlsbad salts, phosphate of soda, and calomel. In 3 of the cases that have been under my observation, something over two years have elapsed since the last attack, and from all indications, they are quite well. I am not able to give any data of the other 4. It might be stated that the cases operated on had been subjected to medicinal treatment without any apparent benefit.

While these clinical observations seem to indicate the possibility of relief through internal medication, the mortality attending this form of treatment compared

with the results of the operative treatment, and the fact that 10 cases received no benefit from the same medicines, speak most favorably for the latter method. To cure without an operation is the ideal method. It saves the inconvenience, danger, and terrors of an anesthetic; resulting adhesions often cause disagreeable conditions, and a biliary fistula that continues sometimes for an indefinite period. On the other hand, the operation is practically free from danger. The gall-bladder and ducts can be cleaned of calculi and then drained, thus relieving the liver of pressure and giving it an opportunity of resuming its normal function. The same may be said for the restoration of obstructed ducts from cholangitis. After the removal of the irritating foreign bodies, the inflammation subsides, and in many cases the function of the ducts is restored.

My experience leads me to believe that every case should be operated on that presents a train of symptoms indicating trouble in the bile apparatus, that can not be relieved by a course of medicine along the line indicated. It is my judgment also, based on personal observation, and from the recorded experience of others, that early operative procedure will reduce the mortality of cholelithiasis as much as early operations have reduced the mortality in appendicitis. Procrastination may lead to complications, making an operation quite difficult and dangerous, if not impossible.

The preparation for the operation should be the same as for other abdominal work. An incision should be made, beginning $\frac{1}{2}$ inch below the eighth costal cartilage, along free border of rectus muscle, to a point 2 inches above the umbilicus. If it is necessary to enlarge the incision, it can be done by extending both ends, making the incision somewhat the shape of the letter S, as suggested by Dr. Bevan, of Chicago. In this way the incision does not interfere with the eighth and tenth intercostal nerves. When the abdominal cavity is reached, in uncomplicated cases the gall-bladder, if enlarged, may appear in the incision. If it is contracted, and there is enlargement of the liver, some manipulation may be required to bring the bladder into view. The gall-bladder should then be carefully examined, to determine the presence or absence of calculi. It is well to examine the ducts to ascertain if there is a stone impacted in either of them. The next step is to aspirate the gall-bladder, if distended with bile. This precaution is necessary to prevent an escape of the contents into the abdominal cavity. It has been demonstrated that the escape of normal bile into the peritoneal cavity does not necessarily produce peritonitis; but it is not possible to determine the character of the contained fluid. It may be septic, so it is safer to prevent the escape of the fluid into the cavity. This can be done by packing with gauze pads, leaving nothing exposed but the bladder. In some cases this precaution should be taken before aspirating. An incision is then made into the cyst of sufficient size to remove the stones. A spoon curette is the best instrument for their removal. When the stones have been removed and the duct carefully examined and found free, the incised wall of the bladder is united by interrupted sutures, placed not more than $\frac{1}{4}$ inch apart, to the parietal peritoneum and aponeurosis of the muscle. A large rubber drainage-tube, with no side openings, is then placed in the gall-bladder and allowed to extend beyond the external opening $\frac{1}{2}$ inch. The incision is then closed, leaving the tube in place. The drainage of bile, amounting to some 40 ounces in twenty-four hours, will necessitate a change of dressings at frequent intervals.

Calculi should be examined as to their shape, size, formation and number of facets, the latter indicating the presence of others. As a rule where there are a number, they are triangular in shape; if only a few are present they may be oval. An oval-shaped stone with one facet at the end indicates the presence of another, which probably will be found in the cystic duct. The number of stones vary from a single one to several hundred. When there are a great number they are usually quite small.

Some operators suggest the closure of the incision in the gall-bladder, without drainage. Where the conditions are favorable, this is, perhaps, an ideal operation; but unless the operator is perfectly certain that no obstruction of the ducts exists, it should not be done. The writer did this in two cases, and the result was satisfactory. The clinical history and the absence of any thickening led him to believe that the ducts were patent.

It is often very difficult to determine whether the ducts are open or not. Exploring the ducts with a probe is both difficult and dangerous. The safer method is to drain. The fistula closes up in a few weeks, and the patient gets entirely well. The restoration of the normal function of the bile apparatus after cholecystectomy is an interesting subject. There is ample clinical evidence that the bile apparatus may resume its normal condition in a few weeks after an operation. Enforced rest during the period the bile is escaping through the fistula is, perhaps, an important factor in this restoration.

The removal of a stone from the cystic duct is a more delicate operation. The duct is about $1\frac{1}{2}$ inches long, and the wall is thin and easily torn. When it is impossible to remove an impacted stone through the bladder it becomes necessary to crush the stone and remove it by piece-meal. The incision should be closed with Lembert sutures.

The removal of a stone from the common duct, which is about twice the length of the cystic duct, is not only an operation of great difficulty, but is dangerous and requires all the skill of the surgeon who is experienced in abdominal work. The technic of this operation differs only in degree from that of removing a stone from the cystic duct. The greater difficulties lie in the dislocation of the common duct.

CHOLECYSTECTOMY.

WITH ESPECIAL REFERENCE TO THE REMOVAL OF THE MUCOUS MEMBRANE OF THE GALL-BLADDER AS A SUBSTITUTE. REPORT OF A CASE IN WHICH THE GALL-BLADDER WAS REMOVED FOR MALIGNANT DISEASE.*

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Excision of the gall-bladder is clearly indicated in four groups of cases: 1, for traumatism, such as gunshot wounds or crushing injuries; 2, phlegmonous cholecystitis and gangrene of the gall-bladder; 3, for malignant disease. In these three groups all of the coats of the gall-bladder are involved in the diseased process or injury and complete cholecystectomy is a logical sequence. 4, for the relief of permanent obstruction of the cystic duct, the common duct being patent. In this last group only the mucous membrane is at fault; if this were not present there would be nothing

to drain and obliteration of the cystic duct would be harmless. It is this class of cases in which removal of the mucous membrane of the gall-bladder offers a quick and safe method of relief. In the complete operation of cholecystectomy the close relation which exists between the gall-bladder and the liver, and the deep situation of the pedicle at the cystic duct introduces certain elements of danger which can not be ignored, and renders the operation in every way much more serious than simple removal of the mucous membrane. The latter procedure adds but little to the risks of an ordinary cholecystectomy.

Traumatism to the gall-bladder requiring its ablation are but rarely met with and are usually associated with grave injuries to the liver. A small number of cases have been reported and not infrequently the result of indirect violence. In the one case I have met with of this kind, free drainage enabled repair of the ruptured gall-bladder to take place without excision. In acute phlegmonous cholecystitis and gangrene of the gall-bladder two courses are open: to freely drain the gall-bladder and pack the surrounding space with gauze, or to remove at once the offending organ. The principles are essentially the same as the treatment of appendicular abscesses by drainage, leaving the appendix or to remove the appendix, if possible, at the primary operation.

In three cases of this character the writer has excised the gall-bladder and drained freely, the bleeding surface of the attached liver and the infected stump being covered with gauze held firmly in position by sutures of fine catgut. The stitches hold the gauze in place until adhesions form and the catgut is absorbed before removal of the drainage is indicated. In this manner sufficient pressure can be obtained to check the oozing and limit extravasation.

For malignant disease, the gall-bladder, with adjacent liver substance, has been removed on a number of occasions, either by cutting instruments, the Paquelin cautery or by the elastic ligature. Such a case was operated on by the author recently and on account of its rarity is reported somewhat in detail.

Mrs. E. R., American, aged 65, Byron, Minn., was admitted to St. Mary's Hospital, Rochester, Minn., April 18, 1900.

History.—She has been in her usual health until within the past six months. During this time she has suffered from a boring pain in the right side, which has of late become almost constant. Stomach symptoms have been of moderate severity. There has been some loss of appetite and constipation with a decrease of fifteen pounds in weight. No jaundice, nor history of colics. Examination reveals a somewhat movable tumor in the right hypochondriac region evidently connected with the liver. The mass has a nodular feel. Exploratory incision, April 21, 1900. A carcinomatous gall-bladder involved the adjacent portion of the liver and the cystic duct. There was some infiltration along the common duct and extending to the duodenum at one place was a considerable area of adhesions. A few glands in the angle between the cystic and hepatic ducts were infected. The disease was so definitely circumscribed with such slight glandular involvement that its removal was decided on. The excision was begun at the common duct, two inches of which was removed with one inch of the hepatic duct. The vessels were caught and tied as divided; an area of adherent duodenum the size of a silver dollar was included in the excision. The opening in the intestine was closed by circular purse-string sutures. The lower end being thus freed, the gall-bladder with the attached liver was removed with the Paquelin cautery knife. The larger vessels were grasped with forceps. The free venous oozing from the liver substance was not controlled by the cautery, although easily checked by slight pressure, the blood current being of little force. A piece

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of sterile gauze, the size of the wrist, was placed in the cavity and a continuous suture of fine catgut was run through the liver substance on each side of and around the gauze, compressing the bleeding liver margins against it, and controlling the hemorrhage efficiently. The portal vein was exposed to a considerable extent in the bottom of the cavity. Adequate drainage was afforded, the bile being conducted to the surface. Recovery was uneventful. The gall-bladder contained a single stone $\frac{3}{4}$ inch in diameter.

The fourth class of cases in which a permanent obstruction exists in the cystic duct are far more numerous. The obstruction may be the result of adhesive inflammation in the outer coats, causing angulation, or the long lodgement of a stone in the cystic duct, with resulting ulceration and cicatrization or stricture from any cause.

Of 132 operations on the gall-bladder and bile ducts which have been made in St. Mary's Hospital, Rochester, Minn., during the past nine years, eleven were cholecystectomies, and seven of these were for the relief of obstruction in the cystic duct, causing mucous fistulæ or recurrent attacks of colic, due to retention of the secretions in the gall-bladder. The indication in these cases is clear. It is the continuous secretion from the mucous membrane prevented by the obstruction from draining through the natural channel, which causes the trouble, the peritoneal and muscular coats are harmless and by removing the mucous membrane down to the obstruction, relief is afforded. In my own experience, obstruction of the cystic duct is met with either primarily—cystic gall-bladder—or occurs secondarily after operation for gall-stone disease in about 10 per cent. of cases. It seems hardly necessary to say anything about technique. The mucous membrane of the gall-bladder is easily detached, and as all of the adhesions are to the peritoneal and muscular coats the separation is readily effected. The gall-bladder partly inverts itself as the cystic duct is approached, rendering easy the removal of an impacted stone. If it is small and deeply placed, removal of the mucous membrane is more difficult, but can be accomplished more readily than complete extirpation. One or two small vessels require ligation. The muscular and peritoneal coats are sutured to the upper angle of the wound in the abdominal wall and drainage established as in ordinary cholecystotomy. It is as a secondary operation that removal of the mucous membrane is most serviceable. Drainage has failed to cure and the adhesions formed by the previous union of gall-bladder to the external incision vastly increases the difficulty of complete extirpation. The operation in these cases is best accomplished as follows:

An incision is made into the abdominal cavity on the inner—median—side of the site of the former operation, but these external attachments of the gall-bladder are not severed. The adhesions are separated to a limited extent on the inner side to enable careful exploration of the ducts to be made. The adhesions in other directions are purposely left and act as a protection to the outer and lower portion of the operative field. After proper gauze protection, the gall-bladder is opened on the inner side in the explored area, about $1\frac{1}{2}$ inches down, and this incision is carried outward toward the external attachments. The separation of the mucous membrane is begun at the middle and the enucleation carried down to the cystic duct, where it is divided at the point of obstruction. The separation is then proceeded with from within outward until completed. The scar tissue at the place where the gall-bladder is attached to the abdominal wall renders detachment difficult if

commenced at that point, but by beginning well below the mucous membrane can be readily separated.

The muscular and peritoneal coats are drained in the usual manner, a piece of sterile gauze being tacked about the inner divided wall by a few catgut sutures, which renders the drainage quite perfect.

THE IMPORTANCE OF EARLY OPERATION IN GALL-STONES.*

MAURICE H. RICHARDSON, M.D.
BOSTON.

It is well established that there is no more valuable life and health conserving operation than the removal of an offending appendix in the period of health.

The analogy between the appendix and the gall-bladder is in many ways striking, but it is not perfect. The appendix always contains within itself elements of sepsis, which by their escape into the peritoneal cavity threaten life; the gall-bladder does not; its contents threaten life only when, after prolonged irritation, it has yielded to infections brought from more or less remote areas. The appendix often becomes completely infected without warning; the gall-bladder seldom does. The appendix often contains one or more fecal stones which, septic in themselves, cause ulceration of the mucous lining and give opportunity for direct infection from bacteria right at hand; the gall-bladder may also contain stones, but it is questionable whether they have within themselves bacteria capable of causing direct infections of bile or of gall-bladder. Their presence in the gall-bladder contributes to infection indirectly.

In a much smaller degree than the appendix, and less frequently, the gall-bladder becomes the seat of an extensive septic process. Yet occasionally the progress of infection is quite as fulminating and overwhelming as is the same process in the appendix. The analogy between the two organs is imperfect too as to anatomical structure, capacity and situation—attributes which influence unfavorably the progress of appendicular infections, but favorably those of the gall-bladder.

The acute infections of the gall-bladder, for instance, result in changes in the bile, distention of the gall-bladder walls, infections of these walls and a pericholecystitis. The distensibility of these walls, however, prevents, except in the rarest instances gangrenes and perforations.

Infections of the gall-bladder concern its contents more than its walls; sterile bile becomes a culture-medium of micro-organisms, which later involve the gall-bladder walls themselves. In appendicitis the contents, always septic, must invade the walls of the appendix to produce any lesion whatsoever—other than distention with septic fluids. Moreover, infections of the gall-bladder walls do not often cause gangrene, necrosis being rather the result of pressure from over-distention than from an infectious thrombophlebitis. In the occasional gangrene of thickened gall-bladders it is not improbable that necrosis is caused directly by infection of the thickened and poorly-nourished wall with thrombosis of its vessels and hemostasis. In such cases the course is not unlike that of the thickened appendix, the gangrenous process being quite as rapid and as fatal.

The situation of the gall-bladder, even when infected and inflamed, is one of comparative isolation. The

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isolation makes general peritoneal infections difficult, for they rarely take place unless the gall-bladder wall gives way entirely and the abdomen is flooded with septic bile.

Infections of the appendix rarely cause remote changes—tuberculosis and carcinoma—gall-bladder lesions, on the contrary, frequently cause cancer.

Although the analogy between the gall-bladder and the appendix is imperfect, the brilliant results of operations on the appendix can not but stimulate renewed enthusiasm in the surgical treatment of the gall-bladder. In diseases of the appendix one is led by the disasters of the acute cases to forestall them whenever there is good reason to believe that the appendix is in the least degree diseased. I, for one, have been carried by abundant personal experience from the position of grave doubt, which I held up till 1893, as to the wisdom of the so-called interval operations in appendicitis, to one of confident enthusiasm at the present time. So great are the dangers of an acute appendicitis, as I have observed them, whether in the hands of ultra-conservatives, or in those of ultra-radicals, that the dangers of appendectomy in the period of health are not for a moment to be compared to them. I advise removal of the appendix even when the diagnosis is doubtful, believing that the suspicion of a chronic appendicitis justifies, if it does not demand, intervention. I have been brought to this belief not only by abundant experiences in the disasters of the appendix, as I have said, but by an uninterrupted series of some 300 consecutive successful appendectomies of my own.

The analogy between the gall-bladder and the appendix is very close in connection with operative dangers and favorable results. The neglected gall-bladder endangers life quite as surely, though not as rapidly, as the neglected appendix. Its immediate course may be less fulminating, but the agony is more prolonged and the sum total of suffering is greater.

The gall-stone of the affected gall-bladder bears a relation to the person of apparent good health similar to that which the connection in the appendix does; it threatens, if not life, health, and it means, if not immediate death, changes remote, far reaching and lethal.

The dangers of removing gall-stones by modern methods in the hands of skilful surgeons are truly estimated as trivial. It does not seem unreasonable to say that this danger is exceeded by the danger of the passage of a single stone from the gall-bladder to the duodenum—just as it may truly be said that the danger of a single attack of acute appendicitis vastly exceeds that of the intercurrent operation.

The proposition which I wish to prove may be laid down as follows: Gall-stones should be removed from the gall-bladder as soon as their presence is reasonably sure, unless the diseased condition of the other viscera makes the hazard of the operation greater than the hazard of the gall-stones themselves.

As proof of this proposition, which I think will receive the support of most if not all of the surgeons experienced in this lesion, I will present facts which have come under my own observation. If I bring forward arguments which to men especially skilled and experienced in gall-stone affections, seem trite, it must be remembered that this discussion is especially directed to the general practitioner who does not often have as good an opportunity as the consulting surgeon of seeing the remote and vicious changes brought about by prolonged gall-stone irritations.

The strongest arguments in favor of early operations are based on the pathological changes, immediate and remote, wrought by the gall-stones themselves.

These changes, which the surgeon has a better opportunity than the pathologist of observing, are seen in the gall-bladder, the cystic and the common duct, and the parts contiguous. They vary between the normal, non-adherent gall-bladder, and the thickened, contracted gall-bladder, buried among adhesions which glue together the viscera of the right upper quadrant—between a gall-bladder normally distended with bile and suspended gall-stones, and a thickened gall-bladder contracted upon large and irregular stones with ulcerated mucous membrane and infected secretions. The surgeon sees gall-bladders in every state of contraction and dilatation; with adhesions recent and easily separated, or old, cartilaginous, and inseparable; containing bile varying from normal to purulent and even to putrid; with a single gall-stone or with several hundred; in not a few instances malignancy beginning or fully developed. The cystic duct will often be found plugged by a stone, causing dilatation of the gall-bladder. The surgeon may find an acute cholecystitis, and dilatation even to bursting with purulent secretions; impacted gall-stones in the common duct, with enlarged liver and jaundice; cholemia and all its serious manifestations. In not a few cases the most fatal complications will have arisen before the surgeon has had a chance to attempt relief; rupture of the gall-bladder and general peritonitis, purpura, hemorrhage, exhaustion, and those other and rarer complications by which the history of gall-stones is ended. On the other hand, the family physician sees, it must be admitted, not a few patients who, after one or two attacks of gall-stones, remain permanently well—patients in whom none of these immediate or remote pathological changes are ever noted. Furthermore, the pathologist will often find the gall-bladder distended with gall-stones, which have never given the least sign of their presence.

The evidence from bacteriology shows that micro-organisms play an important rôle in the prognosis, at least of gall-stone affections. My own cases investigated in the laboratory of the Massachusetts General Hospital by my brother, Dr. Mark W. Richardson, go to show that the micro-organisms have an important influence in the causation of gall-stone lesions. In most cases of gall-stones accompanied by fever, bacteria have been found in the bile; in some the colon bacillus; in some the bacillus typhosus. In five cases my brother has been able to isolate the micro-organism from the center of the gall-stone.

As far as the evidence based on bacteriology goes, gall-stones, if not themselves dependent on micro-organisms, unmistakably promote infections, and often infections of the gravest character.

In communications before a body of representative surgeons, what is wanted, I take it, in the discussion of treatment, is the writer's opinion based on his own observations. This is the evidence after all which gives weight to opinions. My own views on the question of surgical intervention in gall-stones have been formed almost entirely from what I have done myself and from what I have seen others do; not that I have been uninfluenced by the experience of others. When that experience has been similar to my own, I have felt encouraged to further efforts; when it has been contrary, it has tended to make my steps more cautious. On the whole, the tendency has been toward the more radical

treatment of gall-stones at the time of their earliest manifestations.

I have observed that the earlier the operation, the less danger and the greater the success. The removal of gall-stones from a normal gall-bladder is without mortality. I can say, with Robson and others, that all my patients have recovered after the simple removal of gall-stones from a normal gall-bladder. The proportion of such cases, however, has not been as large as it should be, and as I hope it will be, for but few patients have come to operation until they have been forced to it by years of repeated attacks, or by the unbearable suffering of a permanent jaundice.

It must be admitted, as I have said before, that early operation on patients otherwise well has little if any mortality. A simple cholecystotomy in health is probably somewhat more dangerous than a simple appendectomy in health. The number of my cases of cholelithiasis is, however, too small, compared with those of appendicitis, for a comparison of value. Then, too, the greater average age at which patients are liable to gall-stones is alone a sufficient reason for greater mortality. Moreover, in gall-stone surgery success may be compromised by the giving away of a suture, by the pressure-ulceration of a drainage-tube, by extension of infection into the liver through the bile ducts. These facts can not but influence unfavorably the prognosis of early operation on the gall-bladder as compared with the interval operation in appendicitis. True, these dangers are, as far as my observation go, matters of theory rather than of experience; yet I should not expect a series of several hundred simple cholecystotomies, performed at the usual ages of patients with gall-stones, to be without some slight mortality.

Operations for the removal of gall-stones, even under unfavorable conditions, as those on cases of long standing, on patients with contracted gall-bladders, with ulcerated surfaces and infected secretions, with constitutional disturbances and systemic depression, present a mortality much lower than one would expect.

Operations on the cholemic are attended by a relatively high mortality. In this class of cases the operation has often to be performed on the common duct, where the dissection is broadest and deepest, and the patient's power of resistance feeblest. The significant and unfavorable factor, however, is the jaundice, and not the dissection; for an even larger percentage of deaths has followed simple exploration for malignant disease blocking the biliary passages than has followed simple operation for gall-stones in prolonged jaundice. Indeed, all my cholecystotomies have been successful. The fatal operations of this class have been cholecystotomies with removal of stones from the hepatic and cystic ducts through the gall-bladder. Considering the gravity of the acute infections of the gall-bladder, this class of cases has been most brilliant, for nearly all the patients have recovered after simple drainage.

The most impressive argument for early operation in biliary calculi lies in the suffering and death which so frequently attend delayed surgical treatment. Even when health is finally restored, it is only after prolonged suffering and illness. In many cases cure is attainable only after repeated, complicated and dangerous operations. My cases fatal after surgical operations number sixteen. In this list are included every case in which cure has been attempted. Besides these cases there have been six deaths following simple explorations in which nothing was accomplished beyond the demonstration of

inoperable malignant disease. There have been several deaths in cases seen too late for operation.

The successful operations number about a hundred. Of these only a small percentage can be classed as early, an early operation being understood to be one performed before secondary changes have taken place in or about the biliary tract, and before the patient's strength has been reduced by the suffering of many attacks of biliary colic. It is only when they are forced by unendurable pain, by jaundice, or by failing strength, that they come under the surgeon's observation. When brought to operation by frequent attacks of biliary colic, without jaundice or loss of strength, the conditions are usually extremely favorable, even if extensive changes are found in the gall-bladder. A large proportion of my cases of cholecystotomy have been of this class, and the results have been almost invariably good.

Little need be said of the successful operations. It is enough to say that they include almost all possible varieties of gall-bladder surgery for lesions dependent on gall-stones. All my operations on the common duct have been successful. One or two operations involving the cystic duct have been fatal. A few operations on old and contracted gall-bladders have been fatal. It is safe to say that the fatalities in these cases, as will be detailed later, were due to lesions of long standing, either biliary tracts themselves or in other important viscera.

Though much may be learned from the successful cases, it seems to me that more can be learned from the unsuccessful ones. No cases in my experience have impressed me so strongly with the necessity for early operations as the fatal ones. Perhaps to the fatal ones should be added those in which success was a matter of hope rather than of expectation—cases in which recovery eventually took place, though only after an operation of extreme difficulty, and a convalescence of great anxiety.

A word as to remote results following operation may not be out of place. A patient on whom I performed cholecystotomy—one of my earlier cases—died some years afterward from malignant disease of the liver. Such a result may, in the course of time follow some of my later cases. In not a few instances I have found associated with gall-stones malignant disease of the gall-bladder, pancreas, or liver. The frequent association of malignant disease with gall-stones furnishes a potent argument in favor of early operation. It is an argument also in favor of the removal of a thickened and contracted gall-bladder, though I have not removed many such gall-bladders. My fatal cases are as follows:

CASE 1.—A woman of 34, with a history of acute attacks of cholecystitis. There was marked jaundice; temperature 104; pulse 144. Under the liver were found nodules which apparently were cancerous, but which proved to be gall-stones in a contracted gall-bladder. The patient died within twenty-four hours of the operation.

CASE 2.—A man of 32, with a typical history of gall-stones lasting seventeen years. This patient died of pneumonia after the operation. His general condition was poor; he was leukemic.

CASE 3.—A woman of 78, on whom I felt obliged to operate for unendurable pain. She was deeply jaundiced. Though she bore the operation well, she died of exhaustion at the end of eight days.

CASE 4.—A woman of 62, who had suffered for seven years with gall-stone colic. She had typical symptoms of acute intestinal obstruction. Through a median incision below the umbilicus no obstruction was found. Her symptoms were due to an acute peritonitis of the right upper quadrant following

acute cholecystitis with extravasation of infected bile. The lesion was essentially fatal and the woman died.

CASE 5.—A woman of 34, deeply jaundiced for six weeks. This patient had a history of colic of ten years' duration. Eight or ten gall-stones of considerable size were removed by cholecystotomy. Though it was not necessary to apply a single ligature, the woman died within twenty-four hours of uncontrollable capillary hemorrhage involving the cut surfaces, and the whole surface of the peritoneum.

CASE 6.—In this case exploration was made for symptoms suggestive of cancer of the stomach. A number of large stools were found in the gall-bladder and were removed. The patient was doing well when suppression of urine occurred, and she died uremic.

CASE 7.—My first fatal case at the Massachusetts General Hospital followed the removal of stones from the cystic duct and common duct through the gall-bladder. This woman died of sepsis at the end of some six weeks.

CASE 8.—A woman of 64, with a history of gall-stones of three years' duration. Three gall-stones were removed. The gall-bladder was drained. The patient died three days later, without any apparent cause. Death was attributed to exhaustion, and was undoubtedly due to her enfeebled powers of resistance.

CASE 9.—This case was fulminating cholecystitis. The gall-bladder contained three quarts of septic-looking bile. Patient died at the end of twenty-four hours, a result fully expected from the operation, which was performed as a last resort. At the autopsy gall-stones were found impacted in the common duct and there was a purulent hepatitis.

CASE 10.—Woman of 55; ten stones were removed from the gall-bladder, two from the cystic duct, and one from the hepatic. This patient died without regaining consciousness.

CASE 11.—Man of 64, with a distended gall-bladder, following intermittent attacks of pain. The acute cholecystitis was found dependent on a single stone impacted in the common duct. This patient did well for a week, then began to fail, and finally died of exhaustion. It was supposed that the disease in this case was complicated with cancer, although it was not known.

CASE 12.—Mrs. R.; prolonged hemorrhage, apparently from a tumor of the gall-bladder wall.

CASE 13.—Woman of 50; symptoms of gastric cancer. The gall-bladder was found contracted on numerous stones. Stomach was healthy. The patient died of persistent vomiting, after some weeks. She had been much reduced by continuous vomiting before operation.

CASE 14.—A woman of advanced age, extremely jaundiced, and much reduced in strength by pain and malnutrition. This patient died of exhaustion a few days after operation.

Besides these, there were six deaths after simple exploration in which malignant disease of either gall-bladder, liver or pancreas was found. In all the fatal non-malignant cases the patients were suffering from the prolonged mechanical effects of gall-stones.

Since January 1 of this year I have operated in private for gall-stones eleven times; at the Massachusetts General Hospital in the same period, five times. One private patient died at the end of a week. This was a desperate case, and the operation was undertaken with very little expectation of saving the patient, who gradually failed and finally died uremic. In one hospital case the patient died after removal of a stone from the cystic duct. There was no apparent cause.

This list includes all the fatalities that have occurred in my own experience. In all these cases, as I have already stated, there was a wide variation from the normal; it could not be truly said of any patients that they were in a state even of comparatively good health. In many cases the operation was performed as a forlorn hope. Many cases belong to that class in which the mortality must be at least 90 per cent.—to a class like that of general peritoneal infections in appendicitis. In

many of the gall-stone cases the patients were in that condition of cachexia which is seen in advanced malignant disease—a cachexia in which the simplest and briefest explorations show a very high mortality.

The results of experience, as here shown, can not but emphasize the importance of early operations. In most of the fatal cases it will be observed that the history of gall-stones had lasted over many years, a period of time during which serious complications, both local and general, had taken place. Moreover, in many cases the patients were beyond middle life, and one patient at least was of advanced age. Among the deaths were four occurring during the course of an acute cholecystitis. In some of the successful cases, too, similar serious local and constitutional complications existed, but in spite of them recovery followed.

Patients of middle age, or younger, without these complications, were all cured by operation, and thus far the cure has been permanent.

Among the serious complications were acute infections of the gall-bladder in some twenty cases. All recovered except four. In many of them there was no history of gall-stones; in several appendicitis was supposed to exist. In a few no gall-stones were found. In two the operation was undertaken as a last desperate hope.

The possibility of the occurrence of acute cholecystitis is another strong argument in favor of early operation. Though comparatively rarely seen in the acute stages, I am sure that many of the contracted gall-bladders have passed through successive mild infections.

What are the indications then for operation on gall-stones? In my opinion the indication is the diagnosis of gall-stones in the gall-bladder. When this diagnosis has been made, the gall-bladder should be explored if there is no contraindication in other viscera.

A single attack of gall-stone colic, after which a faceted stone is found in the stools, indicates operation, but a single attack after which a single non-faceted stone is found does not. Repeated attacks of severe colic, even if stones are not found in the stools, strongly indicate exploration, especially if there is tenderness in the gall-bladder, with fever, for stones are probably confined in the gall-bladder, or at its outlet, and the spasms are ineffectual efforts of the gall-bladder to expel them. All cases of acute cholecystitis demand operation if seen early, unless the symptoms are rapidly improving, and then they require operation after the subsidence of the acute attack. Repeated attacks of gall-stone colic indicate operation, even if no stones are discovered in the stools, and even if the symptoms are so mild as not to demand it.

True conservatism in the surgery of the gall-bladder—the lesions of which are purely mechanical—requires, as the only rational treatment, surgical measures which themselves are purely mechanical.

Though natural relief in gall-stones is not as impossible as in stones of the urinary bladder, the former, because of their occurrence, cause far more suffering and death than do the latter. Furthermore, the complications of gall-stones are in many instances quite as disabling as those of urinary calculi, and they often are more rapidly fatal.

A most pernicious argument against measures in gall-stone affections, as in appendicitis, is the occasional quiescence and the occasional complete recovery after severe symptoms; but in neither lesion can any man predict the probable course. Removal of the appendix that has offended, or is offending, is the only common

sense method of treatment, as most experienced operators and clinicians will admit, the chief difference of opinion being as to the safest time for the operation. So in patients who have suffered from gall-stones—who are suffering from them—it is but common sense to advise simple and safe methods of sure removal rather than the uncertain and dangerous courses of natural evolution. In both diseases early operation, at a period when everything favors speedy convalescence, can not but be regarded, in the light of experience and of common sense, as a life-saving procedure gained at a minimum of risk.

DISCUSSION ON PAPERS OF DRs. MEANS, MAYO AND RICHARDSON.

DR. JOHN A. WYETH, New York City—Dr. Richardson's paper is so unanswerable that it controverts discussion. It thoroughly expresses my own views, and I am modest enough to believe they are the views of every progressive surgeon.

DR. H. MYNTER, Buffalo—I have listened to the papers with a great deal of interest and noted several points which might be discussed. In the first place, as to the question of jaundice, we have all heard a good deal about hematogenous jaundice. All cases of jaundice depend on the inflammatory conditions present in the gall-ducts, and this is particularly dependent on the colon bacillus working its way into the gall-bladder, changing the condition of the epithelium. I want to say that in these cases if you look at the gall-stones you will find clumps of the colon bacillus in the center and around the layers of bile salts. This proves that the whole idea about hematogenous jaundice is exploded, in that the condition is dependent on inflammatory changes in the gall-ducts themselves.

As to Dr. Richardson's paper, I want particularly to call attention to the fact that he reports his fatal cases; we learn much more from these as to the necessity of early operation, which, I agree with him, is not dangerous. I have done many such operations myself, and in one case removed 565 gall-stones. In my cases of later operation I have been at times successful, and recall one such patient who had been sick for eighteen months. I lost one patient from a stone in the common duct.

Dr. Fenger raises the question of closing the common duct, which I think is a very dangerous operation.

It has been mentioned that jaundice is a symptom of stone in the gall-bladder, but I think this is a great mistake. I am sure that stones in the gall-bladder do not cause jaundice. Jaundice may be caused by a stone in the cystic duct if it is sufficiently large and presses on the hepatic duct, while stone in the common duct always causes jaundice. Jaundice may be entirely absent if the stones are in the gall-bladder itself. The most important points in the diagnosis are the continual pain and the intermittent tenderness over the gall-bladder. When I have these symptoms present I have no hesitation in making an exploratory laparotomy, as I believe this is no more dangerous than the disease itself. The diagnosis between cholecystitis and appendicitis is interesting. I remember a case on which I operated for appendicitis and found a distended gall-bladder containing 160 gall-stones. I shortly afterward operated on a woman for gall-stones who had been suffering with slight jaundice, but I found appendicitis with the appendix attached to the gall-bladder. Since that time I have been very careful.

DR. NICHOLAS SENN, Chicago—The X-ray is important in the diagnosis of gall-stones and can be relied on in demonstrating their presence when they contain phosphatic substances, but is useless when only cholesterol is present. One of the speakers has referred to a substitute for cholecystectomy and stated that the operation may be done in two stages. In my opinion, whenever possible all operations should be completed at the one sitting, and every surgeon objects to doing two operations instead of one, especially as there is much greater anxiety to the patient. Personally I am always in favor of very thorough dissection, and have found it much more difficult to remove mucous membrane when it is inflamed. If the operation is not completed at once it is a mistake and I should strongly recommend this be done. One speaker has mentioned

that the operation as he performs it requires no draining and this is somewhat similar to the method I employ in relapsing appendicitis. In cases in which the appendix is imbedded in adhesions its removal is much more risky to the adjacent viscera. In some cases I depend for successful operation in the sub-serous method of removal, splitting the appendix the whole length so that the enucleation is a matter of great ease. It may be done safely and readily where the proper care is given to the general conditions surrounding the removal. Sub-serous enucleation of the gall-bladder would be a good operation, I am sure, to try as the peritoneal surfaces can be very readily separated and there is very little risk of hemorrhage. The surface may be everted and sutured and abdominal wound closed. I wish to protest against too frequent operating on patients for gall-stone, as I fear that this will be carried to the same extreme that appendicitis operations have been. Of course we always look for complications in cases of gall-stone, and when these are present the sooner the operation is performed the better. I can give no more illustrative and convincing example of the rational course of treatment to be pursued in these cases than by referring to that of the most distinguished surgeon that the world ever knew, Kocher. He was himself a subject of gall-stones, and has been going to Carlsbad every summer instead of immediately submitting to the knife. I doubt if any member of this section, who might have gall-stones would be anxious for operation. We should be conservative, and the time has come to call a halt.

DR. F. D. GRAY, Jersey City—I recall one case of special interest bearing on this subject, on which I operated recently. The patient had evidently been suffering from impacted gall-stones, although she had never had colic until my first visit, two weeks ago. She had all the indications of impacted gall-stone when I first saw her about midnight. Where abdominal pain and tenderness exists, I always think of appendicitis, but in this case there was no pain in the neighborhood of the appendix, it all being localized about the region of the gall-bladder. The temperature was practically normal and morphin had been administered rather freely. I saw the patient the following forenoon, when the temperature was 102 and the tenderness and pain had begun to extend toward the appendix. At 1 p. m. the temperature was 103, and the pain was chiefly located over McBurney's point. The husband, who was a physician, agreed to an operation. There was then marked tenderness between the gall-bladder and McBurney's point, seeming to indicate an area of peritonitis between these two regions. The operation was performed at 4 p. m., when the gall-bladder was found greatly distended and two or three small concretions were discovered in the appendix, which was in a stage of beginning inflammation, and a certain amount of pus was floating loose between the gall-bladder and appendix. The appendix was at once amputated, and clearly showed evidence of the early stages of inflammation. I flushed the surfaces of the intestines, doing nothing with the gall-bladder, except to introduce an exploring needle and withdraw about one ounce of fluid, thus relieving tension. The fluid contents bore no resemblance to bile; although chemical examination showed a small amount to be present. I attached the surface of the gall-bladder to the upper third of the incision, closed the lower two-thirds, and allowed thirty-six hours for adhesions to form. I then opened the sac and evacuated the remainder of the mucopurulent contents. At the bottom of the gall-bladder were then found three large gall-stones with well-marked facets, and also two similar ones from the dilated mouth of the cystic duct. The condition thus resolved itself into one of impaction of the cystic duct, followed by distension of the gall-bladder by its own secretion. The peculiar feature was that though of long standing—judging from the nature of calculi—colic had never developed until a few hours before operation; and also there must have been a pin-point rupture of the bladder, causing in a short time a localized peritonitis and periappendicitis. The patient made a complete recovery, with spontaneous closure of fistula within a month.

DR. H. O. MARCY, Boston—Ten years ago I read a paper on this subject before the Surgical Section of the Association,

and reported the history of a patient from whom I had removed a stone from the common duct, sutured the common duct and the wound, and secured a rapid recovery with primary union of the wound. This was the first primary suture of the duct ever reported. The past week I saw this patient again, when I found marked jaundice present and all the evidences of biliary obstruction. Recently another gall-stone was passed, which shows very clearly that the removing of the diseased gall-bladder would have saved the recurrence. I must take exception to Dr. Senn's remarks and agree with the other speakers who state that this is an important subject and one calling for careful diagnosis. All of you have seen many fatal cases in the past that now would be saved had you operated promptly. One of the wisest diagnosticians in Boston recently advised against operation, and three days later, when I did operate, I found a decided empyema of the gall-bladder and all the attendant septic symptoms, from which the patient barely escaped with his life. I believe we often fail in not operating when it is our plain duty to do so, and the surgeon should often aid the physician by prompt interference.

DR. JOHN B. DEEVER, Philadelphia—I heard the papers by Drs. Mayo and Richardson, and would particularly call the attention of the Section to the fact that one of the most serious conditions a surgeon is called on to treat is perforative peritonitis; in addition it is one of the most fatal. One of the common causes of perforative peritonitis is perforative appendicitis, and another perforation of the gall-bladder or the common bile duct. I believe remarks like Dr. Senn's are capable of doing much harm and may be responsible for many deaths. I could stand here and call your attention to many cases of perforative appendicitis and perforative inflammation of the gall-bladder. One of the most distinguished physicians in the state of Pennsylvania died of a perforation of the common biliary duct. His physicians argued for conservatism, which is a very dangerous doctrine to promulgate at this age. I believe in operating early and I further believe that late operation will rarely save lives. Early operation is a life-saver. In the majority of instances the stone is situated in the common duct and not the gall-bladder. I do not agree with Dr. Mynter, that these operations are among the most difficult the surgeon is called on to perform, and that the majority of them do not compare with some of the cases of perforative appendicitis on which I am called to operate. Usually I find no trouble in removing the stone, and believe that the trouble is in the lack of skill of the operator rather than the pathologic condition with which we have to deal. I have yet to be able to diagnose a case of stone in the gall-bladder by means of the X-ray. This is an important method in the diagnosis of stone in the kidney I admit, but not in the case of the gall-bladder or the common duct.

DR. HAL C. WYMAN, Detroit—I believe there is considerable good derived from a cholecystostomy, and that it has a remedial value which has not been clearly brought out. The danger to which our patients are exposed when suffering from jaundice deters many from operating, as they dread to do an operation like the complete removal of the gall-bladder for fear of hemorrhage. Simple cholecystostomy, merely opening the gall-bladder, provides drainage and tends to recovery. The danger is in the profound bile intoxication, and it will be relieved by this operation. When we have to deal with a cholemia due to obstruction of cystic or common ducts we should endeavor to make the operation answer the purpose of draining the system of bile. In simple cholecystostomy we have a remedy that, in my experience, has been of great value.

DR. EDWIN RICKETTS, Cincinnati—I rise to bear testimony to all that has been said by Dr. Richardson, who has always been known as an advocate of the earliest possible surgical intervention for gall-stones. I recently had two cases in which I was compelled to open the common duct. One is dead and the other is living. I am sure that had the patient who died, and who had been suffering from biliary obstruction for ten years, been operated on sooner he would have lived. Gall-bladder surgery, done early, is one of the prettiest and easiest operations that ever befalls the surgeon. In contracted gall-bladders, opening of the common duct is one of the most des-

perate operations. Of 46 operations, two have been lost in which there was no complication of cancer, the loss in each case being the result of delay. In all cases in which cancer was present as a complication death took place. I have drained these gall-bladders from one ounce to one gallon lacking one ounce. Not one-quarter has been said in behalf of what we are to accomplish by early surgical intervention in biliary obstruction.

DR. A. J. OCTISNER, Chicago—In discussing the three papers on the subject of gall-bladder surgery, I wish to refer to one very important fact: All the cases which terminated fatally had suffered from gall-stones for a long time, and death was not due to the operation, but to the fact that the disease had advanced to a hopeless condition. All the patients who were operated on reasonably early recovered. Undoubtedly there was a time when it would have been possible to also operate successfully on the patients who died.

The reason why patients suffering from gall-stones uniformly recover after operation, if it is performed reasonably early by a competent surgeon, is very plain. The operation is simple; there are usually no important adhesions, and the operation can be performed practically without any danger of infecting the surrounding structures. At this time the contents of the gall-bladder are much less likely to be septic, consequently an infection of the peritoneal cavity is not likely to occur.

Two years ago, while visiting Dr. Mayo's hospital, I asked the Doctor how he explained the great number of gall-stone cases which came under his care for operation. His answer was exceedingly simple and undoubtedly correct. He said: "We make a diagnosis in these cases." Since that time I have operated on seven cases of gall-stones in patients whom I had previously referred to the general practitioner, because I thought they were suffering from some digestive disturbance, the cause of which I had completely overlooked. During the same time I have operated on more than thirty cases of gall-stones which had been treated for a long time for gastritis, no diagnosis of gall-stones having been made previously. In other words, the presence of gall-stones had been overlooked; as soon as they were removed the gastric disturbances disappeared.

We constantly find these patients at autopsies and imagine that the gall-stones gave rise to no symptoms, because no diagnosis had been made before death. As a matter of fact, these patients had suffered from gastric disturbances which were due to the presence of gall-stones, and would have been relieved had the gall-stones been removed.

Regarding the operation which Dr. Mayo recommends, I will say that in proper cases it can be performed with ease, and being practically an extraperitoneal operation it is certainly perfectly safe in the hands of a competent surgeon. Whatever the theoretical objections may be, I have found it an excellent operation in practice.

DR. ARTHUR D. BEVAN, Chicago—I do not believe that we can accept the dictum that we should operate on gall-stones whenever the diagnosis is made. My examination of post-mortem material and a careful analysis of the facts so gleaned would show that we can not accept this dictum. Among the dissecting-room material 16.5 per cent. of the cadavers have gall-stones, while in the post-mortem material 25 per cent. of individuals over 60 years of age have gall-stones. In a large proportion of these cases the gall-stones have simply been innocuous foreign bodies, which surely have not caused death in 16.5 per cent. and 25 per cent. of the cases respectively. In a great many cases gall-stones produce only very slight, but fairly definite, evidences of their existence. I am quite sure that the internal-medicine men would not agree with the surgical section if they were to adopt the dictum that we should operate on all cases so soon as the diagnosis is made. The internist sees the majority of these cases, the surgeon only the severe cases. Gall-stone operations have done much for the saving of life and the lessening of suffering, but I am sure that in a judicial way we can separate the surgical from the medical cases. Cases are best handled, and always will be, by the internist, while many others should be handled by

radical operation. I do not think that this section can afford to take any but a judicial view of this subject.

DR. H. H. GRANT, Louisville, Ky.—I have waited to hear the expressions of opinion on this important subject before speaking. Most of Dr. Bevan's cases seen post-mortem are those in which the gall-stones have probably never produced symptoms, and I think it is unwise to operate at any time unless symptoms are present. Where the diagnosis is correctly made these cases may be operated on safely without 1 per cent. mortality. I desire to call the attention of the Section to the fact that by an exploratory operation where the diagnosis has not been satisfactorily made or where the case has been in the hands of those who can not make a diagnosis and where the X-ray has been tried and may or may not have worked, the patient will not be in the least harmed and the slight damage done is easily remedied. The success of our efforts lies in the beginning rather than in the end of the disease. Exploratory laparotomy should be done where the symptoms are present, but are not sufficiently distinct to determine the diagnosis.

DR. J. E. SUMMERS, JR., Omaha—I would like to call attention to the occasional necessity of establishing an anastomosis between the common bile duct and the duodenum. This may be necessitated by an impermeable stricture of the lower end of the common duct complicated by the same kind of a stricture in the cystic duct or by an obliterated gall-bladder. The operation is difficult and has been done only a very few times. In my own case—the only reported one in America—it was found that after the introduction of the respective halves of a Murphy button in the common duct and the duodenum, the only method by which the two halves of the button could be pushed home was by passing the left index finger into the foramen of Winslow so as to get its palmar surface behind the common duct and push on the end of the half button introduced into this duct. The thumb and middle finger of the same hand were opposite one another and grasped the circumference of this half button through the duct walls. With this half of the button thus supported the anastomosis was readily accomplished by the usual manipulations.

Probably if an anastomosis was made between the cystic duct and the duodenum the procedure could be carried out quite as readily as when the gall-bladder is joined to the bowel, but when necessity compels the operator to select the common duct the manipulations which I have outlined are practicable and ideal. I drained the gall-bladder in my case, because I had opened it in an endeavor to overcome the stricture in the cystic duct. Only mucus discharged from the opening for about two months and I had arranged to excise the gall-bladder mucous membrane as recommended by W. J. Mayo, when bile began to discharge and after some further drainage I closed the fistula and the young woman is now perfectly well.

DR. W. J. MEANS, closing discussion—I am certain I voice the sentiments of the gentlemen who have read papers on this interesting subject, when I state I have been highly pleased with the discussion and feel that much useful information has been elicited. Replying to the covert criticisms of my friend, Dr. Mynter, I desire to state that I do not claim to have a wide experience in the operative treatment for cholelithiasis. I have operated on ten cases, as mentioned in my paper, all of which recovered. I quite agree with Dr. Mynter that fatal cases should be reported as well as successful ones, and I certainly should have done so had I been less fortunate. The Doctor evidently misunderstood the meaning of the terms "hepatogenous" and "hematogenous" as applied to jaundice. The former refers to jaundice caused from obstruction of the ducts from some source, and the latter to jaundice produced by suppression of the function of the liver cells, or when blood-destruction is in excess of the capacity of the liver to remove the products of destruction. In malignant diseases of viscera contiguous to the biliary apparatus, both types may be present, making a differential diagnosis very difficult.

It is my judgment that our text-books place too much importance on jaundice as a symptom of gall-stones. My report shows jaundice in thirteen cases out of twenty. If physicians were to discard jaundice as one of the pathognomonic signs, and were to make a diagnosis from general symptoms always

present where gall-stones have existed for some time, there would be more cases of cholelithiasis reported among the living, and fewer in the dissecting room.

I feel grateful to Dr. Senn for his very kind criticisms on my pronounced views in favor of the operative treatment. His conservatism is no doubt the product of a ripe experience and intelligent observation, and therefore entitled to our consideration. We younger surgeons, who have been his devout students for years, are loth to take issue with him; but it seems to me now that in the rapid evolution of modern surgery, as evidenced by the achievements in abdominal work, his words of warning are largely the echo of things past, and should not be the rule of to-day. I believe the rational treatment for gall-stones is surgical, and that an operation should be made as soon as a diagnosis has been reasonably determined.

My experience with the X-rays as a diagnostic aid has been limited, but negative so far as used. I am not in position, therefore, to discredit the statement of others who have found them useful.

I believe the drainage through the abdominal incision is the safest procedure. In two cases where I was positive that the common duct was open I closed the opening in the gall-bladder with Lembert sutures, and closed the incision in the abdominal wall. This is the ideal operation, but unfortunately can be made safely, in but few cases. Where there is an obstruction in the ducts from cholangitis the patency is restored after five or six weeks, the external fistula closes, and the biliary apparatus resumes its normal function. No doubt the enforced rest relieves the ducts from irritation, the exudates are absorbed from the surrounding tissues, and all evidences of inflammation disappear.

The statement that gall-stones may exist in the bladder without causing any trouble, I do not believe. That they may remain in the gall-bladder for an indefinite period and produce no serious trouble, is no doubt true. This fact, however, does not sustain the let alone theory of those who are opposed to radical treatment.

DR. W. J. MAYO, closing discussion—I did not read the whole of my paper, which perhaps accounts for the mistake Dr. Senn made in thinking I operated in two stages. Where there is a stricture in the cystic duct following a cholecystotomy which the cholecystotomy had failed to relieve, where the common duct was patent, the removal of the mucous lining of the gall-bladder is indicated. In 106 cases which I have followed up there were 8 in which drainage had failed to cure and occasionally a mucous fistula would close producing a certain amount of pain. Sometimes when you operate on these cases and remove the stone you can not tell at that time whether the cystic duct will restore itself or ulceration and stricture follow. I refer to cases in which the patient is not wholly relieved by the operation, and if you can safely remove membrane I can not see any good reason why it should not be done. Dr. Senn advocates the removal of the peritoneum, but in many cases there is no peritoneum on the inside of the gall-bladder. By stripping it from the outside you would not have any peritoneum where you most needed it, so that I can hardly understand how Dr. Senn's idea would be a good one. There is a great deal of difference between the peritoneum with and without the muscular coat. The mucous membrane strips with remarkable ease, and any one who has operated on the stomach knows this to be so.

DR. M. H. RICHARDSON, closing discussion—The first part of my paper was not read, which will explain why some of the points discussed were not mentioned by me. I believe that the appendix should be removed not only when there are direct symptoms of trouble, but also when there are any suspicious conditions present that attract attention. I believe the patient should be operated on even if there is only a faint suspicion of appendicitis.

I was very glad to hear Dr. Senn's conservative remarks, as such discussion is distinctly beneficial. I have removed gall-stones from the large intestine in a man between 60 and 70 years of age who had never had a symptom in his life.

I am quite sure that the colon bacillus and the typhoid bacillus have much to do with the infection of the gall-bladder.

MODERN EMPIRICAL INVENTIONS.*

N. C. MORSE, M.D.

ELDORA, IOWA.

I desire to call your attention to some of the so-called modern empirical or quack inventions for the cure of disease, namely, the "electropoise," the "oxydonor victory," and the "oxygenor king."

An old Indiana attorney made the assertion, many years ago, that "any proposition is good law in a justice court that is boldly asserted and plausibly maintained." What is true in a lower court of law, is, I think, equally applicable to the unthinking American people, who seem to find enjoyment in the purchase and use of every new medical "fad" or "fake" when forcibly and plausibly brought to their notice.

The wearing of medical amulets, charms, etc., from the time of the "five golden mice" (I Sam., vi-4), down to the more modern "buckeye" or stolen "potato," or still later the use of the "rabbit's" foot and electric ring, furnish now, as of old, a certain amount of inexplicable solace that seems very dear to the hearts of those who have faith in their efficacy and is but another endorsement of Ouida's statement that "superstition has fascinated and swayed mankind since history began." The average American believes what he reads. There is no law to prohibit the false statements or misrepresentation of these quacks or charlatans who depend on their power to deceive and to prey on public credulity.

For several months past a certain charlatan has been flooding the State of Iowa with his "oxydonors." A cadaverous looking individual, acting as his special agent, has sold many of these instruments in the county in which I reside, and through a liberal patronage of the press, is in a fair way to sell many more. The "electropoise" and "oxygenor king," have likewise been introduced, and, according to their agents, have performed many wonderful cures.

The first case coming under my personal observation, where one of these mysterious instruments had been used, was that of a neurotic lady of 48 years, who had unintentionally slept over night with one of these oxydonors attached to her ankle. On awakening the next morning, she found it impossible to move the hand or leg of the treated side; she was greatly alarmed and for a while thought herself hopelessly paralyzed. It is needless to say that she was easily restored to her equilibrium by simply attaching the instrument to the other leg for an equal number of hours, there being no way, that I could discover, to reverse the current.

The second case was that of a patient of mine, a gentleman of more than ordinary good judgment and intelligence. He had just recovered from a very serious attack of gall-stones. Naturally dreading another attack he was induced to try the oxygenor. He has not had a return of the old symptoms, and has given full credit therefor, through our county paper, to this instrument. We know that such a history is of frequent occurrence in these cases. He may possibly never have another attack, but if he does, he will learn to his sorrow that he can not rely on his oxydonor.

This case led me to make an investigation of these instruments or inventions, and I bring them before you, that we may dissect and study them together, that we may knowingly explain to our patrons just how and of what they are constructed, and I feel assured that you will agree with me that the autopsy will reveal no battery

or any other means of generating oxygen or electricity, and that they are absolutely without medical virtue except in so far as they act as a psychical, i. e., mental or "faith" cure.

This little instrument I first show you is called "The Electropoise." The cost price of which is \$10. It has gained much notoriety through some of the Southern states, and is supposed to cure all diseases. It is manufactured by parties at Birmingham, Ala. The cylinder, or "Polizer" as they call it, is $3\frac{1}{2}$ inches in length, and weighs about 5 ounces. It has only one wire or insulated cord, which passes through a small, movable cap at the top of the cylinder. This cord is attached to a small disc, and by means of an elastic band and buckle is intended to be placed around the wrist or ankle of the patient, or over the diseased part. I have had it sawed into sections and alas, like the goose that laid the golden egg of fable fame, there is nothing in the carcass!

The next instrument is called the "oxydonor victory." You will no doubt notice the close resemblance to the electropoise. This oxydonor has a nickel-plated cylinder called "Vocor," which is $2\frac{3}{8}$ inches in length and weighs 5 ounces. It has but one wire, a non-insulated cord, which is attached and used in the same manner as described for the electropoise. I have had this oxydonor cut into two sections. The cylinder is made of brass and the center is filled by a stick of carbon, like that used by electricians, held in place by a little sealing-wax or melted resin. The price of this instrument was formerly \$35 cash; they can now be purchased for \$10.

"The Oxygenor King" has evidently been constructed with the intent to deceive the most expert, and for this reason it seems to me would be more effective as a "faith" or "mind" cure than either of the others. It is composed of a nickel-plated, hollow brass cylinder, $5\frac{1}{2}$ inches in length and weighs 24 ounces. On removing the ends, there will be seen a small pivot or point which is supposed to make connections with the battery within. Sawing through the center reveals a gray substance, of the consistency of sand. A careful analysis proves conclusively that the mixture is composed simply of powdered charcoal and a little sulphur. One end of the cylinder connects with a copper, the other with a zinc disc, by means of insulated cords which are intended to be attached to the ankle or wrist of the patient, as shown in the wood cut of the catalogue. The price of this instrument is \$25 net cash.

The large book is sold for \$1. By reading it, you will understand at once how they reach the people.

The inventors of these "cure-alls" claim that they work on the human body, in the following manner: "The electropoise supplies the needed amount of electric force to the system and by its thermal action places the body in condition to absorb oxygen through the lungs and pores. We know this by the way it acts and its wonderful effects." . . . "The oxydonor victory generates or absorbs the oxygen from the water and forces it by the law of induction through the system, putting new life into the tissues and blood, thus proving a blessing to the sick and afflicted." . . . "The oxygenor king acts in a dual capacity. First, it forces the absorption of oxygen by the system under the polar control of the instrument; secondly, it removes all obstruction to the free flow of chyle, lymph and other juices of the body, thus giving nature a chance to perform her natural work."

Generators of oxygen! Wonderful instruments! But the most wonderful part of all, is the fact that people can be made to believe in their efficacy. Every high-

* Read before the Austin Flint Medical Society Midsummer Meeting, Clear Lake, Iowa, July 11, 1900.

school boy knows that it requires a most powerful battery to separate oxygen from water. Could anything be more ludicrous, therefore, than the claims of these inventors! Yet there are thousands of people who believe their assertions and purchase these instruments. It simply shows that the people believe what they read regardless of the absurdity of the claims. I agree with "Puck," that, "if some enterprising yankee would graft a strawberry vine to a milkweed and advertise the product to produce strawberries and cream, in a short time he could not supply the demand for the plants." This is no more absurd than many of the statements that appear in these circulars. Take the oxygenor pamphlet for instance and turn to page 4, under "Facts of great value," you will find the following: "It is the most infallible protection to life ever known to man, and it is ever ready to save the life of its possessor from the most formidable of diseases." "With the oxygenor at hand, every one is master of his own health. It is a discovery absolutely unequaled in science or the wealth of the world. No diagnosis is needed. It cures all diseases. Any one can apply it. It enables mankind to utilize one of the most remarkably beneficial laws which an all-wise Creator has put in operation." "They can

of the oxygenors, it was held by the court that "the evidence adduced in support (of the oxydonor) was insufficient to conclusively establish its validity or show that the device was in fact useful or valuable, in such sense, as to entitle it to the protection of a Court of Equity."

So much for the oxydonor, how about the electropoise and oxygenor? As to their actual value, I will read you what Dr. Hercules Sanche says. Printed in large letters, on the box containing the oxydonor, are the following words:

"Beware of frauds and impostors. All things used for treating diseases by wire or cord connection with the earth, or anything cold, in any form or by any name not plainly stamped Dr. H. Sanche, Detroit, Mich., are dangerous imitations made in total ignorance of the principles involved and without reference to any principle except fraudulent gain."

Thus the renowned Dr. Sanche pronounces judgment upon the oxygenor and the electropoise, while the United States Court of our own state has decided that Dr. Sanche's instrument of cure is not of sufficient value to entitle him to a standing in a Court of Equity.

These instruments are in no sense electrical, nor magnetic. They do not claim such powers. They contain no battery or other means of generating oxygen. They, therefore, possess no more medical virtue than a copper wire attached to a stove lid, or a tin can filled with brimstone and charcoal. Cures resulting from their use, no matter how wonderful, belong to that class known as "mind cure" or "faith cure."

It might be asked: What possible harm then can they do? We as physicians will not object if our millionaire friends want to buy them for their children to play with; they are harmless toys. But we think it wrong to have them foisted on those who are unable to buy them or on whom their purchase would entail hardships in the vain hope of curing their incurable diseases.

Again, there is the fact that so many are prone to believe what they read, and the fact also that many in their ignorance seem perfectly willing to trust to or rely on such methods of cure, even in serious or contagious diseases; it is here that the law should interfere, or prohibit the sale of these inventions.

And lastly, some of the statements of these charlatans should not be allowed to remain unchallenged, especially when they tend to lead the people astray and endanger public health.



Electropoise. Oxygenor King. Oxydonor Victory.

never wear out." "They can never exhaust themselves." "Their law of cure is based upon principles as positive and lasting as the laws of gravity," etc.

They also publish a list of "don'ts," under which appear the following:

"Don't worry, it can do no possible good, and is injurious."

"Don't hesitate to eat the seeds of grapes, figs, dates, etc., because of the fear of appendicitis."

"Don't lend the oxygenor to any one. If it is desired to treat a sick friend, take the instrument and apply it, but don't leave it." (Some one might want to examine it!)

"Don't permit any one to see this instruction book"—(Presumably for the reason it will not bear inspection, except from those who are foolish enough to invest in an instrument.)

MEDICOLEGAL ASPECT OF THESE INVENTIONS.

In correspondence with friends at Washington, who have been kind enough to examine the records at the Patent Office, I learn that the dates or patents apply to the trade-marks or names of these instruments, the instruments not being of themselves patentable.

I also learn that in a trial before the United States Court, held at Des Moines, Iowa, Dec. 19, 1899, wherein Dr. Hercules Sanche endeavored to prevent the sale

BACTERIOLOGICAL EXAMINATIONS OF OTITIS MEDIA PURULENTA AND SUPPURATIVE MASTOIDITIS.*

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JERSEY CITY, N. J.

The season just passed, since last autumn, has furnished Hudson County an admirable supply for study of catarrhal and purulent inflammations of the middle ear and mastoid. The course of these diseases has been watched with unusual interest. In dispensary there have come under my personal care 107 cases of otitis media purulenta, and 35 in private practice, 142 in all. There have been 58 cases of mastoid disease, of which 28 have been aborted and 30 have been operated on.

* Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

In 19 instances there was no opportunity to try abortive measures and the mastoid was found partially or entirely broken down. I might say two cases of drawn face were relieved by operation, and two cases of facial paralysis followed operation.¹ The tip was always thoroughly cleared out.

One death occurred after three weeks, suddenly, just as an exploratory secondary operation had been decided on. A second death from tuberculosis, one month after operation, occurred, my third and last death was in the case of a man brought into the hospital in a state of coma, who failed to recover and died five hours after operation. The others operated on were discharged cured in from ten days to four weeks, except two tuberculous cases, which have a slight aural catarrh.

Starting out with the purpose of discovering why some cases yielded to treatment by pepsin and others did not, I engaged Dr. G. E. McLaughlin, of Jersey City, to examine the discharges microscopically. In some cases the germ was only recognized after a culture had been made. Several specimens which needed a culture for identification of the germ failed to return, and hence though over sixty-five examinations were made by him, I have report of only 58. Cases accumulated so that many questions arose, some of which this paper attempts to answer.

Germ found in O. M. P.	Total Exam-ined and Microscopically.	Cured by H. W.	Cured by Enzymol.	Antiseptics.	Cured.	Unimproved.	Unimproved.	Fail to return.
Streptococcus	14	4	1		1	1	3	3
Strept. and dip. pneu. (Fraenkel)	1	1			1	1		
Strept. and ptyocyanus	1						1	1
Strept., staph. and ptyocyan.	1				1			
Strept. and staph.	4				1	1	2	2
Staphylococcus	5	1	3		4	2	1	1
Staph. prog. anrens	1				1			
Dip. pneum. (Fraenkel)	12	2	10		12			
Dip. pn. and colon bacillus	3				3			3
Ptyocyanus	3				3			
Colon bacillus	1				1			1
	58	7	16		33			13

In the first-column of the report appears the name of the germ or germs discovered in a single specimen. Column two records the number of each class of germs. The third column records such cases where a cure resulted from hot water syringing without other medication.

At the commencement of the season, the one rule was adopted whenever an otitis purulenta, acute or chronic, came under treatment. The canal was thoroughly cleansed with hydrogen peroxid. Granulations and polyps received appropriate treatment tending to their speedy removal if possible.

The same order was then given every case, namely, hot-water syringing to be followed by instillation of enzymol in the canal. If after one week no improvement was noted, the enzymol was discontinued and the hot-water syringing was changed to hot bichlorid (1 to 4000), or hot carbolie acid (10 to 20 drops to the pint), or hot Seiler's solution. The hot syringing was at a temperature of 120 F., and patients have a number of times returned with the statement: "I use 130 and it feels good." Of course, it is necessary to employ an ear-douche with outflow, which prevents burning the cheek. (A simple contrivance, costing 25 cents, is on sale in any large city.) A two-quart fountain syringe was employed and it should take from 10 to 15 minutes for the séance.

1. One has since recovered.

Where the auditory canal was swollen and the mastoid painful, leeches were applied in the early stage and then six hours later, after the bleeding had stopped, the following treatment was employed every hour for twenty-four or forty-eight hours: Ten minutes' syringing with the hot water at 120 F., ice poultice bound firmly on for fifteen minutes and a continuous application from a hot-water bag for the remainder of the hour. To this thorough treatment I ascribe the aborting of 28 out of 39 cases of acute mastoid inflammation, presenting swollen auditory canal and mastoid pain. In no acute mastoid case where this treatment was properly carried out was operation done. In a number of the cases paracentesis of the drum membrane was performed one or more times.

Measles or scarlet fever was the precursor of the ordinary number of cases, but the epidemic, if you would call it so, might be ascribed to a catarrhal condition of nose and throat accompanying la grippe. Quite a large number reported a recent attack of what their physicians had termed la grippe.

Where the hot-water syringing alone brought the cases to a state of non-discharge no medication or further treatment was employed. Where this was employed hourly there was no time for enzymol instillations. But when the acute violent symptoms had subsided the latter were employed. Thus, in the third column, 7 cures are credited to the hot water alone.

In the fourth column are noted cases which came to a state of rest without other treatment than the hot water and enzymol. The one particular fact to notice here is that, out of 12 cases with diplococci pneumoniae, two are cured by hot water and 10 by enzymol. In order to test this point, one case containing the diplococcus was ordered to be syringed with hot carbolie water. At the end of ten days he presented himself with no diminution of discharge, and in addition an eczema of the canal which made the hot syringing painful. Five days of enzymol cured the discharge and the eczema subsided.

The fifth column shows that the antiseptics or alkaline solution, also used hot, cured 6 out of 14 streptococic cases, and with the other germs combined or alone about one-half were cured. The rest proved stubborn and resisting, and time alone will tell whether they ever will be cured. Certain it is that I have given personal enthusiastic care to several cases and they are still discharging pus to-day, my local treatment being by peroxid of hydrogen and dry cotton-tipped probes for removing from every nook all dead epithelium and debris, and then using tincture of iodine, silver nitrate or zinc chlorid solutions, or trying the dry method with boracic acid powder or nosophen. If these ears should be neglected for one or two days they fill with pus. Of course, granulations and polyps receive proper attention. One may remove the polyps and curette the base, but I confess my inability to cure granulations in certain instances when the germ is not pneumococcus. Fortunately these are not frequent, perhaps 5 out of 55.

In regard to the paracentesis of the drum, if the germ present was Dip. Pn. Fr. only, I felt sure that enzymol, if it could only be given a fair chance in the middle ear, would speedily cure the case, and hence if the opening in the drum closed prematurely it was reopened, and in one case reopened four times. Finally the case came to a state of rest. When other germs were present, the opening was cauterized with chromic acid in order that the cleansing of the middle ear might be more complete and that the opening should remain patent.

Tonic, constitutional and hygienic measures suitable to the individual were in all cases taken.

It is interesting to note that out of 65 examinations the colon bacillus appeared only four times. An unidentified bacillus was found several times on the slides, but failure to get a culture left it unknown. The pyocyaneus discharge was always profuse and fetid, and if imprisoned had a green color.

To recapitulate, the great value of having a microscopical examination of the catarrhal or purulent discharge is seen in the case of diplococcus pneumoniae (Fraenkel), where one may prognosticate a speedy cure, and secondly, one may, with equal confidence, sew up the mastoid wound completely and discharge the patient in about one week, or at most not over two weeks.

With streptococcus alone, 50 per cent. come to a cure. One case of acute suppurative mastoiditis (streptococcus alone) had hot-water syringing and zinc chlorid instillation 2 per cent. in strength, and after paracentesis came to rest in two weeks. With streptococcus and pyocyaneus the chances are even of an eventual if tardy cure.

With streptococcus and staphylococcus, the chances are two to one against cure.

If staphylococcus alone, four out of nine may come to a cure.

If pyocyaneus alone, one-half may be cured and the others prove stubborn.

If coli bacillus communis be the germ it is practically incurable.

All these may prove stubborn and resisting except the diplococcus pneumoniae (Fraenkel), which yields forthwith to pepsin. About one-fifth of all the cases came in this class. It is a fair inference that many cases which failed to return were cured and were probably of this class.

There are several factors causing imperfect efforts at cleansing the middle ear, such as the construction of the individual canal, a pin-hole in the drum, a pouting drum, attic disease, granulations in recesses where possibly denuded bone exists, and last but not least, nasal, nasopharyngeal and tonsillar abnormalities. These difficulties having been conquered, the disease will sometimes come to an abrupt termination with only little or no after-treatment.

NOTE.—Oct. 22. Since this paper was presented four months and a half ago I have had only five mastoid operations. The number of acute and chronic O. M. P. and incipient mastoid cases which have been aborted, has confirmed the claim of the curative action of the very hot water syringing. It is the most satisfactory means of cure we have to-day for these poor sufferers.

TUBERCULOSIS OF THE TESTICLE.

WITH SPECIAL CONSIDERATION OF ITS CONSERVATIVE TREATMENT.

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CHICAGO.

(Continued from p. 1349.)

Orchiectomy was in vogue for many years prior to 1895, and is still advocated by many able men, as Koenig, Kocher, Terrillon, Richez and Senn, though most of them are opposed to double castration except in very exceptional instances. It would be the operation of election, because of its ease of performance and the rapid healing of the parts which usually follows, were it not for the unnecessary mutilation, the influence on general metabolism, the mental effect, and for the fact that patients will not consent to it until the

disease is very far advanced. As the glandular portion of the testis is practically never primarily involved, and very rarely seriously secondarily affected, there is no good surgical basis for its removal. The claim, which has always been made by the advocates of castration, that the operation is more radical than epididymectomy, is not proved by the results of operations, and it is for the purpose of controverting this idea that this paper has been prepared and these cases cited. In 38 cases reported by Badenheuer in which castration was performed for tuberculosis of the testicle there was recurrence of the disease in the other organ 28 times. Bazy, Routier and Mauclair have noted the same recurrence in the other testicle in many cases. These statistics form the strongest argument against castration that can possibly be brought forward, because, as the disease so frequently develops on the other side, a double castration will be inevitable, if it be true, as these authors claim, that it is the only radical operation.

Another great objection to the performance of castration is the profound mental effect which is induced in many patients, not only where both organs have been removed, but sometimes by the removal of one. Pujol, in 2 cases of unilateral castration, observed melancholia following the operation, and Fuadls, in 3 similar cases, noted the development later of grave mental symptoms. These mental changes may in part be due to psychological impression, or they may be ascribed to absence of the internal secretion of the testicle, but whatever their cause, the fact remains that they develop in a certain and rather large percentage of the cases. The secondary secretion and its importance to normal metabolism were considered in the physiology. Tillaux, in 1896, says: "I believe that the testicular substance has an important influence on the general health. The secretion is resorbed in part by the system and contributes to the vigor of the organism." Audebal also condemns castration for the same reason.

We do not consider that a surgeon is justified in removing a testicle for tuberculosis where the epididymis, or only a part of the testicle proper, is involved. Even when the seminal vesicles are diseased, it does not supply an additional indication for castration, nor is the effect on the vesical symptoms more rapid or more pronounced and permanent when castration is performed than when the epididymis alone is ablated. After orchietomy, in many cases, there is a gradual and often ultimately complete subsidence of the sexual desire, which is not the case after epididymectomy.

Curettagé and Drainage.—This is of no more effect in the treatment of tuberculosis of the testicle and epididymis than it is in the knee-joint or other tissue. It is followed by prolonged suppuration, further extension of the disease and final destruction of the organ. It has many disadvantages, and no advantages over the more radical epididymectomy. Where the testicle is much swollen and infiltrated, so that it is impossible to determine the exact condition of affairs, it is justifiable to incise and drain the infiltrated tissues, and later, after the acute infection has subsided and the exact extent of the disease ascertained, do an epididymectomy. Longuet advocates, in cases where the tubercular foci are softened and liquefied, incision into the abscess cavities, curettagé of their walls and cauterization with the thermoantery or chlorid of zinc. His results in some cases were excellent. After curettagé the wound may be packed with iodoform gauze and allowed to granulate, or it may be closed with sutures.

Excision of foci in the testicular proper was advocated by Deville in 1852, and about the same time by Syme and Malgaigne (quoted by Longuet). Reclus has performed the same operation with perfect success. S. Duplay, in 1897, recommended dissecting out tubercular foci in the testicle and closing the defect left by suturing with catgut.

Epididymectomy.—L. Longuet, in his recent excellent paper, treated very extensively the subject of conservative operations for tuberculosis of the testicle, both from the historical and technical points of view. The first epididymectomy on record was performed by Jarjavay in 1850, upon a patient 20 years of age, with tuberculosis of the right epididymis. He resected the epididymis Aug. 7, 1850, and swabbed the wound out with tincture of iodine. As mentioned before, Syme and Malgaigne, for some time previous to Jarjavay's operation, had been teaching that in fungus and carcinomatous testicular affections not involving the whole organ the diseased portion only should be removed, and Deville, in 1852, saved a testicle which was prolapsed through an ulcerating scrotum by resecting the diseased foci. In these earlier operations, however, it was not the epididymis that was removed, but rather portions of the testicle proper in which the disease had become localized.

Typical total epididymectomy was probably first performed by Bardenheuer in 1880, and in 1887 he reported 12 successful cases. Tuffier in 1883, Villeneuve in 1889, Duplay in 1890, Humbert in 1891 and Lejars in 1893, reported cases and advocated the conservative operations. Dr. Herman Mynter, of New York, in 1893, reported 2 cases in which he had performed epididymectomy one and two years previously. Both patients had remained perfectly well up to the time of the report, and there was no prospect of recurrence in either. Guyon, 1892, condemned castration where the epididymis only was involved. Longuet, during the period from 1895 to 1898, had performed 30 typical and atypical epididymectomies with most excellent results. Humbert, in 1897, published the reports of 15 resections, with good results in the majority of cases. Reclus has done a number of successful resections, but thinks the operation indicated only when the disease is distinctly localized in the epididymis.

Indications for the Operation.—Epididymectomy should be the operation of election in every case of tuberculosis of the epididymis, single or double, except under the following conditions:

1. Where there are extensive tubercular lesions elsewhere, which will shortly terminate the patient's life.

2. Where the disease has extended to and destroyed the greater part or all of the testis proper. Here castration should be done.

3. Where the scrotum is riddled with discharging sinuses. The indication is usually here also for castration. In every other case a resection, typical or atypical, should be done for the following reasons:

1. Because it is radical and removes all the diseased tissue.

2. It does not remove the healthy glandular portion of the testicle, the internal secretion being thus preserved.

3. Patients will consent to an early removal of the epididymis, thereby avoiding the disastrous results of further infection of the genito-urinary tract.

4. It has the same beneficial effect on the vesical symptoms as has orchietomy.

5. Sexual desire and potency, even to emissions, are retained; power of procreation, however, is lost.

6. It has no ill effects on the general metabolism, nor does the patient suffer from the mental distress and melancholia mentioned above.

7. It is easy of performance and entirely devoid of danger.

8. The period of convalescence is short, and the good results are permanent.

The principal objections which have been brought against the operation are:

1. That it is not radical, as the rete testis is involved in every case, even where it appears normal macroscopically. (Koenig, Fink, Dürr.)

2. That atrophy of the testicle follows the operation.
3. That, as the patient will be sterile after either epididymectomy or orchietomy, it is unwise to risk the possibility of leaving in infected tissue.

With regard to the first objection, e. g., that the operation is not radical, we have only to say that while theoretically this may be true, practically it is not. Where the rete testis is seriously involved, to such an extent that it will give rise to trouble later, it will always be possible to determine it macroscopically at the time of the operation, and excise the affected portion with the epididymis. If this is done, recurrence need not be feared, but even supposing it does take place in a small proportion of the cases, a localized focus in the rete can be excised at a subsequent operation and no harm result from the delay, for the reason that as the vas is absent, extension upward can not take place. As a precautionary measure, in order to avoid leaving infected tissue, some operators—Lejars, Koenig, Poncet, Delbet and André—have recommended an exploratory incision into the testicle, the subsequent operation, castration or epididymectomy, to be determined by the condition of affairs in the rete. In the cases which have come under our care, this has never been necessary, it always being possible to detect deposits in the rete at the time of removal of the epididymis.

The symptoms of vesical irritation subside, after resection of the epididymis, just as promptly and completely as after castration, and the healing of secondary deposits in the prostate and seminal vesicles takes place just as rapidly. Even where the tubercular process in these latter situations is far advanced, arrest, by cicatrization and encapsulation, is the rule after epididymectomy. For this reason it is never necessary to remove these organs.

The second objection, that atrophy of the testicle follows removal of the epididymis, is not founded on fact, for numerous observations and experiments have shown conclusively that when the operation is correctly performed and the spermatic vessels not interfered with, atrophy does not take place. (T. Dimetresco.) The testes not only retain their normal size, but also their natural firmness and sensitiveness. (Longuet.) Mauclair, in one case upon which unilateral epididymectomy had been performed observed that the testis on the side of operation retained its normal size, while the opposite one became hypertrophied. In Cases 4 and 5 of our series the testicle presented some atrophy, which must be accounted for by a slight injury to the vessels at the time of operation; a considerable portion of the organ, however, remains in each case.

The third objection is hardly worth considering, as the importance of the internal secretion is not recognized by those who make it. After epididymectomy the patient is sterile, but not impotent, while after castration he is both. Reynier objects to the conservative operations because he thinks that permanent sinuses

are often left. This is certainly not true if the operation is properly done. The sinuses which are occasionally formed quickly close.

The operation of epididymectomy is extremely simple and easy of performance, if the operator will first take the trouble to experiment on the cadaver. It amounts simply to an anatomical dissection, very little cutting being necessary, except in dividing the vasa efferentia where they enter the globus major.

The steps of the operation illustrated by Figs. 11, 12 and 13 are as follows:

1. Incision into the sac of the tunica vaginalis, just external and parallel to the epididymis.

2. Dissection of epididymis from testis proper, commencing below at globus minor and passing upward to mediastinum testis. From here one must proceed slowly and carefully so as not to injure the spermatic artery and veins, closely hugging the epididymis and separating it from the testis proper and spermatic vessels. Blunt dissection should be used when possible, cutting only when necessary. If a focus is discovered in the mediastinum it is to be excised in a wedge-shaped piece and the defect closed with catgut sutures.

3. When the globus major is free, the vas is to be isolated from the other structures of the cord upward, as far as the internal ring, where it is to be clasped on both sides of its circumference with hemostatic forceps, divided and the lumen of the proximal end cauterized with 95 per cent. carbolic acid in the end of a needle. The needle is to be worked upward in the lumen for one-half inch and the mucous membrane thoroughly cauterized.

4. When cauterization is complete the vas is ligated with chromicized catgut, one-quarter of an inch from its end, so as to prevent infectious material from passing backward through it into the tissues. This step is considered of great importance as previous to the use of the ligature it was not uncommon to have induration and occasionally suppuration develop near the stump of the vas. The tunica albuginea is to be sutured with catgut, if it has been opened.

5. The testicle is now replaced in the scrotal sac, and the external wound closed either with a buried subcutaneous suture of catgut, or interrupted sutures of silk-worm gut, leaving a small iodoform gauze drain in the lower angle for forty-eight hours.

6. After forty-eight hours the gauze drain is removed and provisional sutures, put in at the time of the operation, are tied.

REPORT OF CASES.

CASE 1.—Mr. E. J. B., aged 22 years. Occupation, factory-man. Unmarried. Admitted to Alexian Brothers Hospital, Sept. 9, 1894.

Present Illness.—Six months ago patient first noticed some "chafing of skin" on the left side of scrotum, and a varicocele on the same side, which had been present for several months, became larger and somewhat painful. Shortly afterward a small papule developed on the irritated skin and this was opened by patient. Cheesy material was discharged, and a small sinus, which would not close, was formed. There was at no time any marked swelling of testicle and patient suffered but little pain. Has had no urinary symptoms of any kind. Has lost considerably in weight (10 pounds). No cough.

Previous History.—Chorea several times in childhood. Before onset of present trouble patient worked in a shop where much heavy lifting was a part of his daily labor. No history of venereal infection. No direct injury to testicles.

Family History.—No tuberculosis in any members.

Examination of Patient.—Medium stature. Nourishment fair. Heart, lungs and abdomen negative. *Genitalia.*—Left

epididymis thickened, hard, nodular and slightly tender to compression. Testicle proper, normal. A small sinus leading down into nodular epididymis is present in left side of scrotum. Right testicle and epididymis normal.

Operation.—Sept. 10, 1894. Operator, Dr. J. B. Murphy, assisted by Dr. E. H. Lee. Incision into left tunica vaginalis and dissection of epididymis from testicle proper, leaving the spermatic vessels undisturbed. Vas severed from other structures of cord, ligated and amputated at internal ring. Testicle proper replaced in sac of tunica vaginalis and skin wound closed with silk-worm gut suture, leaving small gauze drain in lower angle. The night after operation some secondary hemorrhage took place and house surgeon applied a ligature to the bleeding vessel. After this the wound healed without further trouble, except at the upper angle, where a small sinus persisted. Sinus remained open for two years, when ligature was discharged and it closed. General health improved much after operation and he regained the flesh which he had lost. For ultimate results see notes under Case 5.

CASE 2.—Mr. M. Z., aged 22 years; occupation, watch-maker; unmarried. Admitted to Mercy Hospital December 14, 1895.

Present Illness. For four years previous to last April, when the organ was removed, patient had had repeated attacks of pain and swelling in the right testicle. Eight weeks ago the left testicle began to swell and a permanent nodular enlargement developed. This has been accompanied by considerable dull, aching pain, and some tenderness in the mass. Urination has been frequent and painful. Family history negative as regards tuberculosis.

Examination of Patient: Right testicle absent. In the left side of the scrotum is a firm nodular mass situated posteriorly, and having in front of it the testicle proper, which is apparently normal.

Operation, Dec. 16, 1895; Operator, Dr. J. B. Murphy, assisted by Dr. E. H. Lee. Incision into left tunica vaginalis; dissection of nodular epididymis from the testicle proper; ligation and amputation of the vas high up, and cauterization of its lumen with 95 per cent. carbolic acid. Testicle replaced in the scrotum and the wound closed with silk-worm gut sutures, a gauze drain being left in the lower angle. Cavity of the tunica vaginalis on the right side opened and a hollow oval ball of silver, the size and shape of a normal testicle, introduced and the wound closed. Convalescence was uneventful, and patient was discharged cured Dec. 25, 1895. In a letter received from him May 8, 1900, the following particulars as to his present state of health are given: His general health is excellent. He has gained ten pounds since the operation, now weighing 180. He has no vesical irritation, and has passed no blood or pus in the urine. There has been no return of the disease since the operation, though patient states that occasionally he has some slight pain in the testicle, which may be attributed to the silver ball in the right side. There has been no atrophy of the left testicle proper. He has had no cough, fever or sweats. He has been married for several months and states that the sexual desire is normal, there being some discharge during intercourse. No nocturnal emissions since operation.

CASE 3.—M. S. R. V., aged 30 years; married; occupation, electroplater. Admitted to Cook County Hospital, service of Dr. F. S. Hartman, Dec. 16, 1895.

Present Illness: About nine years ago right testicle was swollen for several weeks. Swelling gradually subsided, leaving a small, hard, painful nodule in the lower and posterior portion of organ, which has persisted until the present time. Frequent urination has been complained of lately, and he has had to void his urine every fifteen or twenty minutes without, however, having any pain during its passage. During the past two or three weeks he has had numerous hemorrhages from urethra.

Previous History: Patient claims he was never sick before, and positively denies any venereal infection. Family history entirely negative as regards tuberculosis.

Examination of Patient: Well-nourished man; heart, lungs and abdomen negative. Right testicle is enlarged, and a firm

nodular mass can be felt involving the lower and posterior portion of the organ. In the left testicle there is a hard nodule occupying the upper and posterior portion.

Urinalysis: Dark color, neutral reaction. Specific gravity 1018. Albumin; no sugar. Microscopic examination, red blood-cells and pus in moderate amount.

Operation, Dec. 17, 1895. Operator, Dr. J. B. Murphy, assisted by Drs. Besley and Champlin. Incision over nodular mass in upper and posterior part of left testicle; diseased tissue well exposed, caught with forceps, and dissected from body of the testicle, the latter being apparently normal. Iodoform gauze drain inserted and the wound closed with silk-worm gut sutures. Exactly similar operation performed on right side. Convalescence was uneventful and patient was discharged cured Dec. 31, 1895.

Examination of patient June 27, 1896, showed that there had been no return of the testicular disease, and the blood had disappeared from the urine. He had gained fourteen pounds since the operation, and sexual desire was same as before. About one year after operation, patient suddenly developed urinary suppression, which continued for twenty-four hours. Several days later he had a similar attack lasting sixty hours. At this time the left kidney became enlarged and soon afterward, the right. He died of the renal complication, probably tuberculosis of both kidneys, early in February, 1897. There was no recurrence of the trouble in the testicles, and the lungs were unaffected throughout. Tubercle bacilli were found in the urine toward the close of the disease. While the ultimate result in this case was bad, the success of the operation, as regards the disease in the testicles and the relief of bladder symptoms, was demonstrated, as there was no sign of local recurrence, and no return of urethral hemorrhages up to the time of his death.

CASE 4.—Mr. A. D. B., aged 38 years; occupation, driver. Admitted to Alexian Brothers' Hospital May 6, 1896. Present illness dates from three and a half or four years ago, at which time patient had what he calls "eczema of the scrotum." About two years ago urination began to be more frequent than normal, and he suffered from some burning pain at the base of the bladder toward the end of micturition. A short time after this he passed some blood and pus from the urethra. One year ago a perineal cystostomy was performed, and at the same time some operation on the testicles, the nature of which is unknown to the patient. After operation the urinary fistula remained open for three or four months, when it closed completely. Since closure of fistula he has been unable to hold his urine more than one and one-half hours, involuntary passage taking place after this time. He says that at the time of operation right testicle was discharging pus, but that soon after it the sinus closed. For the past one and one-half years left testicle has been gradually increasing in size, and has been the seat of considerable pain. At the present time he is obliged to urinate every hour at least. He often has pain at the base of the bladder and along the urethra. Several weeks ago a small ulcer developed on the glans penis, followed after about two weeks by a similar one on the prepuce. These are still present. The general health is good. Bowels constipated. Patient says he was never sick before. Family history negative as regards tuberculosis.

Examination of Patient: Both epididymi nodular and hard. Testicles proper show no signs of involvement. The inguinal glands on both sides very slightly enlarged. The prepuce presents on its inner surface a large shallow ulceration, which extends a short distance over the glans penis. Temperature on admission ranged from normal to 100.3 F.

Urinalysis on Admission: Straw-colored, cloudy, acid reaction, specific gravity 1018, albumin present in considerable quantities, no sugar. Microscopic examination showed pus cells, red blood-cells, a few granular and epithelial casts.

Operation, May 8, 1896. Patient circumcised for removal of preputial ulcer. Operation May 15, 1896. Operator, Dr. J. B. Murphy, assisted by Dr. Oswald. Incision into cavity of right tunica vaginalis, testicle and epididymis well exposed, and the latter dissected from the former, beginning below and passing upward. Vas was amputated high up and lumen cau-

terized. Testicle proper replaced in sac, and external wound closed by means of silk-worm sutures, leaving a small gauze drain in lower angle. Similar operation performed on the left side. Examination of epididymi showed both to contain typical caseous nodules. Patient was discharged from hospital June 4, 1896, the incision on the left side having closed by primary union. On the right side there was a small sinus at the lower angle of the wound, which was discharging a slight amount of purulent material. Urinalysis June 1 showed the same findings as on admission, except that the urine was clearer and contained less blood and pus. On the day of discharge from hospital a few pleuritic friction sounds were heard in the right side of the chest.

Examination of patient July 11, 1900: General health excellent; patient now weighs 150 pounds, which is more than he ever weighed before. Has no cough; appetite good; no symptoms referable to the genital organs, except some itching of the scrotum. Vesical irritation, which was such a marked symptom before the operation, disappeared almost entirely within a month or six weeks after it was performed, and has never returned in anything like the same degree. Occasionally he is obliged to urinate more frequently than normal, and usually has to get up two or three times during the night. Has no pain during urination and never passes blood. Sexual desire is the same as before onset of trouble, and the sensation attending intercourse is also the same, though he has no discharge of seminal fluid. It was neglected in the history to mention that for about one and a half years before the first operation there had been no seminal discharge during coitus.

Examination of the heart, lungs and abdomen negative. Genitalia: The right testicle proper is of normal size and consistency, and there is absolutely no sign of recurrence of the disease. The left testicle is very much atrophied, not being larger than the end of the middle finger. It is hard, but not at all tender, and there is no evidence of any recurrence of the tubercular trouble. Rectal examination shows the prostate and seminal vesicles to be free from disease.

Urinalysis July 11, 1900. Clear, yellow, acid reaction, no albumin, no sugar. Microscope showed no pus, blood or casts.

CASE 5.—(See Case 1). Mr. E. J. B., aged 24 years. Occupation, factoryman. Unmarried. Admitted to Alexian Brothers' Hospital Aug. 17, 1896.

Present Illness.—Left epididymis was removed for tubercular disease Sept. 10, 1894. Small sinus persisted in wound after operation and closed only a short time ago. Health has been good until about one month ago, when the right testicle suddenly became enlarged, tender and painful. He has lost some flesh, but has had no cough, fever or sweats. No urinary symptoms have been present, either during this or the previous attack. Previous and family histories given under Case 1.

Examination.—Man of medium stature. Nourishment fair. Heart, lungs and abdomen, negative.

Genitalia.—Cicatrix of former operation present on left side of scrotum. No recurrence of disease here, and testicle is of normal size and consistency. Right side of scrotum swollen. Right epididymis enlarged, hard, nodular, and very tender. Testicle proper not involved, so far as examination shows.

Operation.—Aug. 18, 1896. Operator, Dr. J. B. Murphy. Assistant, Dr. E. H. Lee. Epididymectomy performed—exactly similar to that done on left side. Drain removed after 36 hours. Wound healed by primary union and patient was discharged from hospital cured Sept. 1, 1896.

Examination of patient, April 7, 1900. Has gained thirty pounds since operation. Feels perfectly well. Has no cough, fever or sweats. No urinary symptoms. Sexual desire and sensation are the same as before onset of trouble, and patient says that seminal discharge is of the same quantity. Patient always supports testicles in a suspensory. If suspensory is not used, left testicle swells and becomes tender. No pain or tenderness when supported.

Examination: Both testicles present in scrotum and of normal consistency. No nodules present in either. Above left testis is a small firm band about three-quarters of an inch in length, not nodular, but slightly tender to compression. No hydrocele. Patient says the testicles are somewhat smaller

than before operation, and they apparently are slightly atrophied. Rectal examination shows in each seminal vesicle a small, very hard and painless nodule. The tubercular process has here been arrested and encapsulated. Discharge during intercourse, clear, looks like mucus; no spermatozoa.

(To be continued.)

AMERICAN MEDICAL JOURNALISM.*

CHARLES WOOD FASSETT, M.D.

ST. JOSEPH, MO.

The history of medical journalism in America is a story of progressiveness and success. After passing through many phases during the last century there has been evolved, during the past decade, a type of medical journal which is distinctly American, and I am inclined to think that it more nearly approaches the ideal than any other in the professional world. Our earliest lessons in journalism were taken from our French colleagues. The first medical journal published in the United States was called, *A Journal of the Practice of Medicine and Surgery and Pharmacy in the Military Hospital of France*, consisting principally of French translations.¹ The next to appear was the *Medical Repository*, begun in 1779, and discontinued in 1824.

The earliest types of American medical journalism were dignified and scholarly, and but few of them exhibited any "news" qualities until the middle of the fourth decade. The Addisonian type of essay seemed to prevail in these magazines, items of news and personalities being excluded. The American medical journal of to-day, however, has developed into a strong and modern type in which is reflected, not only the medical and surgical progress of the age, but the personal movements and work of the active members of the profession, and each issue contains a brief review, as it were, of the medical world for the week just passed. There are to-day in the United States 278 periodicals devoted to the interests of medicine and surgery, and allied sciences. These journals are classed as follows: medicine and surgery 145, nervous system 6, gynecology and obstetrics 5, pediatrics 3, genito-urinary and rectal diseases 2, eye, ear, nose and throat 10, homeopathic 23, physio-medical 3, eclectic 8, dental 15, drugs and therapeutics 22, X-ray 1, microscopy 2, and miscellaneous 31. The issue is divided as follows: 8 weeklies, 4 bi-weeklies, 258 monthlies, 8 quarterlies.

Subscription rates vary from 25 cents to \$5 a year.

The number of physicians in the United States is estimated at 125,000.

Two organizations of medical journalists in the United States have been prominent factors in extending the influence of the American medical press. The Association of Medical Editors, organized fifteen years ago, holds meetings annually, coincident with the meeting of the AMERICAN MEDICAL ASSOCIATION. A short business meeting is usually held in the afternoon, at which current topics are discussed, and at night the editors gather round the festal board, drink to one another's health, "talk shop"—a mingling of congenial spirits.

The American Medical Publishers' Association was organized in 1893, and holds meetings annually the day preceding that of the AMERICAN MEDICAL ASSOCIATION. At the session of this society papers are presented bearing on different phases of medical journal-

ism. Here the subscription and advertising questions are discussed, the methods of advertising agents are looked into, and reports are made concerning the various questions which arise to perplex the medical journalist during the year.

In the organization of the International Congress of the Medical Press is an opportunity for much good and unlimited power. It is high time that the duty line in medical journalism be drawn and universally recognized, when as a unit the medical press shall shut out the petty weaknesses that now impair its dignity and destroy its usefulness. The first of these is sensationalism—that bane of the newspaper press to-day—disguised, of course, in the physician's garb, but none the less insidious in character and all the more harmful in its influence.

The question of the protection of an author's original article is one which has not disturbed the American medical editor, as it is a common custom in this country, among the best classes of medical journals, to copy-right each issue, and even if this were not done, no medical editor would think of copying or abstracting an article or paper without giving due credit to the journal in which it first appeared. Professional etiquette requires this.

Our exchange system, which has been in use from time immemorial, has never been repudiated, save by one medical weekly in this country. A \$5-journal exchanges with a \$1-magazine without exacting any difference in the subscription price.

Treatment of Insanity in Lead-Workers.

In the treatment of a considerable number of cases of various forms of insanity observed in workers in lead, Robert Jones—*British Medical Journal*, Sept. 22, 1900, p. 794—employed mainly expectant measures. Milk with beef-tea and eggs, was prescribed as additional proteids to a fairly representative diet, such as is usually fixed to scale in public asylums. Proteids in solution are said to retard the soluble effects of the hydrochloric acid of the gastric juice on lead-compounds. Magnesium sulphate in the form of the compound draught of senna was given to relieve constipation. Regular and not exhausting exercise in the open air was customary. In some cases massage was employed, as well as the hot and the electric bath, the latter by passing the constant current through water at a temperature of 100 F., in an ordinary earthenware, large bath. The two terminals in the bath were broad copper plates, one at the head and the other at the foot of the bath, with a smooth piece of wood between them and the patients' body. Large doses—about 500 c.c.—of artificial serum—Hayem's formula: namely, sodium sulphate 5 gm., sodium chlorid 1 gm., mercuric chlorid .05 gm., and distilled water 200 c.c., under the skin of the abdomen—have been employed. The muscular pain, headache and vomiting were relieved, but no action on the paralysis was noted. Normal saline solution, sterilized, and warmed to the temperature of the body and in doses of from 600 to 800 c.c., subcutaneously, has also been recommended, in conjunction with bleeding to the extent of one-half of the amount of the injection. This treatment has been reported to be favorable in cases of convulsions, and the albuminuria disappears under it. It has been found that the administration of potassium iodid does not influence the rate of elimination of lead from the system, but that this is increased by warm baths and general massage. It has been contended that the administration of potassium iodid in large doses in severe cases, would be quickly followed by the development of coma and death. Electric baths have been recommended, traces of lead being found on the copper electrodes, but there is doubt whether this is derived from the tissues or from contamination of the skin with lead-compounds. The voltaic current should be employed to maintain the irritability and the nutrition of the muscles, while the nerves are recovering after peripheral neuritis. Amyl nitrite has been recommended for the relief of the cerebral symptoms due to increased arterial tension, and also an alcoholic solution of nitroglycerin, with an acidulated saline aperient. Subcutaneous injections of atropin or of morphin will effectively relax the spasm of colic, after which aperients may be administered.

* Abstract of Paper read at the International Congress of the Medical Press, Paris, France, July 27, 1900.

[We believe this is a mistake, and that the *Medical Repository* should take precedence as to time.—Ed.]

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SOME OF THE INDICATIONS FOR VASECTOMY.

The clinician, both medical and surgical, should ever bear in mind that the human body must be considered as a continuity of structure, removal of any part of which will not be without influence on the remainder. This fact is illustrated, on the one hand, by the assumption of vicarious function, but more especially by the development of certain constitutional phenomena such as have been recognized to follow extirpation or obliterative disease of the ovaries, the thyroid gland, the testicles, etc. These latter effects have been thought to be due to the withdrawal of a supposititious internal secretion, and the theory, while lacking in absolute demonstration, affords a convenient explanation for the results observed. The validity of this view is sustained in part by the important fact of its successful therapeutic application. The control of cretinism and myxedema by means of preparations of the thyroid gland is one of the best established truths in modern medicine.

It had long been known that removal of the testicles is followed in animals by certain changes in nutrition, and in human beings by alterations in growth and character, but it was not until some seven years ago that, from analogy with the atrophy of the fibroid uterus which follows removal of the ovaries, it was suggested that removal of the testicles might be followed by atrophy of the hyperplastic prostate gland, and the correctness of this conclusion was demonstrated first by experiments on animals and subsequently by observations on human beings. It has been shown that a similar condition can be brought about by division or obliteration of the vas deferens, and Harrison,¹ who has performed this operation more than one hundred times, presents some illustrations of its application in the treatment of prostatic hypertrophy. The cases are divided into three groups: 1, those in which the effects are known to have been good, sufficient and enduring; 2, those in which they have been good, but restricted to certain conditions; 3, those in which they are alleged to have been inadequate or negative.

In the first group are included cases of prostatic obstruction pure and simple, without any other structural complication. In these the bladder is in no sense secondarily implicated, and is capable, on removal of the obstacle in front of it, of holding and expelling its contents. With shrinkage of the enlarged prostate the func-

tion of micturition is speedily restored. The second group includes cases in which structural changes in the bladder have supervened on prostatic obstruction, or in which catheter-life or the necessity for it has been developed in greater or lesser degree. In these cases the prostate may be rendered, by vasectomy or similar operation, incapable of further obstruction, although the bladder may not regain its expulsive power. Thus, the reduction in the size of the prostate may render catheterization more easy, or be attended with disappearance of existing epididymitis, or facilitate the performance of litholapaxy or the control of hemorrhage resulting from difficult catheterization in connection with prostatic enlargement. Inquiry among cases in which the results are alleged to have been or seem to have been inadequate or negative, disclosed that at least symptomatic improvement had really taken place.

From his experience with litholapaxy, as illustrated in a recent series of one hundred cases, Harrison is led to believe that vasectomy has proved an important aid in preventing the recurrence of stone after operation when complicated by enlarged prostate, probably by providing a free and more independent exit from the bladder, as well as by diminishing the large amount of tenacious mucus that the enlarged prostate both provokes and helps to supply, and which lessens materially as the gland shrinks. It is, finally, pointed out that in contrast with the serious results that follow total removal of both testicles, double vasectomy properly performed is unattended with any untoward results whatever.

COOK COUNTY HOSPITAL AND POLITICS.

The Cook County Hospital, of Chicago, occupies a unique position among institutions of a similar character in that its various medical, surgical and other services are more or less equally apportioned among regular physicians, so-called homeopaths and eclectics, the basis of apportionment being the supposed relative number of each of these species of medical men in Cook County, which includes Chicago. The hospital has three distinct and separate attending staffs, regular, homeopathic and eclectic. The institution has been managed along strict political lines. The various "jobs" in the hospital constitute a goodly share of available *quid pro quo* of the political faction in power. The anomalous division of the services is the outgrowth of this pernicious system. The management is in the hands of the Board of Commissioners of Cook County; this board is an unwieldy body of fifteen, all of whom are elected by popular vote every two years. The standard of the board varies from time to time. Usually it is none too high, as might be expected, and the chief object of the average commissioner, nearly always wholly untrained for his work, is to feather his own nest rather than to place the charitable institutions of the county on a sound basis of progressive, healthy development. The recurring biennial change is accompanied always by a protracted period of

1. *Lancet*, July 14, 1900, p. 96.

unrest and strife that is detrimental to the best interests of such institutions. The frequent changes in the personnel of the administrative and medical staffs are inconsistent with healthy growth.

During the last six years the Cook County Hospital has been blessed in a singular manner by having at its head as warden, whose administrative powers are almost absolute, a man who from the medical point of view is entitled to great credit. Some effort at systematic organization of the heterogeneous staffs of the hospital has been made. The resources of the hospital have been improved greatly, and its vast material has been freely utilized for purposes of medical education. Public clinics have been given regularly by representative men, and bedside instruction again introduced on a large scale. The medical profession and the medical students owe the warden a debt of gratitude for his enlightened policy. Whether he is to continue as warden under the incoming board of commissioners is as yet wholly uncertain. That any better man could be appointed for this important position is doubtful.

Medical men should not be slow in giving a man, who, though non-medical, has shown so clearly that he has the best interests of the hospital at heart, their unqualified endorsement regardless of personal political opinion. The training of six arduous years of intelligent effort should count for something. The Cook County Hospital is an important factor in making Chicago the center for medical education it has become. The great economic advantages to the citizens from the annual influx of thousands of medical students, undergraduate and postgraduate, are furthered best by continuing the present policy of management of this hospital. That the patients of the hospital derive added benefit from the present system is self-evident; never before has there been so little complaint and such dearth of scandal.

A permanent, self-perpetuating, scientific attending staff, free from political domination, is essential for the proper development of medicine in this as in other public hospitals. At the present time there is no concerted action toward raising the scientific standard of the work of this hospital. The staff lacks the incentive. The conditions are too uncertain. There is no *esprit de corps* in the staff on account of its "mixed" composition, and it lacks all elements of proper organization. Much could be done by placing the staff under civil-service rule, imperfect and unsatisfactory as it is at the present time, but constituting at all events a beginning in the right direction, and an intelligent president of the Board of Commissioners would probably not hesitate in doing so, provided the medical profession as a body expressed itself in favor of this change. There is good opportunity now for the local profession to join in a determined effort to free the medical services of this large hospital from the ban of practical politics. Success would raise the standard of the profession of medicine in Chicago.

Can the members of the medical profession of Chicago unite for such a purpose? Will they?

THE REGISTRATION OF TUBERCULOSIS.

The Philadelphia County Medical Society, as noticed elsewhere in this issue, after listening recently to an able presentation of the subject by Dr. Hermann M. Biggs, of New York City, took a distinct step forward in recommending to the Bureau of Health of Philadelphia the placing of tuberculosis on the list of notifiable diseases and the adoption of measures looking to the suppression of the disease. Dr. Biggs demonstrated the good that has already been accomplished by registration as practiced in New York City during the past four years, and stated that the measure, while at first received with some opposition, has been gradually growing in favor and is being more generally observed. Indeed, the objections raised against it have been shown to be largely hypothetical and to have no existence in actual practice. The information given is received in confidence, and the Health Department exercises an intelligent discretion, in harmony with the wishes of the attending physician, as to what steps in education, disinfection and the like, if any, it shall take. There is no interference with personal liberty, no social ostracism, no espionage of the unfortunate victims of a disease in itself sufficiently harassing, but only a healthful watchfulness calculated to conserve the welfare of the many as opposed to the possible unbridled license of the few.

The legitimacy of registration for tuberculosis is based on the soundest and most logical hygienic grounds. It is by no one seriously denied that tuberculosis is dependent on the invasion of a susceptible individual by the tubercle bacillus—that there can be no tuberculosis without the bacillus, and that the disease is almost exclusively transmissible through matter containing the micro-organism, and, as the lungs are so generally involved, most commonly through the expectoration. The proper care of the expectorated matter, therefore, would alone go a great way in reducing the morbidity to, and the mortality from, tuberculosis.

To bring about such a result, however, will require the education of the community in the methods of disposal of sputum and of general thorough disinfection. This can not be done, of course, unless the location of the victims of the disease is known, and the large number of these, unfortunately, belong to the lower classes, unable or unwilling, by reason of poverty, ignorance, vice or indifference, to learn and to carry out the necessary prophylactic measures. At this point the Health Department steps in and meets the needs.

It has been conclusively shown that in every community foci of tuberculosis exist, which it will ever be impossible to eradicate unless some central body is informed of their existence and is clothed with authority to enforce the necessary measures to bring about the desired result. Of what these measures shall consist must vary with the individual case, and it is essential that any policy that shall be adopted should be executed with intelligent and delicate discretion. When the patient can and will, under direction of his physician, observe

the necessary hygienic rules, he will require no aid or suggestion from the Health Department. Should he for any reason fail in this direction, however, it will then become the duty of the Department to inform him by pamphlet or otherwise of the danger to which he exposes himself, as well as others, by neglect of the hygienic regulations in which he is to be instructed and which he must carry out or have carried out for him; and, especially in case of death or removal, must the premises previously occupied by the tuberculous patient be rigorously disinfected before another occupant takes possession. What applies to the private dwelling applies in even more emphatic degree to the hotel and the apartment-house, and the ordinances preventing indiscriminate expectoration on the street, in cars, carriages, steamboats, and other conveyances, and in all public or semi-public places, must be rigorously enforced.

The experimental stage of registration for tuberculosis is past. The practice has proved successful wherever tried, and its general application is bound to work an immense reduction in the prevalence and the fatality of the disease. It is to be hoped that the recommendation of the Philadelphia County Medical Society will be adopted by the Bureau of Health, and that the influence of its example will inspire other communities to institute like measures of prophylaxis.

BOGUS FOREIGN DIPLOMAS.

In a communication in this issue, Dr. A. J. D. Hughes, consul at Coburg, Germany, calls attention to certain changes in the granting of the degree of Doctor of Medicine in that country. These changes are of interest to but few in this country, but the last paragraph of the consul's letter, containing his views regarding the acceptance of foreign degrees by our state registration boards, is worthy of notice. Too often the apparently genuine foreign diploma or certificate is a fraudulent one, but is accepted even if there is a suspicion of its fraudulency because of the supposed difficulty or imaginary expense of having it verified. And yet an American consul is stationed at all the important cities to attend to just such duties as these cases require.

At its recent annual meeting one of our state societies was asked to appropriate a sum of money to investigate the genuineness of a certificate which was alleged to have been issued by a European university, and on which a pretended physician had obtained a license to practice. The holder had presented it to the licensing board, which, while suspicious that the applicant was a fraud and the certificate a bogus one, accepted both as genuine because there was no proof of the opposite and also, we presume, because they imagined that it would be too expensive to get the true facts in the case. After-developments making more evident the probability of fraud having been committed, the state society was asked to take up the matter, but the society not feeling justified in appropriating so much money as was supposed to be necessary, the matter was dropped. It did not seem to

occur to any of the parties that the American consul in the city in which the university that was alleged to have granted the certificate was located could have gotten all the facts with comparatively no expense.

The acceptance in our country of foreign diplomas is done too carelessly by many of the states. A well-educated foreign physician is welcome, but there is no need to import the other kind. The former ought not to object if he is put to some inconvenience and delay in getting his license to practice, neither will he object if he knows that it is for the purpose of bettering the profession of which he is a member.

Consul Hughes makes a suggestion that it would be well for our state boards of medical registration to follow, viz., to require a consular certification of foreign medical diplomas presented to them as evidence of qualification. They might even go further and demand an official government endorsement from the country from which they came, but a consular certificate that is not a mere formality should certainly be demanded. There are, no doubt, a large number of fraudulent foreign qualifications utilized in this country. Some of them have been from time to time brought to light, but we fear that they are too often accepted at their face value, and thus let in pretentious impostors to prey on the public. The proper application of the measures suggested, if our foreign consuls did their full duty and always made sure of the character of the documents they endorsed, would be a valuable protection to the afflicted American public and a useful measure of defense from foreign quacks.

THE DIAGNOSTIC SIGNIFICANCE OF ACID-PROOF (TUBERCULOID) BACILLI IN BUTTER AND ELSEWHERE.

Acid-proof and alcohol-proof bacilli, resembling *B. tuberculosis*, have been found in butter by Rabinowitch, Herbert, Korn and others; in grass, barn-dust and dung by Moeller; in gangrene of the lung by Rabinowitch; in the crypts of the tonsils by Marzinowsky; and in the sputum by a number of observers; also in intestinal discharges of nurslings. These organisms resemble *B. tuberculosis* tinctorially, and to some extent morphologically, but not in cultural characteristics. The lesions they produce in animals may be distinguishable only with difficulty from true tuberculosis by naked-eye examination. Georg Mayer has emphasized that the tuberculiform nodules that result from the injections of butter are due to the acid-proof bacilli and the butter acting conjointly. But the acid-proof bacillus recently isolated from butter by Otto Korn produces a tuberculiform disease in guinea-pigs and rabbits. The acid-proof bacilli consequently acquire diagnostic significance. It is no longer wholly and always sufficient for a diagnosis of tuberculosis and tubercle bacilli to obtain tubercles in the animals inoculated. The nodules must be studied histologically and cultures should be made. This holds true, among other things, with regard to the study of milk. From what we know about butter and about barn-dust, milk would seem to

offer a favorable place for the growth of acid-proof bacilli other than *B. tuberculosis*. Acid-proof tuberculoïd bacilli are nicely distributed in nature. The necessity of care in interpreting the results of experiments now much in vogue with milk is shown by Klein's work. Klein examined 100 samples of milk for tubercle bacilli by means of injections into guinea-pigs, and obtained eight instances of "pseudo-tuberculosis," and seven of genuine tuberculosis. Klein also shows that the pathogenic powers of *B. tuberculosis* are increased in milk and that young bacilli may be easily decolorized.

BACTERIOLOGIC EXAMINATION OF AIR AND WATER IN THE CENTER OF THE ATLANTIC OCEAN.

Minervini¹ examined the number of bacteria in the air and in the water of the middle of the Atlantic Ocean. As expected, the air was found much purer than that of the continent, the number of bacteria being relatively smaller. Not rarely the air was free from bacteria. The bacterial flora was found to contain fewer varieties than are usually present in the air inland; in none of the experiments were any of the usual pathologic forms discovered; and, commonly, fungi are more numerous than bacteria. The number of bacteria in the air of the ocean varies with the atmospheric conditions and it becomes smaller after rains. The rain-water is also relatively poorer in bacteria, the fungi predominating. Out in the ocean, the sea-water contains less bacteria than near the shore, but the condition is not materially different from that usually observed a few miles from land. In sea-water bacteria are more numerous than fungi; relatively few species are found, the number of vibrios being greater than that of other forms.

THE SURGICAL TREATMENT OF PLAGUE.

In our last issue² there was published a brief note on the surgical treatment of the plague at Rio de Janeiro, by Professor Terni, as reported by Acting Assistant-Surgeon Havelburg, of the Marine-Hospital service. The theory advanced in favor of this method is that at a certain stage of the disease it is arrested in the lymphatic glands, which form a rational protective rampart against its infection of the blood. It is only in these glands that it settles, develops and produces its toxin, and if the reactive inflammation produces suppuration so as to check the development of germs, the disease is localized, otherwise the toxins produced, together with the corpuscular substance of the bacilli themselves, will enter the circulation and the infection become general. With this view of the progress of the disease the suggestion of a surgical therapeutics was a natural one and Dr. Havelburg reports in the latest Public Health Report that experiments in this direction at the Rio de Janeiro isolation hospital have impressed the local physicians favorably. They believe that the early extirpation of the infected glands have been followed in their observations by improvement, the temperature curve descends, which they interpret as the result of the removal of the focus of toxic infection. Microscopic examination of the removed glands also favors

this view by showing that the disease proceeds in them centrifugally. The operation is a simple one, as the glands are superficial and easily enucleated. Of course, in the pneumonic or interstitial types of the disorder this method is impracticable, since the deeper glands are inaccessible, but in the ordinary early bubonic form with the implication of only the inguinal, axillary or cervical lymphatics it seems to be hopeful. At least that is the impression of the Brazilian physicians, who think they have had better results after this surgical procedure than was formerly the rule.

GONORRHEAL ARTHRITIS.

Although gonorrhea is a local infectious disease, an increasing experience has taught that it may be attended with serious and even disastrous extension and metastasis. In women, metritis, salpingitis and peritonitis are not uncommon complications, and in both men and women cystitis, pyelitis and nephritis may readily result. There may be also invasion of one or more joints; and gonorrheal conjunctivitis, resulting from conveyance of infectious pus, is with reason to be greatly feared. More recently endocarditis, myocarditis, myelitis, pleuritis and iritis have been reported as complications of gonorrhea. In many instances gonococci have been discovered in the secondary lesions. The bodies of dead gonococci have been shown to contain an active poison, to which some of the bad effects of gonorrheal infection are attributable. Rubinstein,¹ in a recent communication, discusses the articular complications of gonorrhea, of which four varieties have been described, namely, hydrops, serofibrinous arthritis, purulent arthritis, and phlegmonous arthritis. The last is by far the most dangerous, and its treatment will require incision and irrigation with 1 to 1000 solution of mercuric chlorid, and tamponade. Gonorrheal hydrops is a comparatively benign condition. It will require rest, counter-irritation with iodine and cantharides, applications of guaiacol-vasogen, and of creosote-vasogen. If the effusion is considerable, puncture should be practiced. An injection of a 15 per cent. solution of carbolic acid may be made. The same treatment may be directed against serofibrinous arthritis, that is, rest, immobilization, elevation, splints, plaster-of-paris, an ice-bag, extension, and repeated applications of tincture of iodine. If the pus ruptures into adjacent structures incision should be practiced, with drainage and possibly resection. Subsequently active and passive movement may be undertaken and when pain has disappeared massage and warm baths. Dry heat also may be employed, even in the acute stage. Artificial stasis may be induced, and an absorbent dressing applied, to which alcohol can be constantly added, and which is covered by some impermeable material.

INTESTINAL SAND OR GRAVEL.

The intestinal tract, like the urinary and the biliary, may be the seat of either calculi or sand or gravel, whose expulsion may be attended with great pain, and this may lead to examination of the stools and the detection of the foreign matter. Coproliths are designated true or false, accordingly as they are constituted of inspissated fecal matter or of earthy precipitate. The occurrence of in-

1. *Zeitschr. f. Hyg. u. Infektionskr.*, 1900, xxxiv, 166-194.

2. P. 1357.

1. *Berliner Klin. Wochenschr.*, 1900, No. 37, p. 822.

testinal sand would seem to be exceedingly rare, inasmuch as there are but few references to the subject in the literature, and Eichhorst,¹ in the course of a large clinical and pathological experience, has encountered but two cases. Both of these occurred in neurotic women exposed to emotional strain, who were habitually constipated and were from time to time seized with attacks of severe abdominal pain in the course of the descending colon, attended with the discharge from the intestines of shreds or casts of membrane, which on disintegration precipitated a sandy substance of a finely granular appearance, and from a grayish-yellow to a light-brown color. On microscopic examination the granules were found to be variable in size and spheroidal in shape, with sharp processes. When shaken in a test-tube, they yielded the same sensation and sound as sand. They proved to be as hard as stone, and they could be crushed only with considerable force. They were insoluble in water, alcohol or ether, but they became swollen and gave off gas-bubbles when exposed to the action of mineral acids. They were thus shown to be composed of a mineral and of an organic portion, the former consisting of calcium carbonate, and the latter of a mucoid or albuminoid substance, and of fat. All of the granules contained bacteria, principally resembling the bacterium coli, and some also micrococci. Some contained hemoglobin. Intestinal sand is to be distinguished from biliary sand, from urinary, and from the indigestible remains of food or foreign bodies in the intestinal contents. The association of the disorder with membranous enteritis suggests its dependence on innervation disturbances and changes in the intestinal secretion, together with inflammatory alterations in which bacteria may take part. The affection is rather obstinate and its treatment includes regulation of the diet, together with massage of the abdomen, irrigation of the bowel with physiologic saline solution, and the administration of an aperient water.

A THERAPEUTIC PARADOX.

Medicine, like other departments of human activity, is full of curious contradictions which cause the thoughtful physician always to be chary of dogmatizing. Thus, the eating of indigestible food frequently at first produces constipation, but a little later diarrhea. It is customary to say that the preliminary constipation is due to irritation of the intestines, while the diarrhea is its secondary effect; yet we know that some irritating matters, when administered, promptly cause a diarrhea without any previous constipation. From observation of these apparently antipodal phenomena, and especially from our methods of their treatment, has arisen an analogous contradiction in therapeutics. Thus, in the case of an individual who habitually overeats or who eats improper food, there is usually found during the greater part of the time constipation. The even course of the constipation, however, is interrupted at intervals by sharp attacks of diarrhea, for which the physician is frequently asked to prescribe. As in most of these cases, bacterial infection of the retained intestinal contents is known to be a factor in the production of the succeeding diarrhea, it is now customary to administer an antiseptic,

of which there are many good ones. The action of one of them is very interesting in this respect, although the same thing is true of others of the group. Bismuth salicylate is most efficient in combating gastric and intestinal infection, and in soothing the irritated mucous membrane of the alimentary canal. This drug thus relieves the diarrhea quite promptly, but a number of physicians and patients have observed that, if its use is persisted in it tends also to ameliorate the constipation. Of course, it does this through its antiseptic action in preventing the formation of bacterial products, which primarily paralyze the bowel and cause the constipation. While this apparently paradoxical action of bismuth salicylate and other similar internal antiseptics at first glance appears to be merely one of the curiosities of medicine, it really is a practical fact in therapeutics well worth the careful attention of every physician who is not already aware of it. Many persons who suffer from constipation become discouraged with the difficulty of finding permanent relief and, by force of circumstances, drift into the "physic habit." They rarely consult their physicians, except for a severe intercurrent diarrhea. Then arises the opportunity for the physician to administer a remedy that is at once soothing and antiseptic, the patient being encouraged to continue its use after the diarrhea has ceased. The result, in many instances, will be at least a partial relief of the chronic constipation.

Medical News.

CALIFORNIA.

THE SHASTA COUNTY HOSPITAL at Redding was formally accepted by the board of supervisors, November 13. It will be thoroughly equipped and will be ready to receive patients about December.

THE OAKLAND COLLEGE OF PHYSICIANS AND SURGEONS, the incorporation of which was noted in THE JOURNAL, November 3, has completed its organization and elected the following officers and faculty: Dr. Frank L. Adams, professor of clinical surgery and president; Dr. Carl R. Krone, professor of pathology and secretary; Dr. Joseph S. Eastman, Berkeley, professor of the principles and practice of medicine and president of the faculty; Dr. Dennis D. Crowley, professor of principles and practice of surgery and clinical surgery; Dr. Hayward G. Thomas, professor of ophthalmology and otology; Dr. Samuel H. Buteau, professor of gynecology; Dr. W. F. B. Wakefield, professor of clinical gynecology; Dr. Robert T. Stratton, professor of nervous diseases and cerebral surgery and registrar; Dr. Edward N. Ewer, professor of obstetrics; Dr. William S. Porter, professor of surgical anatomy; Dr. Joseph L. Milton, professor of anatomy, and Dr. Oliver D. Hamlin, professor of visceral anatomy.

DISTRICT OF COLUMBIA.

DR. JOSEPH BAUDOT, charged with practicing medicine without registration in Washington, pleaded not guilty and was released on bail.

THE BOARD OF EDUCATION of Washington has recommended that eleven medical inspectors of schools be appointed, one for each school division, at a salary of \$500 per annum, and has instructed a committee to urge this recommendation on Congress.

THE ANNUAL REPORT of the Government Hospital for the Insane, Washington, shows 2070 patients in the hospital, an increase of 135. Of the inmates, 958 were from the army, navy and marine-hospital service, and during the past year 256 were received from these branches of the service.

GEORGIA.

THE GEORGIA LEGISLATURE has been memorialized by the Woman's Suffrage Association to appoint women on the staff of physicians at the State Sanatorium at Milledgeville.

1. Deutsches Archiv f. klin. Medizin, B. lxxviii, 1 u. 2, II., p. 1.

DR. GEORGE H. NOBLE, Atlanta, has been sued by a patient on whom he operated, for sewing up "a piece of surgical gauze over a foot long" in her body. She claimed damage to the extent of \$10,000. This "piece of rag" she avers, caused her much pain and suffering until it was removed. The jury rendered a verdict for the defendant.

REPRESENTATIVE SYMONS, of Glenn County, introduced a bill into the house of representatives which provides "that the State Medical Society shall choose from its members by ballot four members and the governor of the state shall appoint five other persons, one of whom shall be a sanitary engineer, and they shall constitute the Board of Health of the State of Georgia."

ILLINOIS.

THE SANITARY OFFICER of Canton reported 8 cases of scarlet fever on November 20.

THE BIENNIAL REPORT of the Illinois Western Hospital for the Insane at Watertown, shows that the capacity of the institution has increased from 360 to 600, that new buildings have been erected, that there have been no contagious diseases and that \$200,000 is needed for the ensuing year.

Chicago.

THE HEALTH DEPARTMENT warns against influenza. The bacillus is being found in increasing numbers, and 4 deaths were reported from the disease last week.

DR. GEORGE S. PHILLIPS, who was held by a coroner's jury in connection with the death of a woman patient, has been freed, as the grand jury found no evidence on which to indict.

THE CHICAGO MEDICAL SOCIETY and Physicians' Club have adopted resolutions favoring the re-appointment of Dr. James A. Egan, Springfield, as secretary of the State Board of Health.

TYPHOID FEVER continues below the average, and the increase in the death-rate is only the usual autumnal increase. Nearly 19 per cent. of the fatal cases were contracted outside of Chicago.

DR. N. SENN will give a course of lectures on "Military Surgery," at the University of Chicago, beginning next fall. He has been announced as professorial lecturer on Military Surgery at the University.

DR. W. D. CHRISTOPHER, who has done so much for the physical well-being of the school-children of Chicago, has resigned from the Board of Education on the ground of urgent professional duties.

THE DEATHS for the week ended November 24 are 33 in excess of those of the previous week, and the increase is due to exposure and excitement, with a disproportionate death total among the aged—92 out of 448 deaths being of individuals more than 60 years of age.

CHICAGO'S MORTALITY for the week ended November 24 was 448, or at the rate of 13.75 per 1000 per annum. Consumption caused 53 deaths; pneumonia, 54; bronchitis, 18; heart disease, 42; diphtheria, 23; typhoid fever, 10; scarlet fever, 2; suicide, 12 and violence, 20.

WESLEY HOSPITAL has received a donation of \$25,000 from Thomas Kent, toward its building fund. This brings the total of the fund to \$185,000. The other chief contributors are William Deering, \$50,000; H. P. Taylor, \$40,000; Physicians' Fund, \$30,000; G. F. Swift, \$10,000, and N. W. Harris, M. H. Wilson and Dr. R. D. Sheppard, each \$5,000.

DR. CHRISTIAN FENGER has donated to the library of Rush Medical College a collection of books which represents the German surgical literature of the last fifty years. This collection includes the library of Professor Luecke, of Strassburg, and several thousand inaugural dissertations collected by Thiersch. Among the books are many which are rare and can not be duplicated, such as "Lebert's Atlas."

INDIANA.

THERE WERE 2933 deaths in Indiana during October, corresponding to a death-rate of 13.7 per 1000 per annum.

MUNCIE now has about 500 cases of measles, according to the report of Dr. Hugh A. Coving, county health officer.

AN ATTEMPT was made November 20, to assassinate Dr. Peter Drayer, Hartford City, late president of the Indiana State Medical Society. As he was returning home, late in the evening, two men, hidden in an alley, shot at him and fled.

KENTUCKY.

COMPULSORY VACCINATION has been ordered by the Ashland Board of Health, which has now under discussion the establishment of quarantine against Russell and Collettsburg.

DR. ROBERT WINX, Winchester, formerly acting-assistant surgeon, has passed his examination for the medical depart-

ment of the army, and has been ordered to report for duty at Fort Riley, Kas.

MARYLAND.

Baltimore.

AT THE annual banquet of the Hebrew Benevolent Society on November 21, \$10,180 was subscribed for charity.

DR. C. IRWIN HILL, son of Dr. Charles G. Hill, the attending physician to Mt. Hope Retreat, has returned from Berlin, where he has been attending a special course of lectures. Dr. Dr. H., Jr., is assistant-surgeon of the Fourth Maryland Regiment and is connected with the staff of the Maryland General Hospital.

THE MORTALITY for the week ending November 24 was 195, being a mortality for the whites of 15.83 and for the colored of 36 per 1000. There were 3 deaths from typhoid fever, 2 from scarlet fever, 7 from diphtheria, 24 from tuberculosis, 8 from cancer, 19 from pneumonia, 4 from bronchopneumonia, and 8 from Bright's disease; 104 births were reported.

AT THE meeting of the Johns Hopkins Medical Society held November 5, Dr. Louis Hamburger spoke on the diagnosis of certain tumors of the bone from the presence of a peculiar proteid in the urine. The test was that of Bence-Jones, recently noted in THE JOURNAL. By means of it alone he had been able to make the diagnosis of bone myeloma, and he also exhibited a negro woman, about 55 years old, with tender soft tumors on each clavicle, on the occiput and on the right thigh-bone in which the test was present. His observations will appear in the *Bulletin* shortly. Dr. Welch said he met with this test at his laboratory in New York, and Dr. Osler said he also had met with it, but neither recognized its significance.

AT THE meeting of the same society, November 19, Dr. Arthur Dare, of Philadelphia, exhibited a new hemoglobinometer. It consists of two plates or layers in close proximity, between which the drop of blood drawn from the finger is allowed to permeate, when by means of a suitable device the quality of the blood as to its coloring matter can be readily determined. The examination can be made in a few minutes and the instrument is said to be very accurate. It costs \$15.

MASSACHUSETTS.

DR. ARTHUR G. GRIFFIN has been elected a member of the staff of the Malden Hospital, vice Dr. J. Langdon Sullivan, deceased.

DR. JOHN F. COUCH, who is obliged to leave his home in Somerville and go South, on account of poor health, was given a banquet on November 17, by his professional and lay friends in Somerville.

LYNN PHYSICIANS are alleged to be up in arms against the new rule of the local board of health, which requires two negative examinations by the city bacteriologist before fumigation will be made and quarantine removed.

THE BOSTON CITY HOSPITAL had 8457 patients, 7071 discharges and 929 deaths in the last fiscal year. In the infectious department, 3045 were treated, and in the out-patient department, 26, 288. The expenditures during the year were \$407,505. The maximum number of patients at any one time was 533, and the minimum, 363.

MICHIGAN.

THE STATE PRISON at Jackson has 22 cases of typhoid fever under treatment.

KALAMAZOO will have a new hospital in a short time. An association has been formed with a capital stock of \$60,000 by Drs. Harris B. Osborne, Rush McNair, Edwin H. VanDeusen, Oliver A. La Crone, and others.

DR. J. W. BARNES, Detroit, a diplomate of the Independent Medical College, Chicago, was fined \$80, with the alternative of 90 days' imprisonment, November 20, for practicing medicine without a license. This case was the first one tried.

LUDINGTON PHYSICIANS have very properly combined and refused to accept the position of health-officer at the salary of \$75 per annum offered by the common council. Their action has compelled the council to raise the salary to \$300 per annum.

DR. B. D. HARRISON, secretary of the State Board of Examination and Registration, was in Detroit last week conferring with Drs. Bell and Lodge, the local members, and with the prosecuting attorney. Since the law went into effect the board has had 6000 applications for registration; of these about 2000 have been rejected, of which at least 75 per cent. have left the state, the greater part supposedly for Texas.

MINNESOTA.

DR. NELLIE S. SHELFAN, Minneapolis, has been commissioned by the Presbyterian Board of Home Missions as its first woman medical missionary in Puerto Rico.

ST. PAUL had 111 deaths in October, an annual death-rate of 8.07 per 1000. Tuberculosis caused 12 deaths; typhoid fever and pneumonia each 7; violence, 14, and cancer 5.

A "MESSAGE ARTIST" of Minneapolis, who was charged with practicing medicine unlicensed, was found not guilty by a jury, November 20, because it could not be proved that he received pay for giving medicine which it was admitted he practiced at the "earnest solicitation of the patient."

MISSOURI.

THE CASE of the Government against Dr. I. N. Love, who was indicted for sending certain matter through the mails, the alleged impropriety being that he published in the *Medical Mirror* a poem by Dr. C. A. L. Reed, Cincinnati, entitled "The Dying Speech of Meamoun," was dismissed by the district attorney, November 20, at the instance of the Attorney-General of the United States.

THE ST. LOUIS MEDICAL SOCIETY has decided to hold its meetings at the Odeon, corner of Grand and Finney Avenues, abandoning quarters at the St. Louis Board of Education building, with which it has been associated almost since its beginning. The new quarters are at Thirty-sixth street, and consequently will be much more convenient for the majority of the members. It is believed that this will tend to increase the attendance largely and the new quarters are in every way suitable.

FOLLOWING comparatively closely on the consummation of the union of the Missouri Medical College and the St. Louis Medical College, comes the preliminary announcement of the consolidation of the Beaumont Hospital College and the Marion Sims College of Medicine. This will not become effective until May 1, 1901. The faculties of the two colleges will be merged, giving the new college a very strong faculty indeed. The clinical facilities afforded by each college will then be at the service of the students in the new college, affording a great abundance of clinical material. The governing faculty has not been entirely decided on, but it is believed that the members of both faculties will be needed and that the instructors will be continued in their respective fields of work. This move recommends itself strongly to the general profession of the city, and will serve to greatly strengthen St. Louis as a medical center.

NEBRASKA.

A STUDENT of Omaha Medical College was seriously injured in a row between medical and dental students, November 6, and injuries may prove fatal.

DR. J. P. LORD, professor of surgery in Creighton Medical College, Omaha, expects to leave immediately after the holidays, for Europe, where he will spend several months, going first to Naples.

MORE THAN 100 cases of smallpox are said to exist in and around Decatur, Onawa, Iowa, on the other side of the Missouri river, has quarantined against Decatur in consequence.

AN OSTEOPATH of Broken Bow, was fined \$50 for practicing medicine without a license, but has appealed his case.

NEW JERSEY.

DR. ANDREW F. McBRIDE was re-elected president of the Paterson Board of Health, November 13, and Dr. Bryan C. Magennis, health officer.

DR. E. L. B. GODFREY, secretary of the State Board of Examiners has asked THE JOURNAL to state the other side of the case of Dr. George B. Fletcher, Atlantic City. By a typographical error, Dr. Fletcher was named as a graduate of "Harvard" instead of Howard University. Dr. Godfrey states that Dr. Fletcher has appeared before the board for examination on four different occasions, and was rejected each time, viz., July 1892, October 1892, April 1893 and October 1900, because of failure to obtain the total average percentage necessary to secure a license. The statement that "the charges against him are inspired by spite and jealousy" is without foundation. During the greater part of the interval between his rejection in 1892 and 1900, Dr. Fletcher has practiced medicine at Atlantic City, N. J., as stated under oath in his application for examination, without a license from the board and in violation of the medical law of the state, in consequence of which, his case has been referred to the legally constituted authorities of Atlantic City for their consideration and action.

NEW YORK.

DR. THOMAS A. KILLIP, Rochester, has been appointed co-ordinator of Monroe County to succeed Dr. Wallace L. Sibley, deceased.

DR. ALBERT S. ZABRISKIE, Suffern, was given a reception November 8, at the residence of Mr. William W. Snow, 1111-

burn, by many of his friends, among whom he had done faithful practice for 45 years.

FOR MANY MONTHS past there has been a sharp contest in Utica for the control of the health board. Taking advantage of the temporary absence of the mayor, the acting-mayor appointed a new health board, and the new members were immediately sworn in. This action is supposed to be preliminary to securing a garbage-removal contract.

New York City.

A NEW HOSPITAL is to be erected by the New York Department of Charities on Lenox avenue, near 136th street.

THE NEW SITE for St. Francis' Hospital is a plot of 32 lots on Brock avenue, extending from 142d street to 143d street.

THE GERMAN HOSPITAL is in a precarious financial condition, owing to the demands made on it by the poor and the lack of support from the wealthy. Its capital has diminished nearly \$18,000 since January 1, and the trustees have issued an earnest appeal for assistance.

THE new electric automobile ambulances of the Roosevelt and Presbyterian Hospitals took advantage of a late trip from Bellevue Hospital to have a speed contest. Both vehicles covered the distance, about three miles, in thirteen minutes.

THE CLASS of 1890 of the College of Physicians, New York, celebrated its decennial anniversary, November 15, by a dinner at the New York Athletic Club. There were 49 members present. Dr. H. Beattie Brown acted as toastmaster, and the following officers were re-elected: Dr. James F. McKernon, chairman; Dr. A. Ernest Gallant, secretary, and Dr. William Whitehead Gilfillan, treasurer.

THE PHYSICIANS of Kings County Hospital were surprised to discover on November 22, a case of smallpox in the hospital. The health department promptly removed the patient. Eleven physicians at once began the task of vaccinating the 2500 inmates, and completed their task in forty-eight hours.

A DRESSMAKER has sued Dr. Morris Manges and Dr. Julius Rosenberg to recover \$60,000 damages, alleging that on May 13, 1897, they gave her chloroform and operated for the removal of a tumor against her wishes and protests. The defendants have entered a general denial, contending that the operation was necessary, and that the plaintiff consented to it.

ALTHOUGH the Gouverneur Hospital continues to be little more than a death-trap, the many appeals to the authorities to persuade them to open and make use of the new hospital building built in the previous administration seem to fall on deaf ears. They have now devised a new pretext for delay, and inform the long-suffering public that the law compels them to use prison-made furniture, and the latter is not yet forthcoming. In this connection, Dr. Albert T. Weston makes the very sensible and practical suggestion that the new building be opened and fitted up temporarily with the furniture now in use in the old building.

THE RIGHT of hospital physicians and attendants to vote has just been decided by three test cases from Bellevue Hospital. Dr. Albert Sellenings, two trained nurses and two hired helpers at this hospital were held by Magistrate Deuel on the charge of illegal registration, having given their residence as Bellevue Hospital. Justice Andrews, in the Supreme Court, subsequently sustained the writs of habeas corpus, and in his decision says: "I am at a loss to understand how either of these classes of persons is disqualified from voting by reason of the provision of the Constitution found in Article II. The term 'kept' as used in the provision of the Constitution evidently refers to paupers, patients and other persons who are maintained at the expense of the public. It can not be truthfully said that the physicians, hired helpers, or pupil nurses are supported by the public. The physicians render most valuable services to the patients in the hospital and are allowed to lodge and eat there, not as a matter of charity, but as a matter of convenience and almost of necessity, owing to the nature of the duties which they are at all times called on to perform." This decision sustains the right to vote of 143 persons in Bellevue Hospital, and of 413 in other city institutions.

Buffalo.

THE SISTERS OF CHARITY are about to erect an emergency hospital as a down-town branch of the Sisters' Hospital.

ACTIVE WORK has begun for the erection of the New York State laboratory for the investigation of cancer. It is to be situated directly opposite the Buffalo General Hospital.

DR. E. L. SHURLEY, Detroit, discussed the relation of laryngeal and pulmonary tuberculosis before the Buffalo Academy of Medicine, laryngological section, November 19.

THE NEW GERMAN HOSPITAL has been opened for the inspection of the general public. Before the admission of patients

a bazaar will be held in the building during the next two weeks, in which all the German societies will participate for the purpose of increasing the available funds.

The water-supply of the city is affected at the present time by the recent gales on Lake Erie. Because of the increase of the number of cases of typhoid thus far reported this month, as compared with the same period for the past few years, the health authorities have advised that all water for drinking purposes be boiled.

THE PHYSICIANS at Williamsville, a suburb of Buffalo, are involved in a controversy, the matter at issue being whether a disease there prevalent is scarlet-fever or German measles. Meanwhile the public schools have been closed as a matter of precaution.

OHIO.

REPORTS OF 60 cases of diphtheria and 19 of smallpox were made to the Cleveland health office last week.

FRONTON has quarantined against Russell and Catlettsburg, Ky., where smallpox exists, and has ordered compulsory vaccination.

THE NEW BUILDING for the Cleveland College of Physicians and Surgeons was dedicated with appropriate ceremonies, November 22, and formally transferred to the Ohio Wesleyan University.

DR. JOHN E. GRIEWE, clinical director of the City Hospital, Cincinnati, has appointed the following physicians on his staff: Alfred Friedlander, William H. Crane, Horace J. Whitacre, James W. Rowe, Frank E. Fee and Albert B. Devers.

DR. CHARLES F. H. WILGONS, Doylestown, celebrated his ninety-seventh birthday anniversary, November 21. He has lived and practiced in Doylestown for more than sixty years, and is probably the oldest physician in active practice in the United States.

PENNSYLVANIA.

A GIRL, aged 15 years, of Lancaster, on November 22, died, it is said, from the effects of an overdose of belladonna which had been prescribed by a local druggist.

AT THE last meeting of the State Board of Charities and Corrections, held in Pittsburg on November 22, it was decided to ask the legislature at its next meeting to establish state institutions for the treatment of consumptives and epileptics.

A LARGE number of cases of diphtheria have been reported from the town of Mt. Joy. At a recent meeting of the council it was decided to purchase a sufficient amount of antitoxin; 15 new cases were reported within a few days. Up to November 19, two deaths had occurred.

SO WIDESPREAD has the epidemic of typhoid become at Allentown that the state authorities are making an investigation. On November 17 Dr. Benjamin Lee, secretary of the State Board of Health, and Dr. W. D. Heller, state quarantine officer of Philadelphia, left for the infected locality. While there are only a few hundred inhabitants in the town, about 160 cases of typhoid have been reported. Both the water and milk have been ordered to be boiled.

Philadelphia.

AN ADDRESS was given before the Charles K. Mills Neurological Society (Univ. Pa.) by Dr. S. Weir Mitchell, on the evening of November 19.

THURSDAY November 29 has been set aside by a number of the principal hospitals as a special day for donation. Among these may be mentioned the University Hospital, Presbyterian Hospital, Jefferson Maternity Hospital, Episcopal Hospital, St. Christopher's Hospital for Children, and many others.

DIPHTHERIA, which has been so widespread over the northern part of Pennsylvania and New Jersey, also shows an increase in this city. The Board of Health has quarantined all the infected houses in the Pensanken neighborhood and has placed a sanitary officer in charge to see that no one leaves the infected houses. Considerable feeling has arisen over one case which had to be detained at a police station several hours before an ambulance could be obtained.

THE NUMBER of deaths which occurred for the week ending November 24 was 426, a decrease of 13 as compared with the previous week, and an increase of 40 as compared with the corresponding period of last year. The principal causes of death were: Apoplexy, 17; nephritis, 35; cancer, 13; casualties, 13; cerebrospinal meningitis, 2; tuberculosis, 41; diabetes, 1; heart disease, 39; bronchitis, 5; pneumonia, 64; septicaemia, 5; suicide, 3; tetanus, 1; diphtheria 112 cases, 15 deaths; scarlet fever, 57 cases, 1 death; typhoid fever 43 cases, 5 deaths.

GENERAL.

CLARENCE F. CRABBE, a former student of Sacramento, Cal., has recently been elected senator to the Hawaiian legislature.

THE officials of the Pennsylvania railroad system are endeavoring to improve the conditions on locomotives influencing the sight and hearing of the engineers and firemen. With this end in view they purpose sending a special oculist and aurist to ride in the engine cab, study defects and suggest improvements consistent with the nature of the machinery and work.

THERE are 23,778 students, it is said, in the medical colleges of the United States; less than half as many in the law schools, and only about a third in the theological seminaries. More young persons are studying medicine and theology in Illinois than in any other state, though New York leads in the number of law students.

THE TITLES, with short abstracts, of the papers intended to be read at the Pan-American Medical Congress at Havana should be sent as soon as possible to the secretary of the Congress, Dr. Thomas V. Coronado, Predo 105, Havana, Cuba. For further particulars, apply to the respective secretaries of sections for this country; their names and addresses are given in THE JOURNAL of November 24, page 1357.

A DECISION AGAINST OSTEOPATHS.

A test-case against osteopaths, which has been in the courts of Nebraska for more than a year, has just been decided in the Supreme Court, the decision being against osteopathy. The only point on which the Supreme Court was asked to decide was whether the practice of osteopathy is the practice of medicine within the meaning of the act. Chief Justice Norval, in rendering his opinion, says: "The writer is not deeply versed in the theory of the healing art, but he apprehends that all physicians have the same object in view, namely, the restoring of the patient to sound bodily or mental condition, and whether they profess to attack the malady or its cause, they are 'treating' the ailment as the word is popularly understood. We can, therefore, see no good reason why the practice of osteopathy does not fall within the provisions of the statutes under which defendant was prosecuted, as clearly so as do ordinary practitioners."

THE BERTILLOU CLASSIFICATION.

THE Surgeon-General of the Marine-Hospital Service has received a number of letters from the health officers throughout the United States asking him to have the Bertillon classification of the causes of death translated and published. Accordingly, he is having it translated now by a medical officer of the Service and will have it published for the information of those who are interested in such matters. There seems to be a growing demand for the adoption of a uniform system throughout the world. At present the various governments are expending large amounts in collecting these statistics, adopting various systems, while some have adopted no system at all. It can be readily seen of how much more value such statistics would be should the civilized nations adopt this or any good system of the kind and adhere strictly to it.

CANADA.

THE OTTAWA CLINICAL SOCIETY met for the first time this season on the 16th inst., and elected the following officers for the current year: President, Dr. Scott; first vice-president, Dr. Eehlin; second vice-president, Dr. Minnes; third vice-president, Dr. McElroy; secretary, Dr. Royce; treasurer, Dr. Maybury, curator, Dr. Pratt; librarian, Dr. Rowles; executive committee, Drs. Cooke, Webster, Klock, and Robinson.

THE ONTARIO DRUGGISTS have become much aroused over the German bill, details of which have already appeared in the columns of THE JOURNAL. A mass meeting of the Toronto druggists and representatives from the outside towns and cities was held last week and a strong feeling appears to be developing among the drug fraternity that they throw the "patent medicine men" over entirely, as they claim that there is now very little to be made in handling those preparations.

THE MONTHLY report of the Ontario Board of Health shows a considerable increase from deaths from typhoid fever during October, the total number for the month of fatal cases being 117, as against 88 in October a year ago. Consumption shows a falling off, 160 being recorded, as against 194 in October of last year.

THE MEDICAL men of that portion of the province of Quebec known as the Eastern Townships, at the quarterly meeting of their medical association, known as the St. Francis District Medical Association, took steps to form a medical defence union. Copies of the rules will be at once sent to all medical men in that district for their signatures, when the organization will seek the endorsement of the Canadian Medical Association. The association also decided to accept and adopt the

Ontario code of ethics. Hereafter the society will meet every two months, on the second Wednesday of the month.

ONTARIO'S VITAL STATISTICS.

The apparent decrease in the birth-rate of the province of Ontario in 1898 was thought to be attributable to defective returns, but in spite of the fact that stricter precautions have been taken in this regard, even to the extent of prosecutions and fines for neglect to register, the birth-rate of this province still continues to go down. Marriages have increased, but the births have decreased. In 1899 there were 16,514 marriages, as against 15,375 in 1898, an increase of 1139. Of births, there were 44,705 in 1899, as against 46,599 in 1898, a decrease of 1894. The deaths for 1899 number 28,607, as compared with 26,370 in the preceding twelve months. In Toronto alone, although the population has increased by 5000, the births show a decrease of 116. In Hamilton they have decreased by 156 in 1899.

THE INSANE OF ONTARIO.

The Ontario government has recently been receiving some pretty severe criticism for failing to provide proper and full accommodation for the lunatics who are confined in the common goals of the province. Toronto especially is taking active steps to have this abuse immediately removed. In the goal of that city no less than 49 insane people are confined like other criminals, awaiting transference to government asylums, but as there is no accommodation for them, they continue on in their present quarters. The medical health officer, Dr. Sheard, and Dr. Richardson, the goal surgeon, have been appointed a committee to lay this matter before the provincial secretary, seeking to have the wrong remedied. The government claims that it is hurrying on the work at the old Victoria College at Cobourg, which, when completed, will accommodate 200 patients.

MONTREAL GENERAL HOSPITAL.

The work of this hospital is increasing in a manner altogether out of proportion to its revenues, and the present state of affairs is causing some anxiety to the committee of management. At the quarterly meeting of the board of governors last week, it was decided to make a vigorous canvass of the city for funds to carry on the work in a proper manner. The report of the medical superintendent shows that the average number of patients per day has been 178, as against 160 last year, an increase of 13 per day, but the hospital days this year count up 15,863, as against 14,686 last year. The out-door patients the past quarter are 11,043, as against 9470 last year, and it is this constantly increasing strain, as at the present time the current expense account is a debtor to capital account of \$22,850, that is causing the anxiety. The greatest number of typhoid patients at one time present was 87. The life governors will be increased to 1000, and as the minimum subscription of these is \$12 per year, this work at least mean \$12,000. The number of governors is now 598.

FOREIGN.

The death is announced of Dr. L. Acconci, professor of gynecology at Genoa, and that of Dr. G. Buelau, of Hamburg, the inventor of aspirating drainage of purulent pleurisy.

The Gesellschaft der Aerzte, of Vienna, has presented the triennial Goldberger prize of 1500 kroner to Dr. H. Hering, of Prague, for his work on "Centripetal Ataxia in Tabes."

The *Archives Orientales* states that very strict orders have been promulgated by the authorities at Constantinople to put an end to the illegal practice of medicine, pharmacy and dentistry throughout the entire Ottoman empire.

Two professors of the Lyons faculty of medicine and Prof. F. Vidal, of Paris, have been sent to Syria by the French minister of public instruction to preside over the examining board of the free medical school at Beyrouth.

A new pavilion for stomatology and dental surgery has been completed in connection with the Hospital Saint Louis, at Paris, the first complete service organized in any of the hospitals there, we are told.

THE QUESTION whether to exclude the Latin language from the course at the St. Petersburg Military-Medical Academy, which has been much discussed, has been decided in the negative. The committee reported that it would be dangerous to allow the students to graduate without a knowledge of Latin, but it is not necessary to devote as much time to it as heretofore. Ability to read and write it correctly should be the standard.

THE TWENTY-FIFTH anniversary of the accession of the Sultan to the throne was celebrated at Constantinople by laying the corner-stone of several buildings in which the profession is interested, the bacteriologic institute at Chichli, the section of surgery in the Greek colony, the inauguration of the Hebrew

hospital at Galata, and of the new buildings of the Imperial University.

FROM VIENNA comes a report of the cure of a case of alopecia areata of three years' standing by the Roentgen rays. After six sittings of fifteen minutes each, the spot exposed to the rays, it is alleged, became covered with normal hair, while there was no change in the bald patches not exposed to the rays. Kienboeck, who exhibited the patient two months later, states that "soft" tubes have been much more effective than "hard" ones in his experience.

MEDICAL DEFENSE IN GERMANY.

A strike of medical men engaged in club practice is threatened in Germany. The clubs are there official institutions, membership being compulsory for working people, and they are in the habit of treating their medical employees badly and appointing them on humiliating terms. This condition has lasted a long time and it is now proposed to organize the profession and to raise a general defense fund and generally to give the members of the workmen's sick-clubs a dose of the same medicine which they have so often administered through their trade-unions. The *Lancet* correspondent thinks the movement will hardly succeed and says that it has been rather coldly received by the medical journals, especially those of Berlin, which think there may be a better way to bring about the desired end.

MEDICAL ATTACHES TO EMBASSIES.

Some Berlin papers, in view of the prevalence of the plague throughout the world, have proposed that medical attachés should be appointed to the German embassies abroad to study hygienic conditions and inform their government as to the occurrence of cases of infectious disease. In this way it is suggested that international arrangements could be better made to prevent the spread of epidemics and timely notification of danger be assured. The Berlin correspondent of the *Lancet*, from which this information is obtained, says that there is ample precedent for this course, as there have frequently been other than diplomatic appointments on embassies and the duties of the medical appointees would be altogether analogous to those of the other technical attachés.

Correspondence.

German Medical Degrees.

COBURG, GERMANY, Nov. 6, 1900.

The ministers of the several German federal governments have recently promulgated the following rules regarding promotion to the degree of Doctor of Medicine: 1. The Ministers of Instruction have agreed that the following rules must be taken into consideration in the new regulations for the promotion to the degree of Doctor of Medicine. 2. The full meaning of these regulations is to be laid down in the rules for promotion in the various medical faculties. But it must be kept in mind, that only minimum requirements are here set forth, and that it is left to the discretion of the various faculties to lay out more stringent rules to be observed by the candidates for medical degrees. 3. Prospectus showing the regulations that have been issued and the names of those receiving the degrees are to be published half yearly in the *Imperial German Advertiser* (*Reichsanzeiger*). For this purpose the ministries in question will have to fill up the necessary forms, and send in those of the summer semesters by December 1, and those of the winter semester by June 1, of every year, to the *Reichsanzeiger*, whose business it will be to collect the same and publish them as soon as possible.

The regulations agreed on are as follows: The degree of Doctor of Medicine can only be conferred, after a thesis has been printed and published and a verbal examination. A *promotio in absentia* will not be allowed under any circumstances. By this thesis the candidate must prove that he is able to work independently on scientific lines (*selbstständig wissenschaftlich zu arbeiten*). The thesis must be written in German, but the use of another language may be allowed by the faculty. A biography of the candidate must be appended to the thesis. The verbal examination (*Mündliche Prüfung*) consists, as the case may be, either of a simple questioning (*colloquium*) or of an *Examen rigorosum*. German subjects can not receive the degree, before obtaining the permission from the government to practice within the German Empire.

Deviations from this rule may be granted in particular cases by a unanimous vote of the faculty, and with the permission of the supervising board. Foreigners who have received the government permission to practice medicine within the German Empire are subjected to the same regulations regarding their promotion to the degree of Doctor of Medicine, as those laid down for German subjects. Foreigners who do not possess the practicing physicians' permit for the German Empire and who desire to be promoted must lay before the faculty proofs of the following facts.

1. That they have had the necessary schooling (Vorbildung), which in their own country is required for passing the medical examination and for receiving the degrees of a Doctor of Medicine; if in their own country fixed rules with regard to this matter do not exist, they will have to show certificates from home, which in case of need can or will be supported by certificates acquired in Germany, in which proof is given that their schooling, at the least, is equal to the scholarship which is required for obtaining the matriculation certificate at a German Realgymnasium. 2. That, after having acquired the thus stipulated degree of general scholarship, they have passed through well-regulated medical studies before a regularly organized medical faculty, for as many semesters as are required in Germany for admittance to the regular medical examinations; and that at least one of those semesters must have been spent at the German University at which they wish to receive their degree. But this latter rule, with the permission of the supervising board, may be exceptionally suspended, if the candidate be well known to the faculty. The printed thesis, which must be produced before obtaining the permission to appear for the degree examination, may, at the faculty's discretion, be replaced by a scientific work of the candidate which has already been printed and published.

To avoid the use of, and presentation for registration, in the different States of the Union of bogus German diplomas, or those not recognized by the Imperial German Government, I would respectfully suggest to the different State Medical Societies that all German diplomas before being accepted as bona fide, should be required to be certified to as genuine by the United States Consul, in whose Consular District the University granting the degree, is located.

As American degrees are not in reality recognized in Germany, why should every German degree be accepted by our State Medical Boards, or at least by most of them? Medicine and surgery stand to-day on a higher plane in America than here. Consequently we should be just as discriminating toward Germany as her laws are to our medical graduates. Very respectfully,

OLIVER J. D. HUGHES, M.D.
Consul of the United States.

The Discoverer of Anesthesia.

TULSA, I. T., Nov. 15, 1900.

To the Editor: I noticed a communication from James McManus, D.D.S., of Hartford, Conn., in the November 10 issue of THE JOURNAL in which he refers to the action taken by THE AMERICAN MEDICAL ASSOCIATION and other well-known associations wherein they have gone on record that it is their belief that Dr. Horace Wells, of Hartford, Conn., was the discoverer of modern anesthesia. Did these associations so commit themselves? If so, what facts had they for such an action?

Dr. McManus must have been blinded by professional loyalty and civic pride, for from the facts in the case he is not justified in claiming this imperishable honor for Dr. Wells. The most incontrovertible facts and best authenticated details as to its prior discovery by Crawford W. Long, M.D., of Athens, Ga., March 30, 1842, two years and eight months before Dr. Wells even claimed to have discovered it, are available to any one who desires to accord honor to whom honor is due.

This is a golden opportunity for the judges in the Hall of Fame to perpetuate their own names as long as civilization endures, by selecting that of Crawford W. Long as one of the immortals, not from the medical profession alone, but from among modest men—who desired no greater glory or glittering gold for his incomparable discovery than to be "a benefactor of mankind." Yours truly,

FRED. S. CLINTON, M.D.

Estimation of Amount of Hemoglobin.

ST. PAUL, MINN., Nov. 20, 1900.

To the Editor: I was much interested in Dr. Allen Staples' letter in the last issue of THE JOURNAL, on "Medical Study in Helsingfors," and, particularly in his allusion to Tallquist's method of estimating the amount of hemoglobin by means of a color scale, because Tallquist's original article on this subject was published in the *St. Paul Medical Journal* for May, 1900, together with the color scale which was made for us in Helsingfors under his direction. Possibly some of your readers who are interested in this matter may be glad to know where this article can be found. The price of the *Journal*, with the color scale is fifty cents.

BURNSIDE FOSTER, M.D.,
Editor *St. Paul Medical Journal*.

Connell's Suture; A Question of Priority.

TROY, N. Y., Nov. 21, 1900.

To the Editor: In November, 1896, I had the privilege of assisting Professor Thomas H. Manley, of New York, in a case of gangrenous strangulated hernia, necessitating a resection and lateral enterorrhaphy. The gangrenous loop measured 27 inches, and more than 3 inches of both free ends of gut were also excised, in all about 30 inches. In this instance the lateral enterorrhaphy was done by the "Connell" method, the patient making a prompt recovery. This was the first case of intestinal resection for gangrenous hernia by the "Connell suture" on record; but I am informed that the same surgeon again employed the same suture successfully in August last, after the excision of 19 inches of mortified intestine; here again uneventful recovery followed.

I venture to intrude on your kindness in this matter, especially for two reasons: 1, to call attention to the "Connell," the simplest and most effective of all intestinal sutures; and 2, in order to bestow credit on whom credit is due, and to show that though the procedure is an invention of the mighty West, it was a native Eastern surgeon who first tested its practical value, in mortified intestine on living human being; and successfully at that, in the only cases where it was tested. I am yours, etc.,

A. D. DAVIDSON, M.D.

Marriages.

JOHN TURNER, M.D., to Miss Frances Mabel Wentz, both of Baltimore, November 19.

C. MERWIN BRANCH, M.D., to Miss Erna Bass, both of Richmond, Va., November 14.

WALTER MADDEN, M.D., to Miss Annie Metzler, both of Trenton, N. J., November 14.

ROBERT EDWARD WILSON, M.D., to Miss Grace Cunningham, both of St. Louis, November 21.

HUGH NELSON LEAVELL, M.D., to Miss Hattie Rodman, both of Louisville, Ky., November 7.

WILLIAM G. CAMERON, M.D., Staples, to Miss Mabelle Davis, of Brainerd, Minn., November 14.

ROBERT MINOR WILEY, M.D., to Miss Ellen Edmundson Blair, both of Salem, Va., November 15.

JOHN MILES GIBBON, M.D., Seranton, Pa., to Miss Kathleen Coghlin, of Montreal, November 15.

EVERETT M. HURST, M.D., Cloverdale, Ind., to Miss Eliza M. Herod, of Greencastle, Ind., September 23.

ROSCOE C. DANFORD, M.D., Pana, Ill., to Miss Monta McLaughlin, of Bloomington, Ill., November 14.

MICHAEL J. KENEFFICK, M.D., Algona, Iowa, to Miss Edith May Lusk, of Milwaukee, Wis., November 15.

HENRY F. TATUM, M.D., Meridian, Miss., to Miss Ruth Featherstun, of Brookhaven, Miss., November 8.

WILLIAM H. BODENSTAB, M.D., New Salem, N. D., second vice-president of the North Dakota State Medical Society, to Miss Zetta Morgan, of Glen Ullin, N. D.

Deaths and Obituaries.

ROMAINE J. CERTIS, M. D., University of Cincinnati, 1864, for many years professor of bacteriology and pathology in the College of Physicians and Surgeons, Chicago, a veteran of the Civil War, and noted in years past as a lecturer and writer, at his home, Joliet, Ill., November 20, aged 58.

FREDERICK CORNELL DE MUND, M.D., College of Physicians and Surgeons, N. Y., 1855, at his home, Brooklyn, N. Y., November 20. He was born at Millstown, N. J., and practised in the old town of New Utrecht, Long Island, from 1859 till 1895.

WILLIAM F. MAHNEKE, M.D., University of Würzburg, 1868, thereafter surgeon in the Franco-German War, and for twenty-five years a resident of Pennsylvania, at his home, Pittsburgh, November 18, after an illness of ten weeks, aged 50.

ALEXANDER C. STREATOR, M.D., Western Reserve University, Cleveland, Ohio, 1882, at the home of his brother in Washington, Pa., from diabetes, November 16, aged 53.

JOHN H. FREEMAN, M.D., Jefferson Medical College, 1836, who practiced for nearly 40 years in Lexington, Va., at his home in that city, November 12, aged 84.

THOMAS A. QUAYLE, M.D., Tulane University, New Orleans, 1891, professor of pharmacy in the university, at his home in New Orleans, November 16, aged 31.

MARK P. BURLESON, M.D., Kentucky School of Medicine, Louisville, 1891, shot and killed in his office at Richland Springs, Texas, November 16.

WILLIAM A. WEST, M.D., University of Nashville, Tenn., 1870, after a long illness, at his home, Indian Mount, Tenn., November 15, aged 73.

BENJAMIN T. MOSELEY, M.D., Charity Hospital Medical College, New Orleans, 1875, at his home in Alexandria, La., November 14, aged 51.

ROBERT ACTON, M.D., Harvard, 1899, at Presbyterian Hospital, New York City, from an overdose of morphin, November 22, aged 32.

JOHN SWAN, M.D., Bowdoin College, Brunswick, Me., 1866, at his home in Westbrook, Me., after a long illness, November 17, aged 60.

EDWARD E. WAGGONER, M.D., Washington University, St. Louis, 1868, at his home in Shelbyville, Ill., November 20, aged 71.

FRANK W. PATTEN, M.D., College of Physicians and Surgeons, New York, 1877, suddenly, in Boston, November 17.

J. R. SHINN, M.D., Memphis Hospital Medical College, 1896, at Sanderson, Texas, of consumption, November 15.

GEORGE W. SPARKS, M.D., Jefferson Medical College, 1865, at his home in Philadelphia, November 17, aged 56.

O. P. BRASHEAR, M.D., Jefferson, at New Haven, Pa., after an illness of three years, November 3, aged 60.

ROBERT B. BROWN, M.D., University of Pennsylvania, 1846, at Phillipsburg, N. J., November 13, aged 76.

LOYD DORSEY, M.D., University of Maryland, 1854, at his home, Washington, D. C., November 13.

WILLIAM H. ROSS, M.D., University of Georgetown, D. C., 1869, in New York City, November 20.

JOHN WERNER, M.D., Detroit Medical College, 1875, at Hillsdale, Mich., from paralysis, November 22.

Association News.

The Exhibit of the American Medical Association at the St. Paul Meeting.

A museum of medical and surgical instruments, apparatus and dressings, pharmaceutical preparations, food and drink for the sick and for infants, utensils for chemical, microscopical and biological laboratories, sanitary and hygienic appliances and devices, ambulances, hospital and office furniture, and of the literature of the medical and allied sciences, has for

many years been held in connection with the annual meeting of the AMERICAN MEDICAL ASSOCIATION.

This medical bazaar should be one of the most interesting features of the meetings, where every member can see the newest instruments, and the most recent additions to the pharmacopeia; where he can inspect books, and place his orders for any professional supplies he may be in need of. The time devoted to a careful study of such an exhibition is always profitably spent, as something must be seen which is new to every one. The exhibitor can not find anywhere a means of advertising his wares which will bring them under the most favorable conditions to the attention of so many medical men from all parts of the United States, at an equal cost. If visited in his office by an agent, the practitioner's only wish is to see the back of his unwelcome guest, but while strolling through the exhibit he is just in the humor to examine anything that is of interest.

The privileges offered at each meeting to those whose business it is to supply the profession with its manifold professional needs were gradually encroached on by those whose chief occupation is to destroy legitimate medicine by scattering broadcast over the land patented and secret specifics, drugs and apparatus, for every human ill. These intruders, with the effrontery of quackery, than which earth knows nothing more brazen, forced their way into this exhibit hoping to find weak brethren, who would blow their trumpets for them and defend them in the lists if need be, because forsooth they had been endorsed by the AMERICAN MEDICAL ASSOCIATION. Whereas the truth of the matter is, that the Association has never exercised any control over the exhibit, which has always been in the hands of the local committee, to whom it has been a source of considerable income. The money derived from the sale of space has been a very grateful financial assistance to the committee charged with the important and costly duty of properly entertaining the Association. Hence the temptation has always been strong to increase the revenue obtained from the exhibit, even at the cost of lessening its value and dignity, by selling space to concerns that had no business there. This sort of thing could go on only to a certain extent when reaction was certain to follow; and it has come in complaints from members of the Association and in threats from houses doing an open and ethical business, that they will not in the future patronize the exhibit unless it be cleansed of this very undesirable element.

If the members of the Association know that all the exhibitors are worthy of their confidence and that everything in the exhibit has been carefully scrutinized by the committee, then it will receive much more attention from the members, and be correspondingly more valuable to the exhibitors than it ever has been. The exhibit at the St. Paul meeting is to be of this character. Nothing can be exhibited here which can not be advertised in THE JOURNAL OF THE ASSOCIATION or in the *St. Paul Medical Journal*. The editor of the *Journal* has consented that all applicants to the local committee for space can be referred to this office, where they will be passed upon, and if rejected there the committee in St. Paul have agreed to abide by his decision. This arrangement is final and it will guarantee to the Association an exhibit without an objectionable feature, and to the exhibitors that they will not find themselves in bad company.—*St. Paul Medical Journal*.

Societies.

- Indian Territory Medical Association, Muscogee, Dec. 4-5.
- Seaboard Medical Association of Virginia and North Carolina, Weldon, N. C., Dec. 13.
- Pan-American Medical Congress, Havana, Cuba, Dec. 26-28.
- Western Surgical and Gynecological Association, Minneapolis, Minn., Dec. 27-28.

THE TENNESSEE VALLEY MEDICAL ASSOCIATION, whose membership is to consist of the physicians of Northern Alabama, is in process of organization.

THE MASON COUNTY (KY.) MEDICAL SOCIETY, at its last meeting passed resolutions appropriate to the death of the late Dr. Samuel Pangburn, Maysville.

THE KEOKUK COUNTY (Iowa) MEDICAL ASSOCIATION met at Sigourney and elected Dr. William H. McLaughlin, Webster, president, and Dr. Charles A. Trumbauer, Harper, secretary.

THE FLOYD COUNTY (Ind.) MEDICAL SOCIETY held a special meeting at New Albany, November 8, and adopted resolutions of regret for the death of its late member, Dr. William A. Clapp.

THE MISSISSIPPI GULF COAST MEDICAL SOCIETY met at Seranton, Miss., November 14, and elected Dr. Benjamin F. Duke, Pascagoula, president, and Dr. J. A. Tabor, Seranton, secretary and treasurer.

THE CARROLL COUNTY (Ill.) MEDICAL SOCIETY was organized November 13, with the following as officers: Dr. Joseph Haller, Lamark, president; Dr. Frederick H. Snow, Chadwick, vice-president, and Dr. Henry S. Metcalf, Mount Carroll, secretary and treasurer.

THE PETERSBURG (Va.) MEDICAL FACULTY, at its annual meeting, November 16, elected Dr. Daniel W. Lassiter, president; Drs. John Mann and Robert H. Jones, vice-presidents; Dr. Hugh Stockell, corresponding secretary, and Dr. Joseph D. Osborne, recording secretary and treasurer.

THE MIDDLE TENNESSEE MEDICAL ASSOCIATION met in Pulaski, Tenn., November 15 and 16. The following officers were elected: Dr. Kirby S. Howlett, Franklin, president; Dr. Reginald Stonestreet, Nashville, vice-president, and Dr. Paul Clements, Cross Bridges, secretary and treasurer.

THE SCHUYLKILL COUNTY MEDICAL ASSOCIATION, at its meeting, November 14, elected Dr. A. L. Gillan, Pottsville, president; Dr. Joseph P. Morris, St. Clair, vice-president; Dr. David Taggart, Frackville, treasurer, and Dr. George W. Farquhar, Pottsville, secretary, and nominated delegates to the AMERICAN MEDICAL ASSOCIATION.

THE SOUTHEASTERN IOWA MEDICAL ASSOCIATION held its annual meeting at Ottumwa, November 15, at which the following officers were elected: Dr. John F. Herrick, Ottumwa, president; Drs. Samuel K. Davis, Libertyville, and Florence De W. Patrick, Burlington, vice-presidents, and Dr. William S. Lesenger, Mount Pleasant, secretary and treasurer.

THE MARYLAND LARYNGOLOGICAL ASSOCIATION has elected the following officers for the ensuing year: Dr. Samuel K. Merrick, president; Dr. Jacob H. Hartman, vice-president; Dr. John R. Winslow, treasurer; Dr. Hughlett Hardestack, secretary. The above, with Drs. Samuel Johnston and John N. Mackenzie, all of Baltimore, constitute the council.

THE ST. LOUIS MEDICAL SOCIETY, at its November 10 meeting, listened to a paper by Dr. G. Wiley Broome, entitled, "The Recent Cases of Pelvic Surgery, with a Criticism of Prevailing Methods of Drainage," which elicited much discussion. Drs. E. W. Lee, A. H. Meisenbach, John Young Brown, A. R. Keifer, and others, developed the discussion from every surgical standpoint.

THE WASHINGTON COUNTY (Md.) MEDICAL SOCIETY met at Hagerstown, November 13, and elected the following officers: Dr. D. C. R. Miller, State Line, president; Drs. Japhtha C. Pit-nogle, Hagerstown, and Charles D. Baker, vice-presidents; W. Baker Morrison, Hagerstown, recording secretary; Dr. W. Preston Miller, Hagerstown, corresponding secretary, and Dr. Christian R. Scheller, Hagerstown, treasurer.

THE SOUTHERN COLORADO MEDICAL SOCIETY was organized at Pueblo, November 15, with a membership of 75. The following officers were elected: Dr. Tighlman B. Moore, Canon City, president; Drs. Will B. Davis and Pembroke R. Thoms, Pueblo, vice-presidents; Dr. Cyrus F. Taylor, Pueblo, secretary, and Dr. John A. Black, Pueblo, treasurer. The organization was perfected and the society adjourned to meet in Pueblo in May, 1901.

THE CLINICAL SOCIETY OF MARYLAND elected the following officers at its first meeting: Dr. William J. Todd, Mount Washington, president; Dr. H. Barton Jacobs, vice-president; Dr. Henry O. Reik, recording secretary; Dr. Nathan Ilberman, corresponding secretary, and Dr. J. Frederick Crouch, treasurer, all of Baltimore. Dr. William Osler gave an account of the centennial celebration of the Royal College of Surgeons in London last summer.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY MUTUAL AID ASSOCIATION elected the following officers: Dr. John B. Roberts, president; Drs. John B. Turner and John H. Musser, vice-presidents; Dr. Joseph S. Neff, treasurer; and Dr. Michael O'Hara, Jr., secretary. This association, organized twenty-two years ago, has been of great value in relieving the distress among the families of deceased members. A legacy of several

thousand dollars was left to this organization by Dr. Albert Frichs, who died a few months ago.

THE ST. LOUIS ACADEMY OF MEDICAL AND SURGICAL SCIENCES, at its meeting, Nov. 13, listened to a paper on "Appendiceal Abscesses," by Dr. Augustus C. Bernays. His observations were based on nearly 1000 cases, of 492 of which he had complete records. He called attention to six localities in which these abscesses are ordinarily found. Dr. Carl Fisch exhibited sections of various organs taken from a case of "Schaumorgan" (foam organs). Dr. A. H. Ohmann-Dumesnil showed several rural syphillids removed post-mortem.

THE VANDERBURGH COUNTY (Ind.) MEDICAL SOCIETY held a special meeting at Evansville, November 20, at which papers were presented by Dr. William Wishard, Indianapolis, on "Local Anesthesia in Genito-Urinary Surgery"; Dr. Hugo O. Pantzer, Indianapolis, on "Peritonitis"; Dr. James B. Herrick, Chicago, on "Treatment of Gastric Ulcer"; Dr. Hugo Summa, St. Louis, on "The Floating Tenth Rib"; Dr. Albert H. Meisenbach, St. Louis, on "Operations for Gall-Stones," and Dr. Archibald Dixon, Henderson, Ky., on "Obstruction of the Bowel."

THE MAINE ACADEMY OF MEDICINE AND SCIENCE held its forty-first regular meeting at Portland, November 12. Dr. Galen M. Woodcock, Bangor, was elected vice-president of Section 6, of Public Health, Legal Medicine and Medical and Vital Statistics, after which the nominating committee reported as follows: Dr. Samuel J. Bassford, Biddeford; president; Dr. Addison S. Thayer, Portland, corresponding and statistical secretary; Dr. Daniel Driscoll, Portland, recording secretary; Dr. Herbert F. Twitchell, Portland, treasurer, and Hon. E. B. Winslow, Portland, trustee for seven years.

THE CLINTON COUNTY (Pa.) MEDICAL SOCIETY, at its meeting, November 16, adopted the report of the committee appointed to devise a more perfect system of collecting accounts. The suggestions were to send out bills every three months; with old accounts to send a notice warning the delinquents that if not settled within a reasonable length of time their names will be handed to the society; if not then paid, that the names of such delinquents be placed on the dead-head list and that their physicians would not be required to attend, but would not be prohibited from attending the delinquents and their families.

BUFFALO ACADEMY OF MEDICINE.—At a recent meeting of the medical section of the Academy a very interesting paper was presented by Dr. W. G. Spiller, Philadelphia, on the involvement of the nervous system in malaria, in which he reported a case presenting the symptoms of disseminated sclerosis and presented microscopic slides of the nervous tissue. In the microscopic examination of his case, which gave symptoms of marked intention-tremor of the left arm, marked ataxia of the left leg, transitory hemiparesis, diplopia, marked vertical nystagmus, distinctly scanning speech and exaggerated tendon-reflexes on the right, every capillary of the central nervous system was found plugged with pigmented malarial parasites of the estivo-autumnal form. There was also found an area of sclerosis in the outer part of the middle third of the left crista, also the right crossed-pyramidal tract. This sclerosis followed a small hemorrhage due to the presence of the malarial parasites. The case shows that symptoms of disseminated sclerosis occurring from malaria probably are the result of vascular lesions.

THE CALIFORNIA NORTHERN DISTRICT MEDICAL SOCIETY held its tenth annual meeting at Sacramento, November 13. After the presentation of papers, Dr. Wallace A. Briggs, Sacramento, introduced the following resolution: "Resolved, That it is the profound conviction of the California Northern District Medical Society that the State Board of Health of California should immediately and officially recognize the existence of bubonic plague in the city of San Francisco, and should exert its utmost power to limit the spread of the disease and to stamp it out at the earliest possible moment." This resolution evoked considerable discussion. It was claimed that some who had been quoted as not believing in the existence of plague in San Francisco had not derived their information from actual observation and that either they were not bacteriologists or had made no bacteriological investigation in regard to the matter. Despite remarks made against the resolution it was adopted without a dissenting vote. The following officers were elected: Dr. Walter E. Bates, Davisville, president; Drs. Andrew M. Henderson, and William J. Hanna, Sacramento, and Clarence W. Kellogg, Lakeport, vice-presidents; Dr. Elmer E. Stone, Marysville, secretary, and Dr. Oscar Stansbury, Chico, treasurer.

Southern Surgical and Gynecological Association.

Thirteenth Annual Meeting, held in Atlanta, Ga.,

Nov. 13-15, 1900.

(Continued from p. 1361.)

REMOVAL OF PELVIC INFLAMMATORY MASSES BY THE ABDOMEN AFTER BISECTION OF THE UTERUS.

DR. HOWARD A. KELLY, Baltimore, recently pointed out the great advantages which accrue from bisection of the myomatous uterus in an abdominal enucleation in certain complicated cases. In previous contributions he had described his method of enucleation by a continuous transverse incision from left to right, or from right to left. He now called attention to the great value of a somewhat similar procedure in certain cases of pelvic inflammatory diseases. The steps of the operation are these: If the uterus is buried out of view, the bladder is first separated from the rectum and the fundus found. Then, if there are any large abscesses, adherent cysts, or hematomata, they are evacuated by aspiration or by puncture. The rest of the abdominal cavity is then well packed off from the pelvis. The right and left cornua uteri are each seized by a pair of stout museau forceps and lifted up, the uterus is now incised in the median line in an antero-posterior direction, and as the uterus is bisected, its cornua are pulled up and drawn apart. With a third pair of forceps the uterus is grasped on one side of its cut surface, as far down in the angle as possible, including both anterior and posterior walls. The museau forceps of the same side is then released and used for grasping the corresponding point on the opposite cut surface, when the remaining museau forceps is removed. In this way two forceps are in constant use at the lowest point. He commonly applies them three or four times in all. As the uterus is pulled up and the halves become everted, it is bisected farther down into the cervix. If the operator prefers to do a panhysterectomy, the bisection is carried all the way down into the vagina. The uterine canal must be followed in the dissection, if necessary, using a grooved director to keep it in view. The museau forceps are now made to grasp the uterus well down in the cervical portion, if it is to be a supravaginal amputation, and the cervix is bisected on one side. As soon as it is divided and the uterine and vaginal ends begin to pull apart, the under-surface of the uterine end is caught with a pair of forceps and pulled up, and the uterine vessels, which can now be plainly seen, are clamped or tied. As the uterus is pulled still farther up, the round ligament is exposed and clamped, then finally a clamp is applied between the cornu of the bisected uterus and the tubo-ovarian mass, and one-half of the uterus is removed. The opposite half of the uterus is also taken away in the same manner. The pelvis now contains nothing but rectum and bladder, with right and left tubo-ovarian masses plastered to the sides of the pelvis and the broad ligaments, affording abundant room for investigation of their attachments, as well as for deliberate and skilful dissection. The wide exposure of the cellular area over the inferior median and anterior surfaces of the masses offers the best possible avenue for beginning their detachment and enucleation. The operator will sometimes find on completing the bisection of the uterus that he can just as well take out each tube and ovary together with its corresponding half of the uterus, reserving for the still more difficult cases, or for a most difficult side, the separate enucleation of the tube and ovary after removal of the uterus.

The advantages of a bisection and enucleation of the uterus as a preliminary to a complete enucleation of uterine tubes and ovaries for pelvic inflammatory and other diseases by the abdominal route were briefly recapitulated: 1. Additional space for handling adherent adnexa, afforded by the removal of the uterus. 2. Great increase in facility for dealing with intestinal complications. 3. Better access by new avenues from below and in front to adherent lateral structures. 4. Elevation of structures to or above pelvic brim, or even out into the abdomen, bringing them within easy reach of manipulation and dissection. 5. Some advantage in approaching both uterine vessels by cutting from cervix out toward the broad ligament as is secured in approaching one of them in the continuous transverse incision. In general, the time of the operation is

shortened; its steps are conducted with greater precision; surrounding structures are far less liable to be injured. In this way, there are fewer troubles and sequelae, and the mortality is lessened.

DR. WILLIS G. MACDONALD said his experience in bisection of the uterus, had been very largely associated with tumors deeply situated in the pelvis, attended with great tension on both broad ligaments. It has been his custom to follow the method improved by Dr. Kelly, and the only objection to the operation lay in a certain class of cases in which the tumor is deeply situated in the lower segment of the uterus, or extends to one side or the other in the broad ligament, or is associated with microcystic and adherent ovaries, so that when the operator lifts the tumor out of the abdomen to begin preliminary ligation on one side or the other, he causes considerable tension on the broad ligament, and when the ligature is placed on one or the other ovarian artery there is more or less danger of its giving way when the tension is released. He had seen many cases in his own practice, and that of other surgeons, in which this accident had occurred.

DR. J. WESLEY BOVEE, Washington, D. C., said he had occasionally removed the body of the uterus previous to the removal of the appendages in pus cases, also in fibroid tumors of the uterus, but in some instances he had followed the method of Kelly, since he read his paper before the Washington meeting of the Association on the removal of fibroids of the uterus by going down on one side, as he had described it, and going up on the other. He had recently modified this plan in dealing with pus cases, namely, to cut off the tube and ovarian ligaments from the uterus on one side, clamp the round ligament, going down to the cervix, clamping the uterine artery, cutting through the cervix and uterine artery on the other side, going up and removing the appendage on the other side with the uterus.

DR. W. E. B. DAVIS, Birmingham, Ala., expressed the opinion that the method outlined by Kelly would be of great assistance in the severe cases of inflammatory pelvic disease. The removal of the uterus for inflammatory disease had its origin in the difficulties which beset French surgeons in removing the appendages by the vaginal method, so that it became necessary for them to remove the uterus in order to have a route by which they could reach the adnexa. Dr. Kelly, therefore, had accomplished by operating from above what French surgeons had so frequently done through the vagina.

DR. GEORGE J. ENGELMANN, Boston, considered the method a step in advance, and said it was really amazing that no one had thought of doing this work by the abdomen before it had been done by the vaginal route.

VESICOVAGINAL FISTULA.

DR. M. C. MCGANNON, Nashville, read a paper on this subject, in which he referred to the work of Sims, Emmet, Mackenrodt and others, in this field of surgery. He has applied the principle of Mackenrodt in six cases, during the last two years, with primary union and complete closure of the fistula in every case. The technique in each case was the same, and this the author outlined at considerable length.

A CASE OF OSTEOFIBROMA OF THE UTERUS.

DR. GEORGE BEN JOHNSON, Richmond, Va., narrated a case of a woman, aged 30, the mother of three children, the youngest 3 years old. About two years after the birth of the youngest child she noticed an enlargement of the abdomen, and at times experienced difficulty in voiding her urine. An examination disclosed a tumor, which filled the pelvic cavity, growing from the posterior wall of the uterus, and so displacing the uterus forward that it pressed on the bladder. Six months later she missed her menstrual period, and by this time her size had greatly increased and her ability to void urine normally was almost lost. About the middle of March, 1900, she passed a fetus of six or eight weeks' development; but her size did not reduce and the pressure symptoms continued. Examination revealed two tumors, one a large fibromyoma, situated posteriorly and to the right of the uterus; the other a small tumor, anterior and to the left. Complete hysterectomy was performed April 10. The smaller tumor was found to be intra-

mural and situated at the junction of the body and the neck. On liberation the tumor was about the size of a small orange, and of firm consistency. Held between the thumb and fingers it gave the sensation that is produced by pressing a hard-boiled egg, the shell of which has been broken. Plates, apparently of bone, surrounded the surface, and on opening it a substance resembling medullary tissue was found. This was unfortunately lost, so that no subsequent histological study of it could be made. Attached to the lower part of the osseous tumor was a small fleshy mass, which contained a body about an inch in length resembling a pear in shape. On opening the uterus a recent placental site was found near the uterine opening of the right Fallopian tube. The tumor was covered by a fibrous capsule, scattered through which were plates, rounded nodules, and irregular jagged masses, which, when decalcified, proved to be dense laminae of bone, with their included bone cells. These bone cells were not so numerous as in normal bone, while the lamellae were irregular in their arrangement, although showing a general tendency to lie parallel to frequent openings in the bony tissue. These openings were larger and more irregular in shape than the Haversian canals of normal compact bone, and were filled with a connective-tissue stroma supporting blood-vessels. The softer parts of the tumor were found to be compound of involuntary muscle fibers arranged in groups and bundles, which were supported by loose connective tissue. Dense masses of fibrous tissue occurred throughout the tumor, independently of the muscular tissue. Microscopic examination of the tumor verified the diagnosis made macroscopically—osteofibroma. Patient recovered.

DR. HOWARD A. KELLY said he would be loath to accept diagnoses that had been made twenty-five years ago in regard to tumors of this kind, when the nature between calcified tumors and teratomata was not clearly understood, and even pathology itself was in a vague condition. Of 562 myomec-tomies, he had met with 27 calcified myomata.

APPENDICITIS IN THE FEMALE.

DR. F. W. McRAE, Atlanta, referred to an article by Edebohls as to the relative frequency of appendicitis in the two sexes; also to the work of Einhorn, who had found in 18,000 successive autopsies perforating appendicitis in 55 per cent. of males, and 57 per cent. of females. Robinson, in 123 autopsies, found evidences of past peritonitis in or about the appendix in 68 per cent. of females, and 56 per cent. of male bodies. Clinically, Edebohls finds that 4 per cent. of all women have appendicitis. On the contrary, Deaver believes that 80 per cent. of all cases occur in males. Of 1577 cases of appendicitis collected from the annual reports of the city hospitals of Berlin, 949 were males, and 628 females.

The speaker quoted eminent authorities to show the divergence of opinion as to the relative frequency of the disease in the male and in the female. In practically all of the cases that had come under his observation in females, mistakes in diagnosis had been made either by himself or by the attending physician. Almost all of the attacks had occurred at or about the menstrual term, and most of them had been diagnosed "inflammation of the tube or ovary." In two cases of his own series the appendix and the right tube and ovary were involved; in two others the appendicular trouble was complicated with diseased kidneys. Two patients suffered with recurrent appendicitis, and attacks of renal colic before or after operation for the removal of their appendices. He had records of 49 cases of appendicitis seen within the last sixteen months, 29 of them being males, and 20 females. During this period he had operated on 17 males, and 14 females. The author then detailed 13 cases.

DR. J. B. S. HOLMES, Atlanta, detailed three interesting cases of appendicitis in females, which illustrated forcibly the necessity of always examining the appendix, when the abdomen of a woman is opened for any cause.

DR. HAL C. WYMAN, Detroit, cited a case of extrauterine pregnancy in which he removed a fetus that had apparently died at about the end of the seventh month of pregnancy. The operation was done thirteen months after the appearance of the first symptoms of pregnancy. The appendix was found intimately blended with the fimbria of the right tube. The

right Fallopian tube was involved with the appendix by dense inflammatory adhesions, and it occurred to him that in consequence of that blending the impregnated ovum had escaped. With this experience we might just charge some of the cases of extrauterine pregnancy possibly to adhesions between the fimbriae and the appendix.

DR. HOWARD A. KELLY stated that for four years past he has made it a rule at the Johns Hopkins Hospital to have stated on a slip the exact condition of the appendix. During this period he has removed 150 appendices. Of this number 60 were involved in pelvic inflammatory disease. He found the appendix adherent to myomata in 12; adherent to ovarian tumors in 9. He found carcinoma of the appendix secondary to ovarian carcinoma, without any traceable macroscopic relation in one case, and primary carcinoma in one other case. He found tuberculosis of the appendix secondary to tuberculosis in the tubes and ovaries in three cases; in the remainder of the cases calculi, cystic diseases, and uncomplicated appendicitis. If, in opening the abdomen for any pathological condition, the incision is sufficiently large, he would examine the appendix.

DR. LEWIS S. McMURTY mentioned a case in which he had enucleated an ovarian cyst in a woman of 30. She had had a typical acute perforative appendicitis, followed by septic symptoms, which was quite limited in the area of peritoneal involvement. When the abdomen was opened, it was found that the appendix, instead of perforating the general peritoneal cavity, pierced the ovarian cyst, in that manner limiting the infection to the ovarian cyst and saving the life of the patient.

DR. WILLIS F. WESTMORELAND, Atlanta, spoke of the practicability of stitching the kidney back through the same incision after the manner described by Dr. McRae in one of his cases.

DR. WILLIAM P. NICOLSON, Atlanta, called attention to the coincidence of disease of the appendix and uterine adnexa, and cited cases in which symptoms for years had been ascribed to uterine or ovarian trouble, but operation disclosed the fact that the appendix was solely at fault.

DR. GEORGE BEN JOHNSTON expressed the conviction that chronic appendicitis is quite as frequent in the female as in the male. He believes, however, we see fewer cases of the fulminating form of the diseases in the female than in the male. He has seen many cases of chronic appendicitis associated with movable kidney in females, and it is sometimes difficult to determine which is the cause of distress for which the patient consults a surgeon, the diseased appendix or movable kidney, or both. The coexistence of the two conditions is so frequent in his practice that oftentimes he keeps patients under observation for days, perhaps weeks, to determine which is the more distressing condition.

DRAINAGE IN ABDOMINAL SURGERY.

DR. J. W. LONG, Salisbury, N. C., said that the chief purposes for which drainage is employed are to drain away existing septic material; to afford an exit for the sepsis when the operator fears he has possibly infected his patient; to provoke adhesions and thereby wall off weak spots from the remainder of the abdominal contents; to keep the peritoneal cavity free of blood and other fluids; to allow of a more certain knowledge of the conditions present in the abdomen. Gauze drains are sometimes employed as tampons to control hemorrhage. The objections to drainage were then considered.

DR. MANNING SIMONS, Charleston, said there are some surgeons who would not admit that draining in suppurative cases is an evidence that something has been left which ought to have been removed, or that the surgeon had done something that he ought not to have done. There are many cases in which suppuration is not confined to the tubes, but has diffused itself more or less over the pelvic and abdominal cavities. The surgeon's conscience would scarcely, in such a case, prompt him to close up all avenues for the escape of reaccumulated fluid from the cavity. Drainage is applicable to such cases.

DR. HOWARD A. KELLY believes that there is a tendency on the part of the profession to drain entirely too many cases.

Dr. W. E. B. DAVIS referred to drainage in general septic peritonitis, and said it was impossible to lay down any fixed or definite plan of treatment because results were uniformly fatal. Reports in the past showed the percentage of recoveries to have been small. Much good can be accomplished by first using hydrogen peroxid in the abdomen in this class of cases, and following it with infusion of normal salt solution, injecting say a quart under the skin every three hours. This accomplishes even more than multiple drainage in cases of general septic peritonitis.

Dr. BEVERLY MACMONAGLE called attention to drainage in connection with surgery of the gall-bladder and gall-ducts. When the gall-bladder is opened, it is absolutely essential to drain it.

ATRESIA OF THE VAGINA.

Dr. GEORGE H. NOBLE, Atlanta, described a flap operation for the relief of this condition, saying that he had operated successfully in several cases by the plan he had outlined.

(To be continued.)

Philadelphia County Medical Society.

Regular Meeting, held November 14, 1900.

President Dr. John H. Musser, in the chair.

REGISTRATION OF TUBERCULOSIS.

Dr. H. M. BIGGS, of the Board of Health of New York City, delivered an address on this subject. The speaker referred to certain English writers who had argued against the registration of tuberculosis, among whom Thorne opposed such an idea. To the speaker it seemed incomprehensible to say that a tuberculous person should be permitted to live in a crowded work-room where he would be a menace to all about him. As to the manner of registration and its influence on the public mind, he did not believe that tuberculosis should be classed with such contagious diseases as smallpox and diphtheria. Tuberculosis, while it is a highly infectious disease, in his opinion, should be put in a class by itself.

As to the means of limiting its spread some have advocated that isolation hospitals be erected in cities and that other similar institutions be constructed in the country, to which places these persons could be sent. This seems a most rational plan. As to the spread of the disease there could be no doubt that it was by means of the specific micro-organism, which can not multiply outside of the body of some animal. Therefore it is a preventable disease. The best plan is compulsory notification and registration. Because the disease is so common and so widespread should be no reason why it should not be lessened if possible. If the tuberculous person is taken from the infected home it lessens the danger to the immediate family. The speaker had come to the conclusion that it was always best for the attending physician to tell the patient that he was suffering from tuberculosis. It might not be well borne by some at the outset, but in the long run he believed the majority would profit by it. He had known instances in which the physicians had not done this, and the patient had gone to another physician who had informed him of the condition, thus causing animosity toward the first named.

Some persons believe that if a city has compulsory registration the affected individual will become socially ostracised. This is not the case. Others contend that it is a disease of very long duration, therefore it is not well to have an institution where they would be housed. These institutions, however, prove the advantage of such a plan. Others contend that the people at large are not in favor of compulsory registration, therefore the law would do but little good. The means must be a graduated one. He deprecates the idea that the disease should be classed as a contagious one. The New York Board of Health had not classed it as a "contagious" disease, but as a communicable disease. When a report comes in to this department, notices are at once sent out to the physician and to the patient, giving proper instruction as to preventive measures. Another important thing is that it is not necessary for the general public to be aware that a tuberculosis has been

reported to the board of health. The records are simply for the use of this special department. It was from fear of this that a strong protest was made against compulsory registration in New York. At this time in New York, where there is compulsory registration, about 10,000 cases are reported annually, excluding duplicates. It has been found that a man suffering with the disease goes from institution to institution, thus being reported often as many as 15 or 20 times. City hospitals for advanced cases, and country hospitals for incipient cases, seem to be the ideal plan.

The speaker, by means of the stereopticon, demonstrated how he had arranged and classified infected houses and districts throughout the city. What seemed striking was that as many as 22 cases of tuberculosis had been reported from only one tenement house, while in other houses in the immediate neighborhood no case had developed. In one district or block with a population of 1165 persons, 104 cases of tuberculosis had been reported. In another quarter, with a population of 2100, there had been 206 cases reported. He had found that those who opposed compulsory registration never had anything better to offer. In New York since 1866 there had been a reduction in the number of cases of 35 per cent, and with compulsory registration properly carried out he believed that within the next five years the number of cases will be reduced at least one-third.

Dr. A. C. ABBOTT, of the Philadelphia Health Department, endorsed all the views of the speaker. He believed that the object of compulsory registration was not generally understood by the public nor by physicians. What the health department wanted mainly to find out is where these cases live so that proper instruction could be given. He could see no reason why any one should oppose compulsory registration.

Dr. J. C. WILSON had not previously come to any definite idea as to the practicability of compulsory registration of cases of tuberculosis. On this question he believed that there was a great diversity of views. He believed, however, that if such measures as advocated by the speaker were adopted good would result to the patient and public.

Dr. A. V. MEIGS spoke in opposition to compulsory registration. He did not believe in the infectiousness of the disease as was generally taught. He believed, however, that he was on the side of the minority. He quoted from English authorities who also doubted the specificity of the disease. If such a law were enacted it would not have the sanction of the public at large and hence would be avoided. As to the plan of placarding houses in cases of diphtheria and scarlet fever it doubtless leads to secreting them from the public.

Dr. J. M. ANDERS believed in compulsory registration, though at first the measures adopted must be mildly administered.

Dr. L. W. FLICK stated that if those who opposed this plan would come in contact with the poor classes they would soon be convinced of their error. He believed that the foci of the disease were at the homes of the tuberculous, and that compulsory registration would prevent many cases from occurring.

Dr. LAMBERT OTT spoke in favor of compulsory registration. He had been able to trace the contagion even before the specific micro-organism had been discovered. In certain instances he had warned families against moving into an infected house, some of whom had subsequently become tuberculous.

Dr. W. M. L. COPLIN, as a laboratory worker advocated compulsory registration. He thought that the plan was best for the patient, for the family, and for the community at large.

Dr. WM. WOONS spoke in opposition to such a measure; in his opinion harm would result. He referred to the commonness with which the disease was widespread among the lower animals, and even fishes.

Dr. SIMON FLEXNER thought that the last speaker had furnished the missing link in the chain of evidence of the value of compulsory registration.

Dr. ALFRED STENGL was in favor of the measure, as was Dr. SENECA EGBERT.

Dr. GUY HINSDALE offered a resolution to the effect that the Philadelphia County Medical Society sanction compulsory registration in tuberculosis. This was carried with only one dissenting voice.

Books and Pamphlets.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

BOOKS.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Specially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattel, A.M., M.D., Philadelphia, U. S. A., with the collaboration of John E. Murphy, M.D., of Chicago; Alexander D. Blackder, M.D., of Montreal; H. C. Wood, M.D., of Philadelphia; T. M. Rotch, M.D., of Boston; E. Landolt, M.D., of Paris; Thomas G. Morton, M.D., of Philadelphia; and Charles H. Reed, M.D., of Philadelphia, with Regular Correspondents in Montreal, Paris, Leipzig, and Vienna. Volume III, Tenth series, 1900. Cloth; pp. 301. Price, \$2.25. Philadelphia: J. B. Lippincott Co. 1900.

A MANUAL OF MATERIA MEDICA AND PHARMACOLOGY. Comprising all Organic and Inorganic Drugs which are and have been official in the United States Pharmacopoeia, together with Important Allied Species and Useful Synthetics, Especially designed for Students of Pharmacology and Medicine, as well as for Druggists, Pharmacists, and Physicians. By David M. R. Culbreth, Ph.D., M.D., Professor of Botany, Materia Medica, and Pharmacology in the Maryland College of Pharmacy. Second Edition, Enlarged and Thoroughly Revised. With 464 Illustrations. Cloth; pp. 885. Price, \$4.50 net. Philadelphia and New York: Lea Brothers & Co. 1900.

OBSTETRIC CLINIC. By Deauslow Lewis, Ph.C., M.D., Professor of Gynecology in Chicago Polyclinic. A Series of Clinical Lectures on the Subjects of Interest to Students and Practitioners, at the Cook County Hospital, Chicago. Together with Remarks on Criminal Abortion, Infanticide, Illegitimacy, the Restriction of Venereal Diseases, the Regulation of Prostitution and other Medico-Sociological Subjects. Cloth; pp. 652. Price, \$3.00. Chicago: E. H. Colegrove.

DISEASES OF THE THROAT, NOSE AND EAR. A Clinical Manual for Students and Practitioners. By P. McBride, M.D., F.R.C.P., Ed., Fellow of the Royal Society of Edinburgh. Third Edition, Enlarged and Thoroughly Rewritten. With 744 Illustrations and Original Drawings. Cloth; pp. 744. Price, \$7.00. Edinburgh and London: Young J. Pentland. Philadelphia: P. Blakiston's Son & Co. 1900.

URIC ACID AS A FACTOR IN THE CAUSATION OF DISEASE. A Contribution to the Pathology of High Blood Pressure, Headache, Epilepsy, Menstrual Diseases, Patulous Renal Hemoglobinuria and Anemia, Bright's Disease, Diabetes, Gout, Rheumatism, and other Disorders. By Alexander Haig, M.A., M.D. Oxon., F.R.C.P., Physician to the Metropolitan Hospital. Fifth Edition. With 75 Illustrations. Cloth; pp. 846. Price, \$5.00. Philadelphia: P. Blakiston's Son & Co. 1900.

A MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, A.M., M.D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia. Second Edition, Enlarged and Thoroughly Revised. Illustrated with 77 Engravings. Cloth; pp. 435. Price, \$2.25. Philadelphia and New York: Lea Brothers & Co. 1900.

CANCER OF THE STOMACH. A Clinical Study. By Wm. Osler, M.D., and Thomas McCrae, M.B. (Tor.), of the Johns Hopkins Hospital, Baltimore. With Illustrations. Cloth; pp. 157. Price, \$1.25. Philadelphia: P. Blakiston's Son & Co. 1900.

A HANDBOOK OF THE DISEASES OF THE EYE AND THEIR TREATMENT. By Helen B. Swanzy, A.M., F.R.C.S. L. Examiner in Ophthalmology to the University of Dublin. Seventh Edition. With 165 Illustrations. Cloth; pp. 607. Price, \$2.50. Philadelphia: P. Blakiston's Son & Co. 1900.

PAMPHLETS.

ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC HEALTH. City of Newark, N. J. 1899. Paper; pp. 128.

A BULLET IN THE POPULATED SPACE. A CASE OF DILATED COLICUS, SHOWING A MILD, BUT NOT A SEVERE, INFLAMMATION AND IN THE SAME TIME THAT IN THE FIRST CASE THEY WERE MISLEADING. A CASE OF APPENDICITIS IN WHICH THE APPENDIX BECAME PERMANENTLY SOLDERED TO THE BLADDER, LIKE A THIRD RECTUM PRODUCING A URINARY FECAL FISTULA. THE IDEAL PHYSICIAN'S REPORT OF A CASE OF RESSECTION OF THE LIVER FOR THE REMOVAL OF A NEOPLASM, WITH A TABLE OF SEVENTY-SIX CASES OF RESECTION OF THE LIVER FOR HEPATIC TUMORS. SURGICAL TREATMENT OF PERFORATION OF THE BOWEL IN TYPHOID FEVER. WITH A TABLE OF 124 CASES. (THE PRESIDENT'S ADDRESS DELIVERED AT THE FIFTY-FIRST ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT ATLANTIC CITY, N. J., June 5-8, 1900. By W. W. Keen, Philadelphia, Reprints.

THE SURGICAL USE OF CELLULOSE THREAD. By W. W. Keen, and Ralph C. Rosenberg, Philadelphia. Reprinted from Philadelphia Medical Journal.

TWO CASES OF STENOZY OF THE TRACHEA. By W. S. Jones and W. W. Keen, Philadelphia. Reprinted from Phila. Med. Jour.

ELEVENTH REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF MAINE FOR THE TWO YEARS ENDING DEC. 31, 1899, 1898-1899. Paper; pp. 317. Augusta, Me.: Kennebec Journal Print. 1900.

MUTUAL RELATIONSHIP OF THE PROFESSION AND THE PUBLIC. By John N. Upshur, M.D., Richmond, Va. Reprinted from Va. Med. Semi-Monthly.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA. Held at Morgantown, May 9, 10 and 11, 1900. Paper; pp. 471. Wheeling, W. Va.: Daily Intelligencer Steam Job Press. 1900.

THE DOSE OF POTASSIUM IODID, WITH REFERENCE TO ITS UNTOWARD EFFECTS UPON THE UPPER RESPIRATORY TRACT. THE USE OF CITRIC ACID FOR THE RELIEF OF OZENA IN ATROPHIC RHINITIS. By Lewis S. Somers, M.D., Philadelphia. Reprints.

THE OPHTHALMOSCOPE AS AN AID IN MEDICAL DIAGNOSIS. By Willis O. Nance, M.D., Chicago.

THE TREATMENT OF PULMONARY TUBERCULOSIS WITH AN ADDITIONAL NOTE ON CLIMATE. By C. G. Campbell, M.D., New York.

TRADE PAMPHLETS.

CLEAN BUSINESS, Being a Description of a New and Aseptic Plaster, with Some Notes on a Line of Medicinal and Surgical Plasters, Absorbent Cottons, Surgical Dressings, Suspensories and Chest Protectors. Paper. Bauer and Black, Chicago.

CLINICAL NOTES ON THE HALOGEN-ALBUMEN PREPARATIONS. AMYLOFORM. Wm. J. Matheson & Co., New York.

DR. ROSE'S SANITARIUM. F. W. Rose, M.D., Medical Director, South Windham, Conn.

DR. STRONG'S SANITARIUM. Sylvester E. Strong, A.M., M.D., Saratoga Springs, N. Y.

Miscellany.

MARINE-HOSPITAL NOTES.

SOME OF THE WORK OF THE SERVICE FOR THE YEAR ENDED JUNE 30, 1900.

MARINE-HOSPITAL DIVISION.—There are now 21 U. S. Marine Hospitals and 115 additional relief stations maintained by the Marine-Hospital Service. A new hospital was opened at Dutch Harbor, Alaska, and relief stations established at San Juan and Ponce, Porto Rico, and at Honolulu, Hawaii. Patients to the number of 12,904 were treated in hospital and 1380 operations were performed. Aid was extended to other branches of the government service, as follows: To the Life-Saving Service, in the physical examination of 1467 surfmen and the examination of 360 claims of surfmen for relief benefits; to the Revenue-Cutter Service, in the examination of 977 applicants for enlistment; to the Steamboat-Inspection Service, in the examination of 2437 applicants for pilots' licenses; to the Coast-Survey and Lighthouse Service, in the examination of 9 applicants for enlistment; and to the Immigration Service, in the medical inspection of 488,572 immigrants.

DOMESTIC QUARANTINE DIVISION.—There are now 13 fully equipped quarantine stations, employing 27 medical officers, 7 stewards, and 150 attendants; and 12 maritime inspection stations, employing 12 medical officers. During the year 4917 vessels were inspected and 597 disinfected. On the border of Texas three inspection stations are maintained, at the following places: Laredo, Eagle Pass and El Paso. At these stations 1521 trains, carrying 35,316 passengers, were inspected; of these passengers 213 were detained and 482 refused entry.

FOREIGN QUARANTINE DIVISION.—Maritime quarantine has been conducted in Cuba, Porto Rico, Hawaii and the Philippines. There are 19 quarantine stations in Cuba, 9 in Porto Rico, 3 in the Philippines, and 4 in Hawaii.

ARMY NOTES.

The tabulations of the cases of suicide and homicide which occurred in the army during the years 1898 and 1899 are compared in the annual report of Surgeon-General Sternberg with the cases which occurred during the ten years 1888-97. Contrary to the general anticipation it is found that there were among the troops during the past two years relatively fewer homicides than during the years of the previous decade and that the mean annual ratio of suicides per 1000 men was about two and one-half times greater during the decade of peaceful garrison life than during the recent period of active military service. The following figures show the rates for three years:

Year.	Suicides.		Homicides.	
	Mean Strength	Ratio per thousand.	Number.	Ratio per thousand.
1888	26,739	8	30	5
1889	27,206	21	77	5
1890	26,684	16	69	7
1891	26,460	22	83	8
1892	26,861	22	82	5
1893	27,659	22	80	5
1894	27,674	18	65	10
1895	27,326	19	70	1
1896	27,183	12	44	4
1897	27,374	10	37	5
Mean of decade	27,116	17	63	5.5
1898	147,795	38	26	19
1899	105,546	30	28	23

Therapeutics.

VOMITING.

Vomiting may be caused by various pathological conditions of the stomach. It may be due to some spinal or brain trouble, organic in nature or arise reflexly from diseased conditions of the other organs, such as involvement of the upper air-passages or digestive apparatus—the palate, pharynx, larynx, esophagus—or from disturbances of the liver, organs of reproduction, dislocated kidney. It may also originate from functional disturbances of the nervous system, which include neurasthenia, hysteria, juvenile and periodic or cyclic vomiting. The process of vomiting relieves the stomach of its contents through the esophagus and mouth. The mechanism includes the contraction of the abdominal muscles and of the diaphragm, which compresses the abdominal cavity and causes the contraction of the walls of the stomach, the simultaneous closure of the pylorus and the opening of the cardia. The epiglottis protects the larynx while the soft palate guards the entrance to the posterior nares, leaving a free and unobstructed passage from the stomach to the mouth. Below are given prescriptions adapted to some of the forms of vomiting.

VOMITING IN PREGNANCY.

Bacon states that proper intracranial circulation should be maintained by assuming the horizontal position, which is the most important of all things in treating vomiting due to this cause. This position must be persistently maintained. Keep the head lower than the feet and give nourishment without raising the head. During the attacks of vomiting the patient may be turned on the side, but for no reason should she be raised.

1. Rest in bed.
2. A cup of strong coffee, without sugar or cream, in the morning before rising.
3. Liquid diet, milk with lime-water added, egg albumin, somatose, beef-juice.
4. It is sometimes advisable to wash out the stomach—lavage.
5. Rest the stomach and give rectal alimentation.

R. Liquoris potassii arsenitis.....	ʒi	32
Sig. Two or three drops in water before meals.		
R. Orexin tannatis.....	ʒi	4
Ft. capsulæ No. xii. Sig. One capsule four times a day.		
R. Acidi carbolici.....	gr. xvi	1 06
Cocaine hydrochlor.....	gr. iii	2
Glycerini.....	ʒss	16
Aquæ q. s. ad.....	ʒiii	64
M. Sig. One teaspoonful before rising in the morning, and repeat in fifteen minutes if necessary.		
R. Cocaine muriatis.....	gr. ii	12
Aquæ destil.....	ʒii	64
M. Sig. One teaspoonful before meals, and		
R. Ext. nucis vomicæ.....	gr. iii	2
Pepsini sacchari.....		
Bismuthi subnitratiss, āā.....	gr. xlv	3
M. Ft. capsulæ No. xv. Sig. one capsule after each meal.		
—Med. Council.		
R. Ext. hydrastis canadensis fluidi.....	ʒi	32
Sig. Twenty drops in water every hour for three doses.		
Hydrastis is said to lower the blood-pressure, quiet the nervous centers and lessen uterine hyperemia.		
—Federow: <i>Clinical Ther.</i>		
R. Potassii bromidi.....	ʒii	8
Solutionis strychninæ.....	ʒss	2
Aq. chloroformi q. s. ad.....	ʒiii	96
M. Sig. Two teaspoonfuls in water three or four times daily.		
—Neall: <i>Med. Lancet.</i>		
R. Menthol.....	gr. xii	72
Spts. frumenti.....	ʒvi	24
Syrupi simplicis.....	ʒi	32
M. Sig. One teaspoonful every hour until relieved. Or,		
R. Menthol.....	ʒss	6
Olei olive, q. s. ad.....	ʒi	32
M. Sig. Ten drops on sugar every hour until vomiting ceases.		
—Gould and Pyle.		

RECTAL MEDICATION.

R. Sodii bromidi.....	gr. xxx	2
Chloralis hydratis.....	gr. xv	1
Aquæ destil, q. s. ad.....	ʒvi	192

M. Sig. As an enema to allay the vomiting.
It is not wise to administer medicines in this way in more than six ounces of water, so that it may be retained.

SEVERE HYPEREMESIS.

The *Atlanta Med. Journal* contains the following extracts from an article written by Twombly, who quotes authorities for and against radical interference in severe hyperemesis.

Klein states: "In hyperemesis of the third degree the artificial induction of labor is occasionally required."

Bacon: "Induction of abortion is never indicated."
Leclerc: "Good results from simple cauterization of the cervix."

Lusk: "There remains as an ultimate resource the artificial induction of abortion."

Jewett: "Evacuation of the uterus is often too long delayed."

And, according to the *Atlanta Medical Journal*: "The indications for emptying the uterus are: 1, inability to retain any food by the mouth; 2, intolerance of rectal enemata; 3, more or less albuminuria; 4, progressive emaciation; 5, constant headache; 6, frequent and feeble pulse."

VOMITING OF UTERINE ORIGIN.

R. Menthol.....	gr. v	3
Tinct. opii.....	ʒiiss	10
Liquoris pepsinæ.....	ʒi	32
M. Sig. Ten to twenty drops before each meal.		

R. Resorcin.....	ʒiii	8
Syrupi aurantii.....	ʒi	32
Aquæ destil, q. s. ad.....	ʒiii	96

M. Sig. One teaspoonful in water three times a day before meals.

HYPERESTHESIA OF MUCOUS MEMBRANE OF STOMACH.

R. Creosoti.....	m. x	65
Acidi aceticis.....	m. xx	125
Morphinæ sulphatis.....	gr. i	06
Aquæ destil, q. s. ad.....	ʒi	32

M. Sig. One teaspoonful every half hour for three or four doses.

ANESTHETIC TO MEMBRANE OF THE STOMACH.

R. Acidi carbolici.....	gr. i	06
Spts. chloroformi.....	m. iv	25
Spts. vini rectificati.....	ʒss	2
Aquæ destil, q. s. ad.....	ʒi	32

M. Sig. One-half the above to be taken at once and repeated in half an hour. —Fco.

HYSTERICAL VOMITING.

R. Ext. belladonnæ.....	gr. vi	36
Ext. nucis vomicæ.....	gr. viiss	5
Ext. hyoscyami.....	gr. xv	1
Aloini.....	gr. vi	36
Ferri carbonatis.....	gr. xxx	2

M. Ft. capsulæ No. xxx. Sig. One capsule after each meal three times a day.

VOMITING OF DRUNKARDS.

R. Liq. potassii arsenitis.....	ʒi	32
Sig. Three drops in water four times a day.		

BILIOUS VOMITING.

R. Hydrargyri chloridi mitis.....	gr. x	66
Sodii bicarbonatis.....	ʒiii	12

M. Ft. chartulæ No. x. Sig. One powder every hour until bowels move thoroughly.

NERVOUS VOMITING WITHOUT ANY ANATOMICAL LESION.

R. Menthol.....	gr. i	06
Sodii bicarb.....	ʒiiss	6

M. Ft. capsulæ No. x. Sig. One capsule three times a day.

IN SEVERE CASES.

R. Ext. belladonnæ.....	gr. 1.3	02
Cocaine.....	gr. 1.2	03

M. Ft. suppos. No. i. Sig. One suppository night and morning. —Pacif. Med. Jour.

VOMITING DUE TO GASTRIC IRRITATION IN NEUROTIC PEOPLE.

R. Sodii bromidi.....	gr. xx	133
Aquæ destil.....	ʒii	64

M. Sig. At one dose one hour before meals.

Or,		
R. Acidi hydrocyanici dil.....	ʒi	32
Sig. Three drops in water one-half hour before each meal.		

Medicolegal.

VOMITING OF PERTUSSIS.

R. Menthol	gr. i	06
Sacchari	gr. xii	72

M. Ft. chartulæ No. vi. Sig. Give one powder every two hours. —Baginsky.

VOMITING IN CHILDREN.

R. Potassii bicarb.	gt. xxv	1 5
Acidi citrici	gtt. xvii	1 12
Aquæ amygdalæ amare.	ʒi	32
Aquæ destil.	ʒiij	64

M. Sig. One teaspoonful every time vomiting occurs. —Holt: *Med. Record*.

VOMITING AFTER CHLOROFORM ANESTHESIA.

R. Cerii oxalatis	gr. ii	12
Codæine sulphatis	gr. 1/6	

M. Ft. chartulæ No. i. Sig. One powder every half hour if necessary, until three or four powders are taken. —*Clinica Moderna*.

AFTER ETHER ANESTHESIA.

R. Acetanilidi	gr xv	1
Sodii bicarb.	gr. xx	1 33
Caffeina citratæ	gr. v	33

M. Ft. chartulæ No. v. Sig. One powder with a little cracked ice or brandy and repeat in one hour if necessary.

VOMITING FROM CEREBRAL TUMOR.

R. Potassii iodidi	ʒi	32
Aquæ destil. aa.	ʒiij	64

M. Sig. Ten drops in water after meals, and gradually increase to full physiological action.

In the vomiting of gastric ulcer, the *New York Medical Journal* says that dilute hydrocyanic acid or morphin acetate in combination with an alkaline bismuth mixture given before meals will usually meet the requirements. In stubborn cases, it is advisable to nourish the patient by rectal nutrient enemata.

R. Acidi hydrocyanici	m. xii	72
Bismuthi subnitratris		
Pulv. acaciæ, aa.	ʒiij	8
Aquæ destil. q. s. ad.	ʒiij	64

M. Sig. Shake. One tablespoonful before each meal, three times a day.

VOMITING IN GASTRIC FERMENTATION.

R. Acidi salicylici	ʒi	4
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M. Ft. chartulæ No. x. Sig. One powder one hour after each meal.

GASTRALGIA ASSOCIATED WITH VOMITING.

R. Morphine hydrochloratis	gr. iij	2
Cocaine hydrochloratis	gr. vi	36
Tinct. belladonnæ	ʒi	4
Emulsionis amygdalæ amare, q. s. ad.	ʒi	32

M. Sig. Ten to fifteen drops every hour. —Ewald.

Or,		
R. Bismuthi subnitratris		
Pulv. acaciæ, aa.	ʒiij	8
Aq. destil. q. s. ad.	ʒiij	64

M. Sig. Shake. One tablespoonful three times a day.

VOMITING OF ACUTE GASTRITIS.

R. Vini ipecacuanhæ		
Tinct. nucis vomicæ, aa.	ʒss	16

M. Sig. Two drops every two hours in water.—Brunton.

OBSTINATE VOMITING.

R. Acetanilidi	gr. vi	36
Caffeina citratæ	gr. iij	20
Camphoræ monobromatæ	gr. vi	36

M. Ft. pil. or chart., No. vi. Sig. Dissolve in a little brandy, pour over cracked ice and give from a spoon. Repeat in one-half hour, if necessary.

R. Sodii bicarb.		
Spts. ætheris nitrosi, aa.	ʒiiss	10
Aq. menthe pip. q. s. ad.	ʒiv	128

M. Sig. One teaspoonful at a dose, and repeat every few minutes until vomiting is relieved.

R. Tinct. iodi	m. x	66
Aquæ destil.	ʒiv	128

M. Sig. One tablespoonful in half glass of sweetened water between meals. —*Med. News*.

PERSISTENT VOMITING.

Dr. Mitchell, in *Med. Summary*, states that he has succeeded in overcoming persistent vomiting by the aid of cold compresses, by wringing towels out of iced water and placing them over the epigastric region and changing them every minute until vomiting ceases. He states that in this way he can check vomiting in fifteen or twenty minutes.

Can Not Testify as to Sobriety of Patient.—The Supreme Court of Iowa apparently sanctions the rule that a physician may state the fact of his attendance upon a patient, but not his condition, even as regards sobriety. For example, in the personal injury case of Finnegan vs. the City of Sioux City, the plaintiff had said that he was not treated for delirium tremens at the time of treatment for his injury. His attending physician was called as a witness by the defendant, and it was sought to be shown by him that the plaintiff at this time had delirium tremens. But this testimony was excluded by the trial judge, and the supreme court holds properly. The matter asked for, it says, was in the nature of a confidential communication, privileged under section 4608 of the Iowa code. Facts learned by a physician while in the discharge of his duties as such, it declares, are within this section.

Accident Insurance Covering Death by Sunstroke.—The Court of Appeals of Kentucky says, in the case of the Railway Official & Employees Accident Association vs. Johnson, that if it were to go to the adjudicated cases bearing on the subject, or to reason the case out, to determine whether death caused by sunstroke should be considered accident, much might be said one way or the other. But it finds itself relieved of the necessity of deciding that question here by the terms of the contract of insurance. The policy itself expressly provided that disability or death caused by or contributed to by sunstroke or freezing while the insured, a railway employee, was not in the line of his duty as such employee, should reduce the liability to one-fourth. And this, the court holds, certainly meant that if the sunstroke was received while in the discharge of his duty there would be full liability; otherwise, one-fourth liability.

Attaches Pecuniary Value to Physical Training.—In the case of Hoadley vs. the International Paper Company, the Supreme Court of Vermont points out that the law shows that it not only recognizes a pecuniary value in intellectual and moral training because of the provisions it has made for it, but that it also recognizes the pecuniary value of physical training in including elementary physiology and hygiene among the studies to be taught in the common schools of the state. Continuing, the court says that it needs no argument to prove that physical training is as necessary for the well-being of a child as mental and moral nurture. The experience of everyday life emphasizes this fact. It is equally apparent, it declares, that such training has a pecuniary value. Besides, it is convinced that the training of the child mentally, morally, and physically by the parent may be, and often is, more effective and lasting for good than any instruction received in schools and colleges. Wherefore, it in this case holds that the loss in this respect of the minor children of the man whose death was the subject of the action was proper to be considered in determining their pecuniary loss resulting from their father's untimely death, which was attributed to the negligence of the defendant.

Proper and Improper Expert Evidence in Rape Case.—The Supreme Court of California holds, in the case of People vs. Benc, a prosecution for rape, that the testimony of a physician as to the condition in which he found the sexual organs of the prosecutrix some four to six days after the alleged rape was admissible in evidence. The jury, it states, were the judges of its probative force. Moreover, it says that it has been held that the condition of the hymen six months after the alleged rape may be shown, the remoteness of the evidence going merely to its probative force. Then, a medical witness was asked, in this case: "As a physician, having knowledge of the strength and physical condition and development of a man and of women, do you think it possible for a man to have forcible intercourse with a girl well developed, and weighing 138 pounds, without her consenting to the performance of such sexual act?" But, without stopping to inquire if the proposition involved in this question was admissible at all, the court holds that it was not a subject for expert opinion. The jury, it declares, were as competent to answer the question

as a physician would be. It also holds incompetent and improper as evidence in such a case a statement made by a physician that medical authorities place the proportion of town to false charges of rape as one true charge to twelve false ones.

Registry Essential to Recovery of Fees.—In the case of *Acetia vs. Zupa*, an action brought to recover for professional services, the defendant denied that the plaintiff was duly qualified, registered, and authorized to practice medicine as a physician in Kings county, New York. The plaintiff proved that he was admitted to practice and graduated in the University of Naples, and had passed an examination in the University of the State of New York, was licensed in 1896, and had practiced medicine since that time. Now, after proof that the plaintiff was a regular physician, the defendant was bound, the second appellate division of the Supreme Court of New York holds, to sustain the allegation that the plaintiff was not licensed and authorized to practice in Kings county. In other words, it holds that the plaintiff was not bound, in the first instance, to prove that he was a regularly licensed physician, the burden of proof in the matter, in such a case, being on the defendant. Next, it holds that, counsel for the defendant having for this purpose offered the Register of Physicians and Surgeons of Kings County, volume 2, to show that at the time of the rendition of the services in question the plaintiff was not a registered or licensed physician in Kings county, the exclusion of the record was error. It adds that if the plaintiff had desired to raise a question as to its being a public record, his objection should have been specific, and the defendant would then have been called upon to prove the authenticity of the volume by showing the source of its production and that it was kept by authority. But an objection that it was incompetent, immaterial, and irrelevant, it holds, was not sufficient to raise that question. Nor does the court consider that the evidence was irrelevant and immaterial. It holds that registry was essential to a recovery, under the provisions of the New York public health law, which make it a misdemeanor, punishable by fine and imprisonment, to practice medicine without registration.

Town Should Pay for Attendance on Poor Person.—By section 1512 of the Revised Statutes of Wisconsin it is provided that when any person not having a legal settlement therein shall be taken sick, lame or otherwise disabled in any town, city, or village, or for any other cause shall be in need of relief, as a poor person, the supervisors or other proper authorities shall provide such assistance as they may deem just and necessary, and shall make such an allowance for medical aid, etc., as they shall deem just and shall order the same to be paid out of the town, city or village treasury, and the expense so incurred shall be a charge against the county, the account of the town therefor to be audited by the county board and paid out of the county treasury. At the same time, it makes it the duty of the authorities to notify the county clerk within ten days after such a person so becomes a public charge, whereupon the county authorities may take charge of such poor person and remove him to the county poor farm or relieve him in such other manner as they may see fit. But, in the case of *Ebert vs. Langlade County*, the chairman of a town notified the county clerk of such a poor person in the town who became suddenly in need of medical treatment, and those two officials employed a physician to render the required medical treatment, and agreed that he should file his claim for services with such county clerk, to be paid by the county. The claim was in due time filed pursuant to such agreement, and a taxpayer brought this action to enjoin the county from issuing a county order on the audited bill for medical services. With the taxpayer the Supreme Court of Wisconsin agrees that the course pursued in this instance was clearly wrong. It holds that under the statute the town became the debtor of the physician; that he did not have any legal or equitable demand enforceable against the county, and that the latter had no legal right to allow or pay his claim. The claim, it continues, should have been presented to and audited by the auditing board of the town and paid out of the town treasury like any other town liability, and

a claim should then have been presented by the town to the county for reimbursement. Yet, while the supreme court holds that the statutes should be strictly followed at every step in incurring public liabilities and in the disbursement of public moneys, as the county was ultimately liable for the amount, it does not consider it a case for an injunction.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

- New York Medical Journal, Nov. 17.
- 1 Rational Physical Training for Women. (To be continued.) George Alexander Saxe.
 - 2 *Endotheloma of Bone, with Many Metastases. (Concluded.) Franz H. Brandt.
 - 3 A Review of our Knowledge of Malaria. Joseph McFarland.
 - 4 *The Etiology of Eczema, with Reference to Recent Views as to Its Parasitic Origin. L. Duncan Bulkley.
 - 5 *An Operation Devised for the Treatment of Marked Prolapse of the Rectum in Women. J. Wesley Bovée.
 - 6 *Delirium Tremens. Charles C. DeGlas.
 - 7 Phoenix, Arizona, as a Health Resort for Tuberculous Patients. E. Payne Palmer.
- Boston Medical and Surgical Journal, Nov. 15.
- 8 *Public Health Laboratories. Theobald Smith.
 - 9 *Feeding in Typhoid Fever, with a Report of Cases. George W. Moorehouse.
 - 10 The Co-operation of the Medical and Legal Professions. George A. Sanderson.
 - 11 Criminal Neglect; Report of a Case. A. W. Buck.
 - 12 Three Cases of Gunshot Wounds. A. Farenholt.
- Philadelphia Medical Journal, Nov. 17.
- 13 *The Etiology of Yellow Fever. Eugene Wasdin.
 - 14 *Carcinoma of the Rectum. John B. Deaver.
 - 15 *Acute Hemorrhagic Encephalitis. Charles D. Center.
 - 16 Idiopathic Phlegmonous Gastritis. Francis P. Kinnicut.
 - 17 Aneurysm of Spermatic Artery Simulating Oblique Inguinal Hernia. S. W. Miller.
 - 18 Note on Specimen Showing a Small Sacular Aneurysm on an Accessory Branch of the Right Renal Artery. Maude E. Abbott.
 - 19 Venous Thrombosis in Heart Disease. William W. Ford.
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 - 21 The Hydratic Treatment of Tuberculosis. (Continued.) J. H. Kellogg.
 - 22 *Pernicious Anemia: Report of a Case. G. R. Trowbridge.
 - 23 Some Observations on Affections of the Gall-Bladder. Frank LeMoyné Hupp.
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- 24 *Differential Diagnosis in Diseases of the Gall-Bladder and Ducts. George W. Brewer.
 - 25 *The Mortality from Diabetes Mellitus in the City of New York (Manhattan and the Bronx) in 1899. Heinrich Stern.
 - 26 *The Use of the Suprapneumatic Capsule in Diseases of the Lower Air-Passages. A Preliminary Report. Samuel Floersheim.
 - 27 *Perfect Recovery Following Gangrene of the Scrotum and Penis. Everard H. Richardson.
 - 28 A Case of Carbolic-Acid Poisoning, With a Question Concerning Asphyxia. H. E. Kendall.
 - 29 Chylous Ascites. J. W. Kales.
 - 30 Universal Ankylosis. H. A. Elliott.
 - 31 Pitomani Poisoning from Eating Cheese. G. Leo H. Burger.
- Cincinnati Lancet-Clinic, Nov. 17.
- 32 *Post-Operative Hemorrhage. A. H. Cordier.
 - 33 Lumbar Cocainization. J. C. Sexton.
 - 34 The Treatment of Constipation. George J. Monroe.
 - 35 Difficulties in the Diagnosis of Typhoid. J. E. Witham.
 - 36 Deductions and Suggestions Derived from a Case of Cholelithiasis, With the Removal of 198 Stones; Recovery. Fran O'Neill Kane.
- St. Louis Medical Review, Nov. 17.
- 37 Removal of the Pelvic Inflammatory Masses by the Abdomen After Bisection of the Uterus. Howard A. Kelly.
 - 38 A Study of Anemia and Its Treatment. H. Senator.
- Pediatrics (N. Y.), Nov. 1.
- 39 *Artificial Alimentation. A. Jacobs.
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- 40 *Reflex Neurosis from Disturbed Pelvic Mechanism—Its Treatment. Byron Robinson.
 - 41 A Study of the Senses of the Feeble-Minded. A. R. T. Wylie.
 - 42 Diseases of the Stomach. J. M. Carter.
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- 44 *The Curability of Inebriety by Medical Treatment. T. D. Crothers.
 - 45 Alcohol and Heredity. A. T. Cuzner.

- 46 The Cause of some Cases of Neurasthenia, and Their Treatment by Electricity. Francis B. Bishop.
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- 47 *Analgesia of All the Tissues Below the Diaphragm by the Injection of Cocain Hydrochlorate Into the Spinal Canal; With Report of Cases. Angus McLean.
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- 50 Our Milk Supply; Some Observations at Home and Abroad. S. E. Munson.
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- 53 Detailed Mechanism of Genital Dislocation. Byron Robinson.
- 54 A Case of Sudden Blindness Subsequent to Cauterization of the Nose. Albert R. Baker.
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- 57 *The Fate of Sponges, Ligatures and Other Foreign Bodies in the Peritoneum. Carl Beck.
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- 59 Demonstration of a Case of Dextrocardia. Homer M. Thomas.
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- 64 *Tubo-Ovarian Abscess and How Best to Deal With It. Edwin Ricketts.
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- 72 Address Before the Rocky Mountain Interstate Medical Association. C. K. Cole.
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- 96 *Chronic Inflammation of the Tear-Passages. Willis O. Nance.
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- 114 A Case of Multiple Neuritis With Atrophy, Fibillary Twitchings, Cramps and Exaggerated Reflexes: Two Years' Duration and Recovery. Wm. James Morton.
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- 126 Post-Partum Hemorrhage. A. L. Blesh.
- 127 Alum. W. O. Bunell.
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- 129 On Suggestive Therapeutics, Magnetic Healing and Osteopathy. T. H. Line.
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- 137 Aspirin: An Improved Salicylic Acid. George A. Hewitt.
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Medical Dial (Minneapolis, Minn.), November.
- 140 The Matter of Specialties in Medicine. Franklin Staples.
- 141 *Clinical Use of Diphtheria Antitoxin. Edwin Rosenthal.
Austin Flint Medical Journal (Mason City, Iowa), Nov. 15.
- 142 Clinical Application of Mind Cure. C. W. Sanders.
- 143 Alkaloidal Medication. J. W. Cunningham.
Texas Medical Journal (Austin), November.
- 144 Anesthesia in Labor. S. Burg.
- 145 The Cause and Treatment of Puerperal Sepsis. F. B. Moore.
Medical Standard (Chicago), November.
- 146 Chronic Parenchymatous Nephritis. Frank Billings.
- 147 Tertiary Syphilis. William S. Gotthell.

- 148 Typhoid Fever, Its Etiology and Treatment.. J. T. Moore.
 149 Acute Respiratory Affections. William F. Waugh.
 150 Some Recent Therapeutic Measures in Cystitis. G. M. Randall.
 151 The Early History of Intestinal Surgery. Adolfo Luria.

AMERICAN.

2. **Endothelioma of Bone.**—The case reported by Brandt was published in the previous number of the *New York Medical Journal*, and he discusses in this issue the origin of the growths and reviews the literature. He remarks that most of these growths have their origin in the blood-vessels, but doubts that an irritating substance in the blood causes a proliferation of the endothelium as suggested by Koenig. The growth is one of extreme malignancy and, if recognized in its early stages, may be relieved by prompt operation. Heredity seems to be lacking, but it predominates in the male sex. It occurs more in people past middle life, and is nearly always preceded by a history of trauma. Swelling is noticed first, this gradually increases and then is accompanied with pain sometimes quite intense and perhaps radiating. With these a distinct pulsation is seen and a bruit heard over the tumor. The skin remains normal and the periosteum seems to be uninvolved. Unless removal of the tumor is practiced, gradual absorption of the bone will eventuate in spontaneous fracture. The general symptoms are anemia, anorexia, emaciation, chills and fever, and, in the later stages, delirium.

4. **Etiology of Eczema.**—Bulkley reviews the various predisposing causes of eczema as: 1, inherited states, like tissue debility, eczema of parents, scrofula, gout and rheumatism, neuroses, bronchitis and asthma, and 2, acquired states, such as assimilated disorders, dyspepsia, auto-intoxication, hepatic disorder, lithemia, anemia, intestinal derangements, pulmonary disorders, etc., and then discusses the relation of neurosthenia, neuroses, cardiac disorders, faulty nutrition, dietetic errors, etc., to the disease.

5.—See Society Proceedings in this number.

6. **Delirium Tremens.**—Douglas criticizes a recent article on the treatment of delirium tremens by large doses of digitalis and restraint, and contrasts it with his own treatment by apomorphin in anodyne doses, together with the gradual withdrawal of alcohol and nourishment. He says that in delirium tremens he never uses forcible restraint, never suddenly withdraws alcohol, and has never had a death.

8. **Public Health Laboratories.**—Smith's address covers the field of the importance of laboratories for public-health purposes, their possibilities, methods, uses and dangers. He suggests that the tendency to crystallize the methods is both a safeguard and a danger since they guide us and make results homogeneous, but they also tend to routinism, to stifle discovery, and to the maintenance of stereotyped and not always most advantageous procedures. The laboratory should always be testing and devising new methods, ever having as its guide the purpose in view.

9. **Feeding in Typhoid.**—The old rule of keeping typhoid patients exclusively on a liquid diet is noticed and the experience of Moorehouse with the more general feeding detailed. He gives the details of several typhoid diets, ranging from the strict milk diet, through the liquid, including broths, etc.; the soft typhoid diet, adding some well-cooked gruels, crackers, soft eggs, etc.; the convalescent diet, including the more digestible means and vegetables; and the full typhoid diet, which is one that can be easily endured by the healthy individual. The results are detailed. In some cases there was an apparent tendency to increase of fever or what might be considered a relapse, though he does not so regard it in all cases. He thinks he has included among relapses some that would not be so considered by others. The mortality was reasonably small only 13 out of a total of 150 cases, and in all the deaths the patients were on a liquid diet though one had been put on a soft diet for a short time before; so it is apparent that the more generous diet did not have any serious effect in increasing mortality. In cases of apparent relapses, there was one death, giving a mortality of 3.3 per cent., which compares

favorably with 9.1 per cent. reported by Hare from 252 cases in the literature. The average stay in the hospital on a milk diet has been 10 days, the average time from the first order of increasing the diet to the order for the patient to be propped up in bed with a bed-rest, 18 days. These events divide the first 28 days of the average patient's stay into two periods. In the first, 9 relapses occurred and in the second, 21. The usual period of relapse is during convalescence or after complete defervescence, so it would appear that diet does not specially influence the relapse as judged by this fact. He quotes the statistics of a Russian army surgeon, Bushuyev, which were very favorable to a generous diet. Moorehouse remarks that the conclusion as to the advisability of a fuller diet will be judged by the mortality and offers his experience as a contribution toward the settlement of the question.

13. **Yellow Fever.**—Wasdin criticizes the recent article of Reed and Carroll and maintains his old position as to the part Sanarelli's bacillus plays in the production of the disease. He also criticizes their experiments regarding mosquito-transmission of the disease.

14. **Carcinoma of the Rectum.**—Deaver describes the different forms of carcinoma which may affect the rectum. The vast majority are of the cylindrical-cell type, while clinically, several varieties may be distinguished, scirrhus, the medullary or encephaloid and colloid. The symptoms, especially the early ones, appear to bear no relation to the gravity of the affection. Pain is the most frequent symptom; it is often intense, tenesmus is often distressing, and diarrhea is constant and troublesome. The prognosis depends upon the position and extent of the growth and the time which has elapsed since beginning. Ordinarily the disease is situated about 2½ to 3 inches above the anus, but it may start higher up and then the growth is more rapid as a rule, and an earlier colotomy may be necessary to relieve the pain. The characteristic "feel" and odor render the diagnosis unmistakable. The only condition that might be confused with it is indurated ulceration causing stricture. The insidious beginning of the disease makes it advisable, in Deaver's opinion, to make a rectal examination in every case of more or less continuous diarrhea. The radical measures offer the best chance of relief. His practice in dealing with carcinoma of the rectum is as follows: Where the growth involves the terminal part of the rectum and includes the anus, the operation of removal is made through the perineum; the mucous membrane of the bowel above being stitched to the skin margin of the circular perineal incision. Where the growth involves the lower portion of the rectum, exclusive of the anus, it is removed through a posterior median incision, taking away the coccyx with, in many cases, the last one or two segments of the sacrum. By this modified Kraske method, as in that for the removal of a growth occupying a higher location, the diseased portion of the bowel is excised and end-to-end union of the divided bowel made. This permits of re-establishment of the function of the bowel. Where the growth occupies the upper portion of the rectum, and to some extent the terminal portion of the sigmoid, it is removed through the posterior median incision, taking away the coccyx and the lower three or four segments of the sacrum. Here, end-to-end union of the divided bowel is practiced. Cases, reported by him in the *Transactions of the Academy of Surgery, of Philadelphia*, for the year 1900, show three successful cases with complete restoration of bowel function. The section of the sacrum is made with chisel or osteotome, and the ligaments and soft tissues cut with scissors curved on the flat and made to hug the bone, thus dividing the vessels where they are smallest and readily reached. The amount of bleeding is not great, hence shock is of minor importance. On one occasion he first opened the abdominal cavity and tied the inferior mesenteric artery. This he has never repeated, as he considers it too much surgery where less suffices. He does not consider preliminary colotomy necessary, and would practice it only when incision of the rectum is to be done later. He regrets that more radical surgery is not permissible, by which he means removal of the lymphatic glands of the mesosigmoid. If this could be done, the outcome would be more promising. When the growth occupies the rectum high up and can not be

ected by examination through the rectum and vagina he opens the abdomen in the left iliac region. The growth in the rectum can be taken out by a posterior incision; the sigmoid is divided transversely and removed with its mesentery as far as the growth, and the margins of the upper opening are stitched, closing the lower part of the incision entirely.

15.—See abstract in *THE JOURNAL*, xxxiv, p. 1416.

20. **Surgical Importance of Jaundice.**—The early theory that jaundice is always due to obstruction is noticed by Macaren, who points out its incorrectness and then reports a case illustrating his views. The diagnosis of obstructive jaundice was apparently clear, but an operation developed a perfectly normal biliary system and a large appendicular abscess. Other similar cases of jaundice are mentioned and the cause in these cases is presumed to be a toxemia. The general conditions producing jaundice are noticed, and as regards its surgical importance the author concludes: 1. That slight attacks of jaundice are of comparatively little surgical importance, and that the majority of surgical diseases of the biliary passages are no jaundice at all. 2. That persistent jaundice, especially if progressive, is usually a contraindication to operation. 3. Intermittent, deep jaundice, especially if associated with chills and a rise in temperature, denotes a stone in the common duct which urgently demands removal.

22. **Pernicious Anemia.**—The symptoms, etiology, diagnosis, prognosis and treatment of pernicious anemia are discussed by Trowbridge, who reports a case and emphasizes the following points: In cases of apparent chlorosis and primary anemia in which there is present the greenish tint of the skin, together with dyspnea, palpitation, and general malaise, one should not depend on symptoms for the diagnosis, but should let the blood examination decide whether one is dealing with either of these diseases or with a case of pernicious anemia.

24. **Diagnosis of Biliary Diseases.**—The object of Brewster's paper is to present a tabulated diagnosis-chart pointing out the different symptoms observed in the various forms of diseases of the gall-bladder and its ducts, and together with the chart he reviews the symptoms in detail. Pain is one of the three chief symptoms and repeated attacks occurring in aroxyms in the upper right quarter of the abdomen strongly suggest a lesion of the biliary passages. This suggestion is enforced if the attacks occur at night or during fasting, and are accompanied with vomiting or fever, and still more if the pain leads up toward the back and shoulder and there is an area of tenderness under the free border of the ribs. The appearance of tumor is indicative rather of cholelithiasis, and jaundice without tumor, of a lesion of the common duct. There are conditions giving rise to acute pain in the upper abdomen that have to be excluded, such as that from gastric ulcer usually without fever, but with some tenderness in the epigastrium or left hypochondrium, and appendicitis, where it is generally in the right lower quarter. Renal calculi, gastric crises of tabes, intestinal obstruction, and syphilitic hepatitis, all of which are generally more or less prominent characteristics of their own, are also mentioned, though some of them may have symptoms almost identical with those calculous diseases. The tumor which sometimes occurs, smooth, elastic, perceptibly moving with respiration just under the abdominal wall below the ribs and near the outer margin of the right rectus muscle, which cannot be made to disappear like a movable kidney, and has a certain amount of lateral motion without pain and fever, is probably the distended gall-bladder—hydrops. If with such a tumor there is a progressive jaundice, it is probable that the gall-bladder is distended with bile and that there is common-duct obstruction. If sensitive to touch and accompanied by fever it is doubtless a gall-bladder distended with pus. If the tumor is not well defined on account of muscle rigidity, and there is acute radiating pain and marked tenderness, we generally have to do with cholecystitis with local peritonitis. The presence of tumor corresponding to the above description without pain or fever and with progressive increasing jaundice and irregularity of its surface probably indicates cancer. Mild jaundice without other symptoms generally is due to catarrhal obstruction of the common ducts. Temporary jaundice with

pain suggests the passage of stone through the common duct. Intermittent jaundice with pain and fever suggests a floating stone in the common duct. Continued jaundice with chills, fever, hepatic enlargement and tenderness, splenic hypertrophy and general sepsis means infective cholangitis. Progressively increasing jaundice and enlargement of the liver with previous history of colic suggests impacted stone near the patella. Progressively increasing jaundice without pain or fever, but with tumor of the gall-bladder is indicative of common-duct obstruction from a new growth.

25. **Diabetes Mellitus.**—Stern's article is principally a tabulated analysis of the mortality from diabetes mellitus according to the month, sex, age, nationality, occupation, accompanying affections, etc., in New York City.

26. **Suprarenal Capsule.**—Floersheim reports the results of suprarenal capsule in disease of the lower air-passages, including bronchiectasis, bronchial asthma, lung congestion and edema, hemoptysis, and pulmonary tuberculosis. Seven cases are reported in which the use of the drug gave more or less relief. He orders it in the form of 3-grain capsules, chewed without water and swallowed after a few minutes. The action of the drug is apparent in from two to fifteen minutes. In the majority of the cases the action was temporary, continuing from ten minutes to six hours, but in some it was permanent.

27.—See abstract in *THE JOURNAL* of October 20, p. 1047.

32.—*Ibid.*

39.—*Ibid.*, August 11, p. 374.

40.—This article has appeared elsewhere. See *THE JOURNAL* of October 13, 120, p. 980.

43.—See abstract in *THE JOURNAL* of October 6, p. 900.

44.—See abstract in *THE JOURNAL* of October 27, 28, p. 1115.

47. **Spinal Cocainization.**—McLean describes the methods of medullary analgesia, reporting several different cases. He insists on asepsis and caution in the operation, and says he would not recommend the use of the method without caution and close observation afterward.

48. **Compound Fractures.**—Wyman pleads for the treatment of compound fracture by extension and external manipulation without putting the fingers near the wound, using only sterilized forceps and gauze to remove foreign bodies, disturbing the clot as little as possible, placing the foot and limb in a position of physiologic rest, making sure that the soft parts as well as the bone are approximated, and then sealing it all with an aseptic dressing of gauze and cotton. With this he says he is sure his cases heal with about the same results as in simple fracture. More time and more restraint will be needed, but there will be little more pain or constitutional disturbance. He fears that many doctors, in their zeal to secure an aseptic wound, sometimes fill the wound up with filth in the preliminary washing. Great care should be taken to avoid rubbing anything from the surface of the skin into the wound. Before the wound is washed, it should be effectively plugged with aseptic material.

52. **Trigeminal Neuralgia.**—Aldrich discusses the treatment of this condition, especially the strychnin treatment and mentions several cases in which he found castor-oil efficacious. Since then he has followed with better success than ever before the following treatment: The patient is put in the hospital in a quiet room under the care of first-class nurses; his mouth is carefully examined by a competent dentist—he usually finds that the incompetent dentist has drawn about all the teeth the patient had, before coming to him, sound and unsound alike—the urine is carefully examined and the quantity measured; the abdominal and pelvic organs are examined with assiduous care; the heart, and in fact the whole circulatory apparatus as well as the blood is studied, and, to use a commercial phrase, "stock is taken" of all the organs and functions of the body. The first morning the patient receives the initial dose of castor-oil, which is one ounce if the patient is not taking opiates, and two ounces if he has become an habitué or is temporarily using them. A solution of nitrate of strychnin is prepared, one minim of which should represent 1/200 grain. Of this solution he receives 20 m. four times a day as

the initial dose, with orders that the dose should be increased one drop in every twenty-four hours, being an actual increase of 4/200 grain each twenty-four hours. If the patient has been taking morphin, the least possible dose that will relieve the pain is continued for the first two or three days, after which time the dose is gradually diminished by the following method: If it requires one-half grain at each hypodermic injection to relieve pain, an ounce solution is prepared, 30 m. of which represents one-half grain; this solution is kept where it will be in the sight of the patient, and the nurse is instructed to come into the room with a syringe containing 30 m. of sterilized water, and when she prepares to give the morphia, the contents of the syringe are expelled carefully into the bottle, which should be shaken and the usual dose drawn into the syringe and administered. Any competent nurse can do this without the patient being aware that his dose is diminishing every day. If these directions are followed there will be little trouble in weaning the patient from the morphin habit, which is almost as dreadful as the disease itself. In addition to this, if arterial sclerosis is suspected he sometimes found it necessary to use nitroglycerin. This drug is very evanescent in its effects, and he was obliged to give it in full doses, as much as the patient could stand. It can be gradually increased with comparative safety. In some cases of atheromatous disease he has found thyroid with nitroglycerin to have good results, and he has failed to meet with cases where strychnia was absolutely contraindicated or where he felt there was reason for discontinuing the drug excepting when symptoms of strychnia poisoning appeared. He suggests caution in regard to this.

55.—See abstract in *THE JOURNAL* of October 27, p. 1106.

56.—*Ibid.*

57.—*Ibid.*

58.—*Ibid.*

61. **Heart Disease or Epilepsy.**—In this article Pearce endeavors to point out the possible existence of a great similarity between epileptoid phenomena—*petit mal*—where the cardiac action is affected primarily or where the so-called heart failure predominates in the symptomatology, and syncopal attacks independent of the epilepsy neurosis. The subject was first brought to his attention by the case of a man where skilled diagnosticians, including Dr. Da Costa, were unable to determine the nature of syncopal attacks coming on at irregular times. Consciousness was entirely preserved; there were no physiologic signs of heart disease or vascular sclerosis; urinalysis and eye-grounds were negative. Exercise and mental strain alike produced the attacks, which had no sequelae, but tended to recur in spite of dietetic, hygienic and medicinal treatment. A year later the patient developed convulsive seizures alternating with these typical syncopal attacks. A slight sunstroke several years previous was the only objective cause. The man died later of meningitis. He accounts for this case, therefore, by assuming an irritative lesion of the vagus center in the medulla, gradually rising to the motor cortex and due to an insidious meningo-cerebritis from sunstroke. A characteristic point in the syncopal attack was the slow pulse, which did not average over 54 per minute, was at times very irregular, but did not intermit. Other cases are given differing in some respects from the one given, and he concludes that there is a minority of cases of heart failure in which the true origin is difficult to discern. Organic disease of the heart is rarely the cause of convulsions, excepting when due to emboli, in which case paralysis or death usually follows. The less frequent and variable the apparent unconsciousness during an attack of syncope, the more likely the epileptoid nature. The condition in children is most difficult of diagnosis. The presence of a slow, full and irregular pulse, with or even without unconsciousness favors the epileptoid nature of the attack. Leaky skin and cold extremities are more in favor of hysterogenic cases. The absence of pain in any case eliminates angina. Cyanosis is not common, except in organic heart disease. The tendency to rigidity without convulsions favors hysteria.

63.—See abstract in *THE JOURNAL* of September 29, p. 841.

64.—*Ibid.*, October 6, p. 904.

67.—See abstract in *THE JOURNAL*, xxxiv, p. 1416.

68. **Rectal Surgery.**—The cases here described are three of congenital absence of the coccyx, closure of artificial anus of three years' duration, and stricture of the rectum in an infant eleven months old, caused by swallowing an open safety-pin.

69. **Blastomycetic Dermatitis.**—This article is a report of bacterial and cultural examinations of preparations from a case reported by Brayton in the *Indiana Medical Journal* of April, 1900, as blastomycetic dermatitis. The scrapings from the fingers were examined by Golden and two organisms found, one, a yeast, which, when tested in all the various media, as well as examined under the microscope, differed from any hitherto described species. There was also a mould, which examined similarly as to its growth on agar, gelatin, bouillon, potato, etc., also appeared to be a new type. As the work on this species is incomplete, conclusions are hardly justified as to its complete full life-history. A number of inoculation experiments were tried on dogs, rabbits and guinea-pigs which in some cases produced scabs and pustules, but in others were comparatively negative. Dr. Brayton adds a note stating that the patient recovered from his disease, which lasted one and a half years, after the diseased tissues had been removed twice under ether. A notable point is that the cultures were made from specimens that had been in a weak solution of formalin which did not seem to inhibit their growth.

70.—See abstract in *THE JOURNAL* of September 15, p. 706.

74.—*Ibid.*

76. **Spermin.**—Thelberg reports two cases in which impotence was treated with Poehl's spermin solution, 1 c.c. given daily subcutaneously, and in both cases with success.

78. **Spermin in Pulmonary Phthisis.**—Mays reports experiments of the use of spermin in phthisical patients with observation of the temperature, pulse and respiration. He finds that the hypodermic injection of 5 to 10 minims of Krieger's spermin diminished the temperature somewhat and reduced the pulse and respiration. There was a feeling of warmth and well-being for a short time, sometimes followed by a disposition to sleep. There was no gain in flesh and he concludes that the injections are of no special value in phthisis.

79. **Testicular Extract.**—McCarthy has used the Brown-Séquard serum in tabetic and neurasthenic patients. The only conclusion he deduces is that in tabes and some other parasphyllitic affections, where the testicular function is deranged, it acts as an excellent tonic, and in association with exercises is attended with beneficial results.

80. **Nuclein.**—Aulde recommends nuclein therapy in various conditions in connection with other measures, especially a light, nutritious diet. He claims that it is non-toxic and antiseptic, an almost constantly normal product of the polymorphous white blood-corpuses and is increased or diminished in accordance with the demands of the system through increased functional activities of these bodies. Increase always attends a leucocytosis, provided the system is in a favorable condition. When the production is defective in quality or quantity, the nutrition is correspondingly reduced, but this may be overcome by the introduction of an artificial product, providing the body-cells have not too long been deprived of their necessary pabulum. The corpuscles themselves normally produce this complex substance from the daily food-supply of the individual. It is curative directly and indirectly, through its influence on cell-metabolism increasing oxidation, favoring elimination, and through its manifest virtues as an antiseptic, as shown in the case of leucocytosis. As regards the bacterial infection, it is not claimed that it does more than to create and maintain conditions hostile to growth and multiplication of micro-organisms, and for this purpose the remedy should be administered hypodermically in full doses. It does not supplant other recognized methods of treatment, neither does it interfere with them excepting in so far as they tend to suspend or arrest cell-metabolism. It is claimed, however, that the addition of nuclein medication not only shortens the ordinary period of illness and lessens its severity, but also prevents complications and creates a feeling of well-being that renders

much of the usual routine practice needless. He gives illustrations of its good effects, immediate mitigation of the symptoms in tonsillitis, rapid arrest of chronic catarrh, etc., and maintains that it offers a most promising treatment in tuberculosis. Scarlet fever is also a disease which he claims is specially amenable to nuclein medication.

89.—See abstract in *THE JOURNAL* of October 20, p. 1050.

96.—See *THE JOURNAL*, XXXV, p. 1086.

99. **Pseudo-Pertussis in Influenza.**—Foreheimer's paper discusses the subject of pertussoid cough connected with influenza. He first notices the definition of influenza and adopts a clinical rather than an exclusively bacteriologic one. In his cases he found streptococci and not the Pfeiffer bacillus. The peculiarities of the cough are that it always moved in epidemics and that it was decidedly contagious. If it broke out in a family, few or none of the family were spared, irrespective of age. The servants who came in contact with the patients were attacked, and in three instances he has seen patients attacked who had previously had whooping-cough. The onset was that of an ordinary attack of influenza. In children there was fever and principally the form of respiratory or gastro-intestinal type of influenza. These symptoms would pass over in possibly two to four days, and then would begin a cough. If the type had been originally respiratory the cough would immediately develop into the characteristic cough, which is described below. If the original attack had been originally gastro-intestinal, all the symptoms would disappear, and then the peculiar cough would develop. This cough is characteristic; it usually first develops at night, but not so distinctly as in whooping-cough, as the attacks would appear during the daytime as well. The cough is that of a whooping-cough except that the peculiar whoop is not so characteristic as in pertussis; however, sufficiently so as to be recognized as a whoop, and in some instances as well-marked as we find it at any time in whooping-cough. It is accompanied by the ordinary congestive symptoms of whooping-cough, is followed by vomiting and expectoration, and in every respect like whooping-cough. The mouth in some respects differs from whooping-cough in that the peculiar blue color of the mucous membrane and of the tongue is absent. This is to be ascribed to the fact that the attacks of coughing are more numerous, but not so long in duration as those in whooping-cough. As to ulcer of the frenulum, his observation has shown that it not only is present, but if anything is better-marked than in whooping-cough. The duration of the trouble varies; left to itself, the disease lasts from six to eight weeks, but in most cases it can be aborted by treatment. He infers from observations that to produce the symptoms of whooping-cough there must be a certain anatomical location of the cause, and this not necessarily the specific cause of whooping-cough. The diagnosis is usually easily made by the fact of the epidemic appearance of this cough connected with epidemic influenza; and that former attacks of croup, pertussis, etc., did not prevent it. As regards treatment, he thinks that a full dose of quinin materially reduces the duration of the disease. Phenacetin and antipyrin afford great relief, but do not materially affect the duration. In some cases belladonna failed, in some its effects were gratifying. When symptoms of septicemia are present, unguentum Crede or even injections of antistreptococcus serum may be of great benefit.

100. **Epidemic Paralysis in Children.**—An interesting epidemic occurred during the summer of 1899 at Poughkeepsie, N. Y. Seven cases were seen by Chapin, in consultation with Dr. Sheedy. The peculiarity of the epidemic appeared to be the existence of severe pain in the parts affected by the paralysis. Two cases are reported, in one of which there was a peripheral neuritis. The most of the patients recovered in from one to four months; but three had paralysis and atrophy, with typical after-appearance of poliomyelitis. The author concludes that the disease was epidemic and that in some cases the infection attacked the anterior horns of the cord, in others, the peripheral, nervous system, and in some, possibly both.

101. **Malarial Coma in Children.**—Acker has had two cases of coma connected with malarial fever in children, which

he thinks were due to the malarial parasite, and reports them in detail with temperature charts. He finds little in the literature about this type and remarks that it is somewhat peculiar that malaria does not produce more disturbances of the nervous system than it does, considering the unstable condition of the latter in poorly-nourished infants. In the first case he thinks there is little doubt as to the malarial nature of the case. In this case lumbar puncture was followed by decided improvement. In the second case there was a complicating nephritis which leaves some little doubt as to the malaria being the sole cause of the coma.

102 and 103. **The Amount of Diphtheria Antitoxin Required.**—In summing up the study of 93 cases, Park says that the local condition in children in markedly severe cases did not clear up as rapidly with one thousand as with two thousand units and in two or three cases he believes death would have been prevented by larger doses. In several other cases, better results would have been obtained by 3000 to 5000 units. Very large and repeated doses of antitoxin somewhat increase the liability to serum complication, but he thinks it correct to say that the increase in serum-effects from very large doses is much less than is generally believed. In his second paper he concludes that antitoxins are, in all probability, substances having the properties of globulin. They can not, with our present knowledge, be separated from that portion of the blood-serum which in susceptible persons produces disagreeable effects. The fact, however, that the antitoxic serum from some horses is scarcely at all deleterious, leads us not to give up the attempt of procuring a serum either by selection of animals or by the treatment of serum itself, which, while antitoxic, is not to any important degree deleterious. For routine practice at present we can scarcely do better than to follow the general plan of using the serum from all healthy animals which have remained healthy during their period of immunization and which have in their blood a sufficient concentration of antitoxin. This should not be less than 200 units in each c.c.

109. **Astereognosis.**—Dereum describes the condition and findings as regards this symptom seen by him in a considerable number of patients and concludes from his studies: 1. That the loss of impairment of the spacing sense is the most important factor in determining astereognosis. It must be remembered, however, that astereognosis may exist, though the spacing sense be preserved. In the single case of hemiplegia in which this was the case, there was, however, a loss of location, a loss of the knowledge of the position of the fingers and marked secondary contracture. 2. Next in importance to the spacing sense appears to be the knowledge of the position of the fingers and ataxia of movement. 3. The mere preservation of the ability to perceive tactile impressions and the preservation of the pressure, temperature and pain senses is insufficient to prevent stereognostic loss. The question whether there are any conclusions of clinical value to be drawn is taken up and he recognizes that in many cases the symptom is undoubtedly of cortical origin. If it is at times cortical and at times peripheral, he asks if there is any means by which the symptom can be made of differential value. While our present knowledge prevents a positive answer he thinks there is a possibility that it may be so employed. Given cases in which the various factors known to be important to stereognostic perception are well preserved and astereognosis nevertheless exists, it may be advisable to infer that the origin of the symptom is cortical. Again if with the astereognosis there are specific or isolated losses, such as the loss of the sense of weight, or position of the fingers or ataxic movement without signs of peripheral nerve or cord disease, it would, other things being equal, justify the inference of brain or cortical involvement. It would indicate not merely cortical involvement but would point directly to a special area of the posterior portion of the superior parietal lobe.

112. **Brain Pressure Following Injury.**—Bullard reports experiments at the Physiologic Laboratory of the Harvard Medical School to determine the cause of brain pressure from various injuries. He finds that the uninjured brain of an

etherized cat will bulge out through the opening left after removal of the bone and the dura unless pressure is applied to keep it in place; the pressure necessary to prevent bulging varied in a typical case from 8 cm. to 16.9 cm. of water, according to the degree of etherization. The more ether given, the greater the pressure until the anesthetic is pushed too far, when it begins to fall. Every factor increasing the general blood-pressure has a direct influence on the brain-pressure, crying, muscular movements, stimulation of the sciatic nerve, etc., all demand a stronger pressure to keep the brain level. Pulsations of the brain are much more extensive after hemorrhage, while the pressure necessary to keep the brain from bulging is less, and after heavy blows on the skull the pressure needed to prevent the brain from bulging is gradually increased. Experiments thus far fail to show when there is any increase of arterial pressure to account for the brain-pressure after injuries. No observations have as yet been made to ascertain if the increase is to any degree dependent upon cerebral venous pressure. These observations confirm those of Kramer, Polis, and Horsley that the respiratory center is the first to be affected after a blow on the head. Many times after respiration has ceased, artificial respiration for a few minutes has been followed by normal breathing, which has continued for hours.

123. Common Food Adulterations.—Excepting a short notice of the adulteration of jellies which are sometimes made with gelatin and flavored with coal-oil products and which should by law be required to be labeled as imitations, the chief part of Leuf's article is given to the subject of oleomargarin. He maintains, and quotes numerous authorities to show, that it is a wholesome article of food and that the "anti-oleo" crusade is largely an interested movement of butter-makers and sellers and politicians anxious to get their votes. The reason why he recommends this is that it is practically identical with butter, it is more wholesome, free from germs, can not be made from spoiled fats, keeps better than butter, would entirely displace renovated butter which is unwholesome, brings within the reach of all the equivalent of a high-grade butter, benefits the masses of the people, though at the expense of a small class, and lastly that it is the only proper thing to do. The remedy consists in having every package properly labeled, and then the people would understand perfectly well what they were buying and also it would be necessary to have them educated as to its food value and wholesomeness.

133 and 134. Obesity.—Dunn reports the case of a man who had taken the Kissengen-Vichy treatment of obesity at first with such effects that he became enthusiastic over it, but later it caused a serious nervous irritability and a marked degree of arterial tension which suggested organic disease of the kidneys. Purgatives and nitroglycerin, however, failed to give results. The author does not attempt to explain how it produced these results. Other cases were treated in a similar way, and one man had to relinquish his work and take to the woods for a while for relief.

Brand's article offers the case of a street-car conductor who weighed 223 pounds on May 30 and reduced his weight to 169 pounds by the middle of August. The treatment which he followed was the taking of but one meal a day, which would seem to be effective, and refraining from all liquids at the time and for two hours later, but afterward drinking water freely. Previous to taking this treatment he suffered from indigestion, but now he says he is well, and is the picture of perfect health. The treatment might be suitable for one individual, but would hardly do for everyone.

139. Goiter.—The general subject of goiter and its treatment is the theme of Beck's paper. He first notices the distribution of the disease and is inclined to attribute it to local causes; the question whether it is of bacterial origin is noticed, but there is no positive evidence as yet. The different types of the condition are mentioned, and the author remarks that generally the diagnosis is easy, though there may be conditions that will sometimes give trouble, such as the attachment of the gland to the upper trachea, etc. The Roentgen rays offer a method of diagnosis not heretofore available when calcareous

concretions exist. In the treatment he mentions the use of iodoforn and ether injections, and remarks on the advantages and difficulties of the method. The misfortune of entering a large vessel is a possibility, but if one injects only into the middle of the tumor, or rather its lobes, this is not likely to occur. Local treatment has no special influence on the fibrous and cystic forms of goiter, and he recommends the use of iodoforn combined with the local treatment in cases where the latter is advisable. The surgical treatment is less dangerous with modern asepsis than formerly. Proper ligation of the great vessels and careful operating have notably lessened the danger of hemorrhage. He does not advise the complete removal of the gland, but would rather prefer the injection treatment for this reason. He concludes his paper with the mention of a case of follicular goiter associated with Addison's disease in which he was able to produce a decided diminution of the tumor by iodoforn injections. Exploratory laparotomy showed tuberculosis of the right suprarenal body and the injection treatment of the goiter undertaken after the operation caused a diminution of the growth to one-third its original circumference and general improvement of the patient in other ways, which must be ascribed to the operation.

141.—This article has appeared elsewhere. See THE JOURNAL of August 4, p. 281.

FOREIGN.

British Medical Journal, November 10.

Progressive Pernicious Anemia with Spinal Symptoms. DYE DUCKWORTH.—In this clinical lecture based on a case thoroughly reported, Duckworth considers the subject of pernicious anemia in its general aspects briefly. He remarks that it can not be considered as a primary anemia, because there may possibly be more than one source for the toxins which induce it. Our knowledge is as yet imperfect in regard to this point, but the evidence of the toxic origin is very strong. In the cases reported no possible cause was ascertained, but gastric enteric symptoms were especially noted. The diagnosis of the condition is not difficult; it should be suggested in every case of profound anemia that comes on insidiously in this climate. Cancer of the stomach is the disease which most closely resembles it, but the extreme wasting and gastric symptoms are generally more prominent. Chlorosis may simulate pernicious anemia, but age and sex help here and the condition of the blood is somewhat different; there is a much greater deficiency of hemoglobin and much less diminution of red globules, and poikilocytosis is rare. In splenic anemia the enlarged spleen is a marked feature. There is a form of grave endemic anemia secondary to parasitic infection, the presence of *ankylostomata* or *hæmorrhoides* in the intestines. If there is any suspicion of their presence the feces should be examined for ova and treatment directed accordingly. Duckworth's experience confirms the benefits from the use of arsenic and red ox-marrow, together with good diet and wine in this condition. He mentions the suggestion of Hunter of the use of the antistreptococci serum, but says we have too little experience with it. When any measure of improvement is secured by any method it is best to continue treatment for a long period and not rest satisfied that the disease is overcome.

Enteric Fever in the Army in South Africa, with Remarks on Inoculation. HOWARD H. TOOTH.—The writer reviews the facts as regards the cases of typhoid fever in South Africa, and assuming that the water is the chief derivative considered in spreading the disease, he says, this by no means leaves the question in a satisfactory state for the sanitarian. The soldiers when thirsty will drink whatever is convenient, and filters are at best imperfect resources where muddy streams exist. Certain other factors completely beyond control are dust and flies, and he mentions a special species of flies which seem to prefer enteric cases, and are in vast numbers and ubiquitous. Inoculations with enteric toxin had only a partial test in South Africa, and yet what was done was suggestive of its value. He thinks it is not unlikely that the reaction of the individual to injection may offer information as regards the nature of immunity or liability. The constitutional reaction was very variable; some showed considerable general disturbance, others had very little except at the site of puncture,

and he asks may not this be some measure of the degree of immunity possessed by the individual. As a rule the more severe cases of typhoid among the inoculated were in the men who had suffered more or less severely at the time of inoculation, while the slight or abortive cases were among those who showed little constitutional reaction. If this is correct those who suffered the most severely would require a second inoculation if any did and would be the least willing to undergo it.

Enteric Fever in South Africa: Effective Sterilization of Excreta. H. A. CUMMINS.—During the epidemic of typhoid at Bloemfontein in the British Army, Cummins used a method of sterilizing the excreta, which he found to be at once effective. He used the boiling process, adding considerable carbolic solution, 1 in 20, with the boiled excreta. The result was that the process was thorough and produced no serious odor or disturbance. He says this simple and cleanly process is one that might be adopted with benefit in hospitals, and the cost is very small.

The Lancet, November 10.

The Urinary Pigments in their Pathologic Aspect. ARCHIBALD E. GARROD.—The writer believes that urobilin is formed in the intestines and is of bacterial origin. The various theories are reviewed and the objections considered. The question whether there are some sources in the body other than the intestines is discussed, and he does not give a positive opinion, though he notices an observation by Gerhardt as rendering it necessary if accepted, to admit of a second source. The clinical aspects of urobilin are briefly mentioned. An excretion of the pigment, as shown by the spectroscope, is a very common phenomenon of disease and may occur temporarily in febrile disturbance of almost any kind. In liver disease it is usually persistent, and in diseases attended with excessive hemolysis and during the absorption of extravasated blood there is apt to be conspicuous urobilinuria without any corresponding increase of the other coloring matters unless complications are present. It affords a diagnostic sign of real value in pernicious anemia and indicates the progress of the case. Hematoporphyrin, with its pathologic significance is a comparatively new field. The author concludes that hematoporphyrin is an intermediate product of metabolism which, normally to a large extent, and still more so in morbid conditions, escapes further change and is excreted as such, or else that it is a by-product of metabolism which may be formed in undue amount in the place of some other hemoglobin derivative such as its isomer bilirubin. Whatever be the process, it is one which is constantly active to some extent in health, and even in intrauterine life. It seems probably *a priori* that the liver is the organ in which it is formed. We are not in a position, however, to assume that the liver is in a disordered condition in all cases in which hematoporphyrin is in excess in the urine. The evidence as a whole is strongly in favor of the view that this disturbance plays the chief part in bringing about this result. The spleen may be excluded, as it is not altered by its extirpation or affected by its disease. In those cases due to sulphonal, or those rarer ones in which it occurs apart from taking this drug, there is somewhat more than mere exaggerated excretion, and, as Hammarsten has pointed out, the peculiar color of the urine is almost wholly due to other abnormal pigments as yet not studied. The removal of hematoporphyrin from such urines causes little or no reduction of the color. The condition is a serious one. Various profound disturbances of pigment metabolism and fatty degeneration of the liver have been observed in sulphonal cases. Intestinal hemorrhages have been observed. Where it occurs in cases not due to sulphonal the symptom is not of apparently so grave a significance and pathologic data are wanting. In no two of the few recorded instances have the morbid conditions been alike. As regards urochrome and uroerythrin, Garrod says our knowledge is yet too imperfect to allow of the framing of definite theories of their modes of origin and the conditions which control their excretion. He reviews, however, the literature of the subject as far as known to him and notices the conditions in which uroerythrin may appear, such

as especially disturbances of the hepatic functions, even functional ones in the slightest degree. The study of urinary pigment is a matter that, as the author has pointed out, in some cases may furnish very valuable diagnostic data not obtained in other ways and, therefore, is worthy the attention of the physician.

The Physiology and Pathology of Inheritance, or What do We Inherit from Our Parents? THOMAS OLIVER.—The conditions of heredity are noticed by Oliver, who illustrates them by the facts observed in breeding of animals and the inheritance of diseases as shown by statistics, especially in the insurance statistics. He holds that there is no doubt as to the individual and family susceptibility to phthisis. He says in conclusion: I would say from a pathologic point there is considerable evidence to show that mental, not less than physical qualities are transmitted, that pathologically such a disease as hemophilia is inherited, and that where there is a family history of phthisis and cancer there is, especially as regards phthisis, a greater liability to the disease than where a family shows no such record. I believe that the influence of inheritance, however, has been exaggerated. Tuberculous disease is inherited, but only in the same sense as other diseases that are due to microbes. It is in the form of an enfeebled resistance on the part of the tissues. Pulmonary phthisis seems to exhibit a kind of inheritance that is particularly its own; but on scrutiny this is found to be largely due to the domestic character of the malady, which is encouraged by our home life, insanitary dwellings, overcrowding of the poorer working classes, infection, Britain's changeable climate, dusty occupations, and ill-assorted marriages.

On the Influence of Fatigue on the Minute Structures of the Kidney and Liver. GUIDO GUERRINI.—The influence of fatigue on the minute structures of the kidney have been the study of Guerrini, who gives his results in this preliminary note as follows: In the *kidney*, the grossest modifications of structure are in the cells of the convoluted tubules and of the ascending part of the loop of Henle. The corpuscles of Malpighi and the collecting tubes are nearly always normal. In the affected cells the modifications of structure are, naturally, in relation with the degree of fatigue undergone by the animal. The more fatigued the dog was, the more profoundly altered were the cells. In animals already much fatigued the following appearances may be observed. The protoplasm loses its usual aspect and becomes homogeneous and granular. It appears that the cellular body enlarges, sometimes little, sometimes so much that in a transverse section all the openings of the canals seem to be closed by the swollen cells. The edge between the cells become uncertain and sometimes disappears altogether. In animals still more fatigued the minute modifications of the cells of the convoluted tubules are much greater. It is seen, in fact, that the borders of the cells which surround the openings of the canals fray out and break, and that the cellular protoplasm shows here and there rarefied points, vacuoles and cracks, and finally crumbles away into a fine detritus which collects in the opening of the tubules. In the midst of this detritus normal nuclei are sometimes found, sometimes lumps or granulous masses which stain like the nuclei. This degenerative process almost always attacks a certain number of cells, but sometimes it is seen only in a group of a few diseased cells which are in the midst of several normal ones. In the *liver*, the minute modifications of structure of the cells are much less than are those of the kidney cells, and they appear conspicuously only in the liver of those dogs in which the modifications of structure are the greatest. They are as follows: From the beginning all the cellular body enlarges and the edge between the cells becomes uncertain and sometimes disappears altogether. Sometimes the little biliary canals are evidently compressed, whereupon the protoplasm of the liver cells appears rarefied, full of knots, spongy, and very dark from biliary pigment.

The Practitioner, November.

The Practitioner's Duty in the Treatment of Acute Intestinal Obstruction. A. ERNEST MAYLARD.—The duty of the average practitioner in cases where acute intestinal ob-

structive disease is shown by sudden excruciating pain, rapid and small pulse, pinched and drawn face, temperature varying between subnormal and a little above, and painful abdomen and vomiting, are pointed out by Maylard. The point especially noticed is that intervention is indicated in the early stages, as it is only in these that acute obstruction can be best met. The mere fact that the patient is suffering from peritonitis is sufficient to determine the proper course; the abdomen must be opened, and if it is possible to determine beforehand some clue as to its cause, so much easier is the operation and more direct the procedure, but it is useless for the practitioner to attempt to discover this in *prima facie* obscure cases, as experienced surgeons may fail in such. The first duty is to recognize the gravity of the initial symptoms irrespective of the cause, and lose no time in operation. If all men were skilled hospital surgeons or had a properly equipped nursing home at hand the question would be easy to answer what should be done, but such is not the case and the difficulties for a man to undertake operative work without proper facilities are very great. If the case be one of acute obstruction following on a history of chronic obstructive trouble the colon should be opened in the left lumbo-iliac region when the obstruction is known to be in the rectum, and in the right iliac region when the obstruction is known to be in the right bowel between the rectum and cecum. The operation is a simple one and can easily be done with local anesthesia. The longitudinal muscular bands on the surface of the colon will serve to distinguish the large gut from the small, and if possible the loop should be withdrawn and some rigid rod or tube passed through the mesentery, so as to secure the loop from receding into the abdominal cavity. Stitches to secure the bowel to the edge of the wound are only needed when it can not be sufficiently withdrawn. A small incision is made and the contents allowed to escape. If the practitioner has made a medial incision, by this procedure subsequent treatment of the artificial anus can be left for the operative surgeon in the course of ten days or so, as the patient can be removed. In case of acute intestinal obstruction from some cause that is not easy to determine, the practitioner's duty is equally clear. There is no need for general anesthesia and the subsequent injection of cocaine along the line of incision will suffice. The operation is the old classical one of Nélaton, which consists in making an oblique incision about two inches long through the abdominal parietes in the right iliac or inguinal region. The distended coil of intestine which presents is carefully secured by stitches to the edge of the parietal wound and bowel opened by a small incision. There is much to encourage the practitioner in the performance of this operation, for numerous cases have occurred where not only the immediate situation of gravity has been successfully tided over, and the patient has made a complete and permanent recovery. The relief of distention of the bowel and other congested parts brings about sometimes a reduction of an internal hernia, untwists a volvulus, or unravels intussusception or dislodges an impacted gall-stone. No medical man should hesitate to make such a simple operation, however isolated or devoid of surgical facilities. In regard to a supposed case of perforation of the stomach, it is almost impossible to expect the right thing can be done, and yet we are encouraged from time to time by hearing that some case of perforated gastric ulcer has been successfully dealt with under most unfavorable conditions. Maylard does not consider it possible to lay down simple directions for the practitioner in dealing with these cases. He must be prepared to open the abdomen to the required extent and to deal with the case radically, which may be an incision from the ensiform cartilage to the pubes, or a vertical incision succeeded by a transverse one, and then be guided by what he finds. The most unmistakable signs of gastric ulcer often prove to be from a perforated appendix, or a perforated appendix turns out to be a perforation in the jejunum. If the case of intestinal or abdominal trouble has progressed beyond the initial stage, Maylard recommends the washing out of the stomach and colon before operation, as having a very excellent effect on the patient's general condition, and relieving the patient of the poisonous material in these viscera. On opening the abdomen a distended bowel at

once presents, the loop of which should be withdrawn and placed in the charge of an assistant who holds and guards it so that as the incision is made into it the contents flow into a receptacle at the patient's side. The operator continued to withdraw the distended coils, while the second assistant guards and keeps warm with cloths soaked in hot normal saline solution. The operator then seeks for the cause of the obstruction, that is, if it is required, and returns to the everted intestines which he empties by running between his fingers and squeezing out the contents. If one incision is not sufficient, another one should be made; the object should be to completely empty the gut of the matter that is poisoning the patient. After emptying, the incision can be closed and the bowel returned. He believes in making an incision immediately after opening the abdomen to relieve tension, and it is better for the condition of the parts. Flushing of the abdomen is recommended; it can not be too freely done. Another useful measure, especially when peritonitis has set in, is the direct introduction into the bowel of one-half ounce of sulphate of magnesium in solution.

Bulletin de l'Academie de Medecine (Paris), October 30.

Success of Traction of the Tongue in Asphyxia from a Bullet Wound. MATIGNON.—This communication describes the successful resuscitation by rhythmic tractions of the tongue, of a man in syncope and commencing asphyxia due to a bullet wound through the upper air-passages, during the siege of the legations at Pekin.

Delivery of a Double Monster. PINARD.—Barette describes a maternity case he attended in 1899 in which he discovered, by introducing his hand in the vagina during the delivery, that a band connected the two fetuses, which were both dead. He writes to the Academy to inquire whether Cesarean section is imperative in such cases if the double monster is alive. Pinard comments on the extreme rarity of this experience and of a correct diagnosis, but asserts that if he were certain that it was a monophalian xiphopagus at or near term, impossible to extract by the natural route, he would perform Cesarean section. This class of double monster is viable and separable. In all other cases of dystocia from double monstrosity he would not hesitate to do embryotomy, as the fetuses are not liable to survive after leaving the uterus. He cites his statistics to prove that the generation of twins has no connection with syphilitic antecedents, a question recently raised.

Prolonged Application of Compresses of Ether on Strangulated Hernia. FIESSINGER.—The remarkable benefits derived from the prolonged application of a compress kept moistened with ether on an irreducible, strangulated hernia are detailed in this communication. In from a quarter of an hour to two hours the hernia—whether inguinal, femoral or umbilical—is reduced spontaneously with the assistance of slight digital pressure. The ether relieves congestion and induces reflex vasoconstriction. After thirty-six hours have elapsed there might be danger in reducing a possibly gangrenous herniated intestine.

Echo Medical du Nord (Lille), October 14.

Value of Surgical Intervention in Urinary Tuberculosis. V. CARLIER.—Speedy intervention in case of tuberculosis of the kidney is advocated by Carlier, but when the bladder is the site of the infection he is much more conservative. Vesical tuberculosis is usually secondary, and in many cases might have been prevented by prompt removal of the primary focus in the kidney. Medical treatment is indicated and often is surprisingly effective, combined with suitable instillations in case of microbial infection, unless they induce irritation. When the cystitis is not influenced by these measures and the patient is exhausted by the frequency and pain of micturition, Carlier resorts to cystostomy, which he prefers to perineal drainage. The relief is often so pronounced that it is equivalent to a cure. Hypogastric drainage, when once established, should be permanent.

Experimental Study of Fractures of the Upper Jaw. R. LEFORT.—The independence between the skull and face is em-

phazied, and also the fact that the pterygoid processes and the lateral masses of the ethmoid form part of the maxillary bone from the surgical point of view. On the other hand, the malar bones remain adherent to the skull in case of traumatism of the center of the face, and the plane of cleavage passes through the pyramidal process of the upper maxillary bone, the ethmoid and the root of the nose. The face tends to separate into fragments, the characteristics nearly constant, whatever the mechanism of the fracture. Guerin's transverse fracture is the most frequent. It comprehends the palatine arch, the alveolar and pterygoid processes, with sometimes an antero-posterior fissure near the median line. The malar bone may form a second fragment, nearly or quite intact, bringing with it the top of the pyramidal process of the maxillary bone or exceptionally the entire process. The ascending portion of the upper maxillary with a part of the lachrymal bone and sometimes of the bones of the nose, form a third fragment.

Nord Medical (Lille), October 1 and 15.

Reduction of Hump in Pott's Disease. PHOCAS.—In certain exceptional cases, in which the hump is dorsal or dorso-lumbar and of recent development, without an abscess or much alteration of the general health, or when there is paraplegia, extension under chloroform with very slight digital pressure may succeed in reducing the hump. The family should be warned of the dangers and the method should be appreciated at its true value. This cautious and rare procedure is all that remains of the famous forcible reduction of the hump wanted by Calot. Even with this apparently harmless procedure Phocas had the following experience: A girl of 13, with right torticollis, painful on the slightest movement, had a severe attack of la grippe ten months previously. A cervical arthritis was diagnosed and the head gently straightened under chloroform and an apparatus applied. The manipulations were all extremely gentle, but the child was completely paralyzed the next day and died the day after. The autopsy showed Pott's disease. All the ligaments had been destroyed and the spinal cord had been held erect only by the immobilization of the bones by the muscles. The moment that this immobilization ceased the bones slipped and crushed the cord. Two other patients died from meningitis seven and three months after intervention, a total of three deaths in the twenty cases in which reduction was done. The hump has recurred in all of the seven reduced according to Calot's directions. The results have been satisfactory in only one of the twenty cases, although in three the hump was more or less diminished, and recurred lower down in another. In one case, paralysis appeared three months after a gentle reduction.

The Thymus in Therapeutics. BLONDEL.—The thymus seems to have a favorable action on nutrition and growth, and administered fresh or desiccated has cured five cases of Basedow's disease and fifteen of chlorosis in Blondel's experience. He has also administered it in milk to infants with congenital debility, bringing them up to normal weight in a few days. He attributes to the thymus an antitoxic role like that of the ovary or testicle, and describes experiments which show that the latter compensate it when absent.

Incompatibility of Arsenic and Phosphorus. PHOCAS.—Serious symptoms of polyneuritis with pain and impotence of the legs, occurring after prolonged administration of creosote, have been traced to an incompatibility between the phosphorus in the creosote and the arsenic which the patients had been taking previously or simultaneously.

Presse Medicale (Paris), November 3 and 7.

Action of the Toxins of the Colon Bacillus on the Circulation. H. ROGER.—In the issue of July 4, Roger pointed out that certain varieties of dysentery are due to the bacillus coli communis. He has been injecting its toxins into rabbits and publishes the tracings of the circulation and respiration afterward. The latter is scarcely affected by the toxin, but the heart-beat becomes more vigorous and slower. The organ evidently struggles against the effect of the toxin. The intense congestion of the intestines, liver and kidneys is another

argument in favor of the compensating antagonism between the peripheral and central circulation. The myocardium does not seem to be affected by the toxin, which explains the rapid recuperation when the gastrointestinal intoxication is arrested or when the effects of the peripheral vasodilation are counteracted by artificial serum. These findings explain some of the morbid manifestations in the course of intestinal infections.

Intoxications and Infections in Mental and Nervous Affections. G. D'ABUNDO.—The doctrine of intoxication best explains the majority of nervous symptomatic manifestations, and the classification of nervous and mental affections should conform to this conception. Modern science is constantly according a more important place to chemistry, and the clinician must now work together with the expert chemist to attain the best results. Infections and intoxications represent the most frequent, sensitive and active elements in the pathogenesis of nervous affections in general. Infections and intoxications in the progenitors or in the mother during pregnancy frequently retard to a marked degree the process of myelinization of the different systems of nerve connections. Certain degenerative neuropathic types are due to organic faulty development in the brain or spinal cord, the consequence of cured, toxic, embryonal pathologic processes. Infections and intoxications of the nervous system facilitate the evolution of secondary intoxications which nourish re-enforce and complicate the clinical phenomena with concomitant and secondary poly-intoxications. The action of infectious or toxic agents may be exerted at any portion of the nervous system, originating systematic, disseminated, peripheral or central localizations, and leading to acute or chronic neuropsychoses. Mental confusion is the most frequent type of toxic-infectious action, but a toxic origin is equally probable for other psychopathic manifestations. Acute delirium should be considered a clinical picture caused by different infectious and toxic agents. The latest research on the etiology of progressive paralysis only corroborates its infectious and toxic origin. The clinical manifestations of infections and intoxications of the nervous system are the result of disturbances in nutrition, which in certain cases may subside, although the symptoms give little hope of cure. We are justified in cherishing the highest anticipations in regard to the future treatment of toxic neuropsychoses, which should be based on elimination of the toxic products and neutralizing or diminishing the effects of secondary intoxications. The author mentions instances in which very severe cases of infectious psychoses were treated with copious venesection and injections of artificial serum, thus attaining results which surpassed all expectation.

November 7.

History of Subarachnoid Anesthesia. T. TUFFER.—The three communications of Leonard Corning of New York, 1885-88, in regard to his injections of cocaine into the spinal canal for surgical purposes, found no echo, Tuffier states. Quincke six years later proclaimed the harmlessness of lumbar puncture. Franck announced in 1892 that cocaine does not permanently affect the nerve tissue. Sicaud in 1898 demonstrated that injection of an antiseptic fluid or serum into the subarachnoid space was tolerated, and in 1899 Bier applied these data to surgery, but after his first communication relapsed into silence. Although he had not experienced any serious accident, the practical process was lacking. Tuffier claims that the merit of evolving a practical technique belongs to him. As he first described it in the *Sem. Méd.* of May 16, 1900, it has been generally adopted, and the method has now a record of 1000 applications, including his 210 personal cases. The symptoms observed were invariably the same, if any occurred—headache, nausea and vomiting. He is now engaged in the study of the mechanism of this analgesia by a new, experimental technique.

Permeability of the Meninges in Cholemia, Tubercular Meningitis and Nervous Uremia.—This and the preceding number contain three articles by prominent writers describing clinical research which establishes that the permeability of the pia mater is altered in certain affections and can be tested with potassium iodid and methylene-blue. The arachnoid and pia

mater are permeable from within outward but not from without inward under ordinary circumstances. A. Gilbert found biliary salts and pigments in the cerebrospinal fluid in three cases of severe icterus with serious nervous symptoms. In fifteen other cases the fluid was normal, although the biliary salts abounded in the blood. Widal, Sicard and Monod contribute an article corroborating the delicacy and value of the potassium iodid test of meningeal permeability in the two cases of tubercular meningitis investigated, in which the presence of lymphocytes in the cerebrospinal fluid, the iodid test and the elevated freezing-point paralleled each other. J. Castaigne also found similar abnormal permeability in four cases of nervous uremia in which the cerebrospinal fluid proved toxic for guinea-pigs. Methylene-blue injected subcutaneously was found in the cerebrospinal fluid in the form of chromogen, and the fluid also gave the iodine reaction after injection of two grams of potassium iodid. These four cases terminated fatally, while of the twelve other cases in which the fluid was not toxic only two died. The toxicity of the fluid, therefore, has a bearing on the pathogenesis, prognosis and treatment of this affection. As the passage of uremic poisons into the cerebrospinal fluid is apparently fatal, we should be justified in injecting some substance to neutralize or destroy the toxin in the spinal canal.

Beiträge Z. Path. Anat. (Jena), xxviii, 2.

Growth of Carcinoma of the Skin and Mucous Membranes. H. LOHMER.—The author presents arguments in favor of the theory that the development of a carcinoma is preceded by an increase in the proliferating power of the epithelial cells. An alteration of the cells is an indispensable preliminary, whether congenital or acquired, and whether parasitic or toxic elements co-operate in the production of the carcinoma.

Specific Stain for the Hemameba. M. LOEWIT.—The disputed parasites which the author claims to have discovered in the blood take a differentiating stain with an aqueous solution of thionin and iodid. They are also differentiated from mast-cells by their shape. They have never been found except in cases of myeloma and in the blood of rabbits inoculated with the same disease.

Centralblatt F. Chirurgie (Leipsic), Oct. 27 and Nov. 3.

Sudeck's Trephining Fraise. L. HEIDENHAIN.—Doyen's drill used with Gigli's wire saw proved a great advance over previous methods of trephining, but Sudeck's new drill far surpasses them. "It solves the problem of a rapid, perfectly safe method of making even the largest Wagner flaps without hemorrhage." It consists of a fine steel drill with a cutting screw thread. A small metal plate is fastened at the point, which pushes down the dura out of the way. The instrument is introduced through a hole made with the smallest Doyen drill. It was first exhibited at the last German Congress of Surgery.

November 3.

Intracranial Removal of the Gasserian Ganglion Without Removal of the Middle Meningeal Artery. J. DOLLINGER.—The Krause-Hartley method of extirpating the Gasserian ganglion requires an hour and a half at least and the ligation of the middle meningeal artery. Dollinger has devised a new method which he has successfully applied on five patients. The operation can be made in twenty minutes and does not require ligation of the vessel. He first cuts the temple flap as Krause directs, then inserts his finger between the base of the skull and the dura as far as the middle meningeal artery, then works it forward to the second and third branches of the trigeminus and detaches the dura from them with a dull elevator. He next presses the elevator backward and inward, thus exposing the ganglion in front of the artery. It is then an easy task to detach the dura from its surface and the ganglion from the base of the skull, seize it with an artery forceps, cut the second and third branches of the trigeminus with a tenotome and extirpate the ganglion. He does not trust his assistant to retract the brain, but does it himself with a blunt elevator, 1 to 1½ cm. wide, which he holds in his left hand under the light of his head mirror. The anterior trunk of the middle meningeal artery in 55 per cent., was enclosed in a

tunnel in the front lower edge of the parietal bone, and in only 45 per cent. did it lie in an open groove. In his experience with nine cases in which he attempted the removal of the ganglion to cure rebellious trigeminal neuralgia, excessive hemorrhage occurred in two. It was controlled in one but in the other all the tissues bled like a squeezed sponge. The operation was abandoned; necrosis followed the tamponing and the neuralgia recurred. In one case scarcely a drop of blood was lost. The bleeding in Dollinger's experience was generally from the veins, and consequently it is unnecessary to expose the external carotid as a preliminary measure.

Muenchener Med. Wochenschrift, October 30 and November 6.

Artificial Oxidation of Albumin. F. N. SCHULTZ.—Oxidation of albumin occurs much more rapidly with hydrogen peroxid in the presence of an acid than with a neutral reaction. The acid also has a peptonizing effect in the presence of hydrogen peroxid lacking to the acid alone. These results of the tests communicated corroborate the multiplicity of the vital processes.

Tests of Kidney by Freezing-Point of Blood and Urine. H. KUEMMEL.—This article extols the valuable information to be derived from comparative study of the freezing-point of the blood and of the urine from each kidney withdrawn separately. If the kidney to be left after an operation shows a freezing-point above the normal—which is .56 C. below that of distilled water—Kuemmell waits until this kidney becomes normal before he ventures to remove the other. The diagnosis made from the freezing-point was invariably confirmed by the later course of events in the numerous cases in his experience.

Compensation Processes in Nervous System. A. BICKEL. The remarkably favorable results obtained of late by appropriate exercises in various affections of the nervous system, especially tabes, are explained by the mechanism of the processes of compensation observed in animals in Bickel's researches. For instance, the ataxia which occurs in dogs after division of the roots of the spinal nerves for the hind legs, soon becomes compensated. This compensation, however, is completely abolished if the sensory-motor zones of the cortex on both sides are removed. The ataxia returns as complete as after the first operation, and is never again fully compensated. This experiment among many others, shows how the cortex transformed its function to adapt it to circumstances and compensate the missing innervation.

November 6.

Therapeutic Application of a Pupil Reaction. H. KIRCHNER.—Very little attention has been paid to the contraction of the pupil as the eyelids are voluntarily closed. Many a pupil has been asserted to be absolutely rigid when on investigation as the lids are energetically closed, it will be seen contracting. The phenomenon may occur even after extinction of the convergence and accommodation-reflexes. The symptom is frequently exaggerated in the supposedly rigid pupils of tabetics and paralytics, indicating that it can not be ascribed to a purely peripheral lesion. A case of ophthalmoplegia interna, bilateral and recent on one side, is described at length, which was cured by the therapeutic application of this lid-closing reflex to exercise the paralyzed pupils. The patient was instructed to shut his eyes vigorously a certain number of times and to repeat this at intervals, with the result that he was able to resume his occupation. Kirchner attributes this reflex action to preformed tracts passing through the posterior longitudinal fibers.

Influence of Rectal Feeding on the Gastric Secretions. L. METZGER.—In numerous tests on dogs and patients, milk and egg enemata induced merely a weak reaction to the Congo test in the gastric secretions and no free hydrochloric acid was noted until one and one-half hours after the injection. On the contrary enemata of bouillon and red wine invariably induced a strongly acid secretion in half an hour, which vanished by the end of the hour.

Gazetta Degli Ospedale (Milan), October 7.

Disturbances in Respiration in Hemiplegia. BOERI AND

SIMONELLI.—A number of tracings are given illustrating the fact that in 10 out of 61 patients with hemiplegia, the excursions of the thorax were three to four times as extensive on the paralyzed as on the unaffected side. Also that the former curves slightly preceded the latter. In the other patients slight disturbances in the frequency, rhythm and synchronism were occasionally observed. These phenomena seem to favor the hypothesis of a secondary, subcortical center for the respiration, not affected by the cortical lesion, and the possibility of hyperfunction of this center from some irritative process.

Vratch (St. Petersburg), October 6, 13 and 20.

Improved Stain for Fat. I. B. LEVINSON.—The usual osmic acid test for fat has several disadvantages, among them the high price of the acid and the non-durability of the stain. By the method described in this communication the fat is stained to the minutest droplets, and specimens several months old are as bright as when fresh. No experience or skill is required and the materials are on hand in all laboratories. The specimens are first treated with Mueller's fluid for two to five weeks, next with alcohol and mounted in celloidin. They are transferred then from the alcohol to the stain, which is made by dissolving 2 gm. of hematoxylin in a small quantity of alcohol and mixing with 100 c.c. of a 2 per cent. solution of acetic acid. The specimens are kept in the stain for twelve hours at 40 C., then rinsed in water, and placed in a 1 per cent. aqueous solution of potassium permanganate for ten to fifteen minutes, then rinsed again and placed in a 2 per cent. solution of oxalic acid or in a mixture of two parts of 2 per cent. solution of oxalic acid and one part of a 2 per cent. solution of potassium sulphate, for five minutes.

October 13.

Closing Defects in Skull with a Bone Flap from the Leg. A. N. ZEMIN.—A case is described in which a large defect in the skull was closed with a periosteal-bone flap from the femur according to Scydel's method. This brings the list of these cases to nine, all treated by different surgeons and all successful.

October 20.

Resection of Kidney Tissue. A. M. DOLGOFF.—The purpose of the extensive experimental researches described was to determine the recuperative power of the kidney after incision and resection, and the effect on the vitality and performance of the organ. Dogs were the animals used, and the recuperative power of the renal tissues after incision and resection proved remarkable. Injury of the medullary portion was more serious in its effects than of the cortical. After removal of one kidney any operation on either cortical or medullary portion of the other was fatal. The experiments demonstrated that the healing power of renal tissue is so great that it offers a good field for surgical intervention, either curative or for diagnostic purposes.

Anales de Oftalmologia (Mexico), October.

Screen for Ophthalmologic Examination. P. DE OBARRIO.—In the writer's practice in Ecuador he found the heat of the lamp a serious hindrance to protracted examination of the eyes. He has devised a screen to overcome this drawback, consisting of two plates of glass with a narrow space between, the whole standing upright in a metal standard, with a spring shade attached, which can be raised or lowered. The glass box is filled with water, which arrests the heat.

Queries and Minor Notes.

MEDICAL PRACTICE LAWS.

DANA, L.L., Nov. 1, 1900.

To the Editor:—I wish to know the laws governing the practice of medicine in the Argentine Republic, and also what opportunities are in that country for an American physician. Yours truly,

G. F. T.

ANS.—We do not know how American diplomas stand in Argentina. An American physician going there to practice must at any rate have his diploma certified to by the Argentine consul in this

country, and his certificate passed on by the Argentine foreign office on arrival there. Expensive examinations in the Spanish language are necessary before permission would be given. A temporary authorization to practice may be given for six months. The conditions for non-graduates of Spanish or local schools are rather severe, and probably American physicians would not find matters easy.

To the Editor:—Would you kindly let me know through THE JOURNAL the requirements to practice medicine and surgery in South Dakota; also the name and address of the medical registrar for that state.

SUBSCRIBER.

ANS.—In South Dakota a diploma from a recognized medical college is all that is required, except that the law also specifies as conditions for license, good moral character and that the candidate shall not be a habitual drunkard. The Secretary of the Board of Health is Dr. A. E. Clough, Madison, S. D.

REMOVAL OF TATTOO MARKS.

HUNTINGTON, IND., Nov. 13, 1900.

To the Editor:—Will you please give the prescription for removal of "tattoo marks" published in THE JOURNAL not long ago. It was a short article, but the writer of the item claimed good results for the removal of "tattoo marks" made with India ink V. C. S.

ANS.—The article on the removal of "tattoo marks" noticed in THE JOURNAL was by Dr. Ohmann-Dumesnil, of St. Louis, in the St. Louis Medical Journal for October. The method consisted in using a bland solution of caroid, rubbing it over the retattooed tattoo marks. The digestive action of the caroid, it is claimed, eats away the tissue including the pigment, and the result is a crust which comes off, carrying with it the tattoo marks. We refer the querist to the original article for full particulars.

FOREIGN MEDICAL JOURNALS WANTED.

W. H. S. writes for information in regard to procuring regularly the use of leading foreign medical journals, and says that he would gladly give a liberal compensation, to any club, society or private individual for the regular fortnightly or monthly use of the important journals and pay for expressage.

If any of our readers can give information that will aid W. H. S. in his laudable desire, we shall be glad to publish such, or forward to him. We are always willing to loan special numbers from among our exchanges, and the Surgeon-General's library at Washington, also, we believe, will loan journals to responsible individuals. This, however, is not what is desired, as we understand our correspondent.

New Patents.

- Patents of Nov. 6 and 13, of interest to physicians:
- 661,433. Adjustable stirrup-bar for physicians' tables. Wm. D Allison, Indianapolis, Ind.
- 661,434. Adjustable mens for leg-rests of physicians' tables. Wm. D. Allison, Indianapolis, Ind.
- 661,437. Invalid-bed. Nelson Clement, Chicago.
- 661,145. Tip for syringes. Harlan P. Cole, Hariford, Conn.
- 661,211. Obtaining soluble albumen. Cittmar Finkler, Bonn, Germany.
- 661,402. Douche-pan. Daniel Hogan, New York City.
- 661,433. Adjustable stirrup-bar for physicians' tables. Wm. D Allison, Indianapolis, Ind.
- 661,232. Operating-table. James T. Shigley, Detroit, Mich.
- 661,390. Vapor-bath cabinet. John W. Zupkham, Evans City, Pa.
- 35,530. Design, cabinet for medical treatment. Henry A. Schmidt, Milwaukee, Wis.
- 661,682. Laryngocope. Wm. Avery and A. Burrell, Chicago.
- 661,482. Indicator for bottles. Wesley J. Barrett, Marion, N. Y.
- 661,596. Compressorolle for pill-machine. Ferdinand J. Beck, Chicago.
- 661,765. Rennet extract and making same. John A. Just, Syracuse, N. Y.
- 661,812. Surgical appliance. Thomas D. McKown and H. E. Clark, Cripple Creek, Colo.
- 661,818. Soda fountain. Samuel J. Rogers, Marlton, Ind.
- 661,836. Capsule-bottle top. Frank A. Whitot, Bridgeport, Conn.

Change of Address.

- J. A. B. Adcock, Warrensburg, to 908 Paseo St., Kansas City, Mo.
- C. F. Andrews, Clardyville, Tenn., to Bartlett, Tex.
- W. J. Baer, 3348 22nd St., to Harbor Emergency Hospital, San Francisco, Cal.
- C. A. Betts, Chicago, to Hawkeye, Iowa.
- Irvin J. Becknell, Milford to 109 S 5th St., Goehen, Ind.
- W. J. Birkofer, Kanawha, Iowa, to Gothenburg, Neb.
- John Bacon, Andalusia, to Tonessdale, Philadelphia, Pa.
- Carl Booth, 3202, to 2722 Pine St., St. Louis, Mo.
- H. B. Brashear, South Lancaster, Mass., to Atlantic City, N. J.
- D. E. Brown, Chicago, to Laramie, Wyo.
- H. R. Cotton, Fayetteville, Tenn., to Haskell, Tex.
- M. C. Cronin, Bangor, to Mt. Clemens, Mich.
- C. Cushing, San Francisco, Cal., to 1407 I St., Washington, D. C.
- C. G. Chaddock, 511 N. Garrison St., to 3750 Lindell Boul., St. Louis, Mo.
- C. R. Dewey, South Haven, to Coloma, Mich.
- J. Donnelly, 722 Washington St., to 220 Michigan St., Toledo, O.
- J. B. Dickinson, Cobham, Va., to 137 E 21st St., New York City.
- F. W. Davis, Scranton, Pa., to 28 Washington St., East Orange, N. J.
- E. G. English, La Crosse, Wis., to 98 Warren Ave., Chicago.

F. F. Fowle, S. Milwaukee, to Milwaukee Hospital for Insane, Wauwatosa, Wis.
 D. B. Frederick, Marshallville, Ga., to N. Y. Hospital. W. 15th St., New York City.
 Lawrence C. Grosh, 344 W. Woodruff Ave., to 232 Michigan St., Toledo Ohio.
 W. D. Huff, Richmond, to Williamsburg, Kan.
 F. A. Hudson, Florence, Colo., to A. A. Surgeon, U. S. A., Fort McKeanie, Wyo.
 M. B. Hutchins, Fitten Bldg., to 64 Marietta St., Atlanta, Ga.
 C. C. Jones, Brock, to 2117 Market St., Galveston, Tex.
 M. C. Johnson, Minneapolis, to Rochester, Minn.
 E. B. Johnson, Norfolk, to Madison, Neb. N. C.
 M. Kleiner, 2203 Welton St., to Barth Bldg., Denver, Colo.
 J. J. LaSalle, Toledo, Ohio, to The Anchorage, Riverside, Cal.
 J. A. Lockard, Gothenburg, Neb., to Monticello, Toledo, Ohio.
 A. B. Lewis, Hamilton, Kan., to 411 S. Carlisle St., Philadelphia, Pa.
 E. Alfred Mallette, 1206 Arch St., to 5029 Hazel Ave., Philadelphia, Pa.
 J. F. Menertrina, Iron Mountain, Mich., to 11th and Franklin Ave., St. Louis, Mo.
 W. L. Moore, Hilo, to Honolulu, H. I.
 Wm. Northrup, Clarksville, to 84 Monroe St., Grand Rapids, Mich.
 C. P. Paulding, Blue Lake, to Santa Maria, Cal.
 H. M. Pomeroy, Los Angeles, Cal., to 1 N 10th St., care R. B. Chaffin & Co., Richmond, Va.
 W. H. Prioleau, Highlands, to Asheville, N. C.
 E. B. Rierson, Greensboro, to Cooleman, N. C.
 J. J. Ritter, 1026 N. Eutaw St., to 822 Hamilton Terrace, Baltimore, Md.
 E. W. Ross, 5442 Drexel Ave., to Oxford Bldg., Chicago.
 L. N. Seaman, New York City, to Major Louis L. Seaman, Hospital Ship *Marian*, Chinese Waters, China.
 E. N. Shaaf, Chicago, to Cisco, Ill.
 J. E. Sherrard, Perrysburg, to Oakwood, Ohio.
 George E. Sherwood, Dassel, to Kimball, Minn.
 H. A. Stocum, 1427 Walnut, to 1900 Chestnut St., Philadelphia, Pa.
 W. H. Snyder, 912 Jefferson, to 211 Ontario St., Toledo, Ohio.
 R. L. B. Schoonmaker, Sayre, Pa., to 172 Benefit St., Providence, R. I.
 Wm. Stanton, Varysburg, to Webster, N. Y.
 Robert E. Swigart, 20 N Washington St., Tiffin, to 1105 Detroit St., Cleveland, Ohio.
 J. B. Taylor, Vermontville, Mich., to Racine, Wis.
 J. B. Truax, Wallace, to Camp Osborne, Idaho.
 Fred M. Tryon, 212, to 332 S. State St., Ann Arbor, Mich.
 C. B. Turner, Snickersville, to Blumenton, Va.
 F. W. Van Kirk, 25 Hazel, to 50 S. Hermitage Ave., Chicago.
 W. Wickham, 842 Superior St., to Ashley Bldg., Toledo, Ohio.

Alexander N. Stark, captain and asst.-surgeon, U. S. A., leave of absence extended.
 Elmer S. Tenney, acting asst.-surgeon, leave of absence granted.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ended Nov. 17, 1900:
 Medical Director C. H. White, placed on the retired list of the navy, from Nov. 19, 1900, having reached the age of 62 years.
 F. A. Surgeon B. S. Blakeman, detached from the *Pensacola* and ordered to naval hospital, Mare Island, for treatment.
 Asst.-Surgeon C. S. Butler, ordered to the *Independence*.
 Surgeon W. A. McClurg, ordered to additional duty on the *Tonkee*.
 Asst.-Surgeon W. M. Carton, detached from the *Indiana* and ordered home to his orders.
 P. A. Surgeon A. R. Alfred, detached from the *Castine* and ordered to the *Culgoa*.
 P. A. Surgeon M. K. Johnson, detached from the *Celtic* and ordered to the *Brutus*.
 Asst.-Surgeon H. C. Curi, detached from the *Culgoa* and ordered to the *Castine*.
 Asst.-Surgeon E. Davis, detached from the Cavite naval station and ordered to the *Brutus*.
 Asst.-Surgeon W. L. Bell, detached from duty at Guam and ordered to the *Celtic*.
 Asst.-Surgeon B. L. Wright, detached from the naval hospital, Cavite, and ordered to the naval hospital, Yokohama, for treatment.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ended Nov. 15, 1900:
 Surgeon H. R. Carter, granted leave of absence for fifteen days from Nov. 15 on account of sickness.
 P. Surgeon J. B. Stoner, to report at Washington, D. C., for special temporary duty.
 P. A. Surgeon J. B. Greene, to proceed to Bremen, Germany, for special temporary duty.
 Acting Asst.-Surgeon J. A. Moncure, granted leave of absence for thirty days from Dec. 15.
 Hospital Steward W. F. Schlaar, to report to acting director of hygienic laboratory for duty.
 Hospital Steward E. B. Scott, granted one day's extension of leave of absence.
 Hospital Steward M. R. Mason, to proceed to San Francisco, Cal., and report to medical officer in command for duty and assignment to quarters.
 Hospital Steward L. W. Ryder, relieved from duty in the hygienic laboratory, and directed to report to medical officer in command at Washington, D. C., for duty.

BOARD CONVENED.

A board has been convened to meet at Washington, D. C., Tuesday, Nov. 13, 1900, for the examination of Asst.-Surgeon L. E. Cofer, to determine his fitness for promotion to the grade of passed assistant-surgeon. Detail for the board: Surgeon Preston H. Faltsch, chairman; Asst.-Surgeon G. T. Vaughan, and P. A. Surgeon H. D. Geddings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Nov. 17, 1900:

SMALLPOX—UNITED STATES.

Colorado: Total for the state, Oct. 1-31, 75 cases.
 District of Columbia: Washington, Oct. 28-Nov. 3, 1 case.
 Iowa: Des Moines, Oct. 1-31, 1 case.
 Kansas: Wichita, Nov. 3-10, 11 cases; total for the state, Oct. 1-31, 27 cases.
 Kentucky: Lexington, Oct. 28-Nov. 10, 4 cases.
 Louisiana: New Orleans, Oct. 28-Nov. 3, 2 cases.
 Massachusetts: Taunton, Oct. 28-Nov. 3, 1 case.
 Minnesota: Minneapolis, Oct. 28-Nov. 10, 6 cases.
 New York: New York, Nov. 3-10, 1 case.
 Ohio: Cincinnati, Nov. 3-10, 14 cases.
 Utah: Salt Lake City, Oct. 1-Nov. 10, 47 cases.
 Washington: Seattle, Oct. 1-31, 9 cases.
 West Virginia: Wheeling, Nov. 3-10, 1 case.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, Sept. 8-16, 33 deaths.
 Egypt: Cairo, Oct. 7-14, 4 deaths.
 England: London, Oct. 20-27, 1 case.
 India: Calcutta, Sept. 22-Oct. 13, 24 deaths; Madras, Oct. 6-12, 1 death.
 Russia: Moscow, Oct. 13-20, 3 cases; Odessa, Oct. 22-27, 1 case; 2 deaths.
 Scotland: Edinburgh, Oct. 20-27, 1 case; Glasgow, Oct. 26-Nov. 2, 26 cases, 2 deaths.

YELLOW FEVER—UNITED STATES.

Mississippi: Natchez, Feb. 18, 12 cases, 7 deaths.
 YELLO W FEVER—FOREIGN AND INSULAR.
 Brazil: Rio de Janeiro, Sept. 8-16, 2 deaths.
 Cuba: Havana, Oct. 26-Nov. 3, 13 deaths.
 Dominican Republic: Puerto Plata, Oct. 6-Nov. 3, 5 cases.
 Mexico: Tampico, Oct. 28-Nov. 4, 12 cases, 4 deaths; Vera Cruz, Oct. 26-Nov. 3, 11 cases, 12 deaths.

CHOLERA.

India: Bombay, Oct. 8-16, 17 deaths; Calcutta, Sept. 22-Oct. 13, 461 deaths; Karachi, Oct. 7-14, 1 case, 1 death; Madras, Oct. 6-12, 21 deaths.

PLAGUE—FOREIGN AND INSULAR.

Egypt: Alexandria, Oct. 1-14, 1 case.
 England: London, Oct. 30, 1 case on vessel arriving from the Philippines.
 Germany: Bremen, Nov. 6, 1 death; sailor from South America.
 India: Bombay, Oct. 8-16, 85 deaths; Calcutta, Sept. 29-Oct. 13, 197 deaths.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Nov. 8 to 14, 1900, inclusive:
 Carl E. Bentley, acting asst.-surgeon, to perform the duties of examiner of recruits at Little Rock, Ark., in addition to his duties at Fort Logan H. Root's.
 Charles B. Byrne, major and surgeon, U. S. A., from the Department of Porto Rico, to post duty at Fort Sam Houston, Tex.
 Lawrence C. Carr, major and surgeon, Vols., former orders amended so as to direct him to proceed to Washington, D. C., to report to the surgeon-general for instructions.
 Robert P. Cooke, acting asst.-surgeon, relieved from duty in the Division of Cuba, to proceed to Boyce, Va., for annulment of contract.
 David C. Cooney, acting asst.-surgeon, from the Division of Cuba, to Washington, D. C., for annulment of contract.
 Rafael Echeverria, major and surgeon, U. S. V., honorably discharged from the service of the U. S., to take effect Nov. 30, 1900.
 John S. Fogg, acting asst.-surgeon from Bideford, Me., to duty at Fort McHenry, Md.
 Vincent Gomez, acting asst.-surgeon, relieved from duty in the Division of Cuba, to proceed to Santiago, Cuba, for annulment of contract.
 William C. Gorgas, major and surgeon, U. S. A., to represent the medical department of the army at the Pan-American Medical Congress, at Havana, Cuba, Dec. 26-29, 1900.
 Timothy P. Goulding, acting asst.-surgeon, relieved from duty in the Division of Cuba, to proceed to Washington, D. C., for annulment of contract.
 Valery Havard, major and surgeon, U. S. A., to represent the medical department of the army at the Pan-American Medical Congress, at Havana, Cuba, Dec. 26-29, 1900.
 James H. Heppner, acting asst.-surgeon, from duty at the General Hospital, Fort Bayard, N. M., to Fort Caswell, N. C.
 John Van D. Hahn, major and surgeon, U. S. A., having arrived at San Francisco, Cal., in compliance with previous orders will proceed to Chicago, for duty as chief surgeon, Department of the Lakes.
 Jefferson R. Kenn, major and surgeon, U. S. V., to represent the medical department of the army at the Pan-American Medical Congress, at Havana, Cuba, Dec. 26-29, 1900.
 Willard S. H. Matthews, major and surgeon, U. S. V., honorably discharged from the service of the U. S., to take effect Nov. 30, 1900.
 Edgar A. Mearns, captain and asst.-surgeon, U. S. A., leave of absence granted on account of disability.
 Alva S. Pinto, acting asst.-surgeon, leave of absence granted; relieved from duty in Cuba and on the expiry of his present leave to proceed from Omaha Neb., to San Francisco, Cal., for duty with troops en route to Manila, P. I., and for subsequent assignment in the Division of the Philippines.
 William E. Richards, lieutenant and asst.-surgeon, U. S. A., leave of absence on account of sickness.
 Erwin L. Shores, acting asst.-surgeon, from Fort Caswell, N. C., to San Francisco, Cal., for duty with troops going to Manila and for subsequent assignment in the Division of the Philippines.

The Journal of the American Medical Association

VOL. XXXV.

CHICAGO, ILLINOIS, DECEMBER 8, 1900.

No. 23.

Original Articles.

DIETETIC TREATMENT OF DIABETES.*

N. S. DAVIS, JR., A.M., M.D.

Professor of Principles and Practice of Medicine, Northwestern University,
CHICAGO.

While something can be done for diabetics by medicinal treatment, reliance must be chiefly placed on a regulated diet. The principle of diabetic diet is well understood and does not need recapitulation here. There are some details of the management of diet which are not so generally regarded as they should be and which are quite essential to successful treatment.

For convenience in discussing the diet of diabetes, cases can be grouped under three heads, first the mildest, second the moderate, third the severe cases. Acute cases, which are seen almost exclusively in childhood and early adult life, belong to the last group, as do some of those chronic from the start. Mild cases may gradually grow more severe. Not infrequently a case starts from its inception of moderate or severe type.

Those cases which can be called the mildest will cease to eliminate sugar in the urine when the ingestion of it is forbidden and the eating of starches is limited. They are usually individuals in or past middle life and are often obese and gouty. They are amenable to treatment.

The moderate cases are those from whose urine sugar can be removed, provided they are deprived of foods containing both sugar and starch. The severe cases are those from whose urine sugar can not be removed by depriving them of carbohydrate food. Sugar can be made to disappear from the urine of some of these by depriving them of carbohydrates and simultaneously limiting the amount of albuminous food. In others the same thing can be accomplished by careful diet and medicinal treatment. There are many cases, however, from whose urine the sugar can not be made to disappear by any treatment.

It is necessary to prescribe both the character and the amount of food which diabetics shall take. In order to ascertain to which of these categories a given case belongs, a patient must be placed on a diet from which sugars and starches are excluded. A strict diabetic diet, that is, one containing no carbohydrates, should not be adopted too suddenly. This is the first point on which I wish to place stress. Not infrequently coma has been precipitated by too sudden and great a change. In other cases indigestion is produced. From the beginning all sugar should be forbidden, and the amount of starchy food eaten should be diminished.

*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The latter ought to be lessened day by day during the first week of treatment, so that all will be excluded, if the patient's condition permits, by the end of that time. Simultaneously with the diminution of carbohydrate food, albuminoids can be increased and especially fats. The amount of urine and the percentage of sugar which it contains should be estimated at least every second or third day.

Gerhardt's test with perchlorid of iron must be constantly made. If it gives a positive reaction, or if there is evidence of acetone or diacetic acid in the urine a greater modification of diet should be made. Indeed, it is safest to enforce Ebstein's rule that under these conditions the amount of albuminoids eaten should be lessened and the amount of carbohydrates increased. The presence of these substances in the urine signifies a great liability to coma. If the reaction is found when severe cases first come under treatment sugar only should be excluded from the diet and the amount of albuminous food should be limited. At the same time the intestines should be cleaned and albuminous indigestion—if it exists—corrected. Alkalies and alkaline mineral waters are also useful under these circumstances.

The mildest cases are discoverable by the disappearance of sugar from the urine before all carbohydrates are withdrawn, and in such cases they need not be. In most cases of diabetes a certain amount of carbohydrate food can be eaten and utilized by the tissues. What this amount is can only be determined by experimenting. The ability of individuals to utilize such food varies from time to time. It is rare that more than 100 grams—3 1/3 ounces—per day of such food can be taken safely.

Those cases which belong to more severe types of the malady, can not be so quickly classified. The effect of more rigorous dieting and often of medicinal treatment must be determined.

In the mildest cases, when it has been determined what diet will prevent glycosuria, that must be persevered with as long as possible, or at least for several weeks. When cases are very mild the dietetic limitation is often so slight as to cause the patient no discomfort and to require little self-denial. In those cases which approach the group of moderate ones persistent restriction does demand self-denial, and is not only irksome but the excess of albuminoids and fats often lessens the appetite too much and cause indigestion.

It should not be thought that because while a patient is on a restricted diet glycosuria does not return, he is cured. A genuine cure is rarely effected. A temporary recovery often is. When a restricted diet has been used for several weeks, or two or three months, if possible it can gradually be made more generous as regards carbohydrates. The mildest cases can be permitted a thin slice of bread at each meal. The amount

of this can be increased for two or three days and its effect estimated by uranalysis. If it does not cause glycosuria a baked potato can also be tried, and later a little of fruit which contains the least amount of sugar. It is rare that a full normal diet can be resumed. In a small proportion of cases it can be taken after several months of treatment. Recurrences are so usual that it is therefore necessary to inculcate perseverance in watching the urine. If it increases in amount, and especially if it produces a feeling of stickiness when it dries on any object, the patient should at once consult his physician. If appetite grows less or weight of body diminishes, he should again place himself under guidance. It is best for all who have had glycosuria to have, even after apparent recovery, a uranalysis made every four to six weeks for a year or two. In most cases recurrences take place from time to time and careful treatment is intermittently needed.

The diet which in moderate cases is necessary to prevent glycosuria can not be long maintained, and still less can it be in the severest cases, for from it all sugar and carbohydrate food must be excluded. This necessitates a diet almost exclusively of meats and fats. Such a diet soon causes a disgust of the foods permitted the patient, or dyspepsia, and often increases nitrogenous denutrition, which is already excessive. By a reasonable restriction of diet the percentage of sugar in the urine can be kept low. It must be remembered that sugar in the urine *per se* is not harmful. It is only as it indicates the degree of disturbance of nutrition which exists that it is of importance. When by suitable treatment of a moderately severe, or a severe case not more than 500 grains of sugar are voided daily, the case can be regarded as well controlled.

Another point in treatment on which I wish to place stress is that excellent results can often be had by intermittently restricting the diet closely. The advantage of this is not generally appreciated. From two to six times a year this should be done for from two to four weeks at a time. In most cases it is better on one or two days in every week to place patients on a diet which is limited in quantity and much restricted in character. For instance, if a patient is permitted a liberal amount of meats, non-amylaceous vegetables and a little bread, or occasionally a potato, it is well once from five to seven days to prescribe a day of fasting, when only a modicum of albuminous food, a little salad and possibly a small amount of nut-bread are permitted. Water should at these times especially be drunk freely. These days and the longer periods of restriction remove for a time or greatly lessen the natural stimulants of the liver. In prescribing these days and periods of fasting, what has already been said of the significance of Gerhardt's test and of disgust for food and of dyspepsia must be remembered.

To prevent too rapid nitrogenous denutrition fats must be urged on diabetics. They lessen the consumption of tissue-albumin just as carbohydrates do. Unfortunately they are not tolerated in quantities which will enable them to fully take the place of carbohydrates. Butter is well digested and should be eaten freely. Olive-oil should be used generously on salads. Fat meats, such as ham, bacon, pork and mutton should be eaten. These meats, except crisp fried bacon, can best be tolerated when eaten cold, if they must be eaten often. Many clinicians prescribe cod-liver oil also. This is not well taken by my patients. It is apt to cause indigestion and disgust. It can rarely be taken by them in quantities which make it very

useful. Many think that a small amount of alcoholic beverage which does not contain sugar, stimulates the stomach and facilitates the removal of fats from it, and therefore their more rapid digestion. I know of no experimental demonstration of this. Undoubtedly it is true that many patients can take fats and oils in considerable quantities with more relish if they take also such an alcoholic beverage. Condiments often help in the same way.

Meats can be permitted at all times, except liver, and oysters, mussels,¹ and such shell-fish as consist chiefly of liver. Meats should not be cooked with flour or bread-crumbs. Eggs are especially useful. Meat, eggs and fish must constitute the staple of a diabetic's diet. Cheese of all kinds is permissible. Some contain in an agreeable form a goodly amount of fat. Butter is the most agreeable form of all fats and can be taken in the largest amount with the greatest pleasure. It should be spread thickly on bread or its substitutes, which may be prescribed. Cream also is agreeable and can be permitted with benefit to most patients, although it contains about 3 per cent. lactose.

Devonshire cream, which is liked by many, contains less than 2 per cent. of lactose and 65 per cent. of fat. Buttermilk contains about 3.3 per cent. lactose. Koumiss contains from 1.6 to 2.8 per cent. lactose, and kephir 1.5 per cent. Milk can be permitted diabetics, except when a very strict diet is prescribed. It usually contains 4 per cent. of fat, 4.5 of lactose, and 4 of proteid. It can only be allowed in small quantities, for a pint of milk contains an ounce and a half of milk sugar.

Several substitutes for milk have been devised. I suggest the following as much the easiest to prepare: Cream contains 25 per cent. of fat, approximately 3 per cent. of sugar, and the same of proteid. If it is diluted one-fifth with water it will contain 5 per cent. of fat and approximately .5 per cent. of sugar and proteid. To the water with which it is diluted, egg-albumin should be added, so as to increase the total amount of albumin. The mixture can be sweetened with saccharin. This will make an agreeable drink, rich in fat, and containing also a small amount of albumin and about 1 dram of milk-sugar to the pint of beverage.

All sugars do not seem to be equally harmful. The same can be said of starches. When glucose is eaten it is most certain to appear at once in the urine of diabetics. Milk and cane-sugar are somewhat better assimilated, and levulose can be taken by many diabetics in considerable quantity without harm. It is, however, too expensive to be used as a substitute for sugar. Saccharin is the most available substitute. Honey must be forbidden, as must milk, cane, and grape-sugar.

Starch, although it is converted into sugar during digestion, is less certain to aggravate a glycosuria than sugar itself. It, and foods containing it, must be forbidden when a rigorous diabetic diet is prescribed and must always be limited, even if it is not forbidden. This necessitates excluding from the diet of the diabetic, flour products—bread, cake, pastry, etc.—cereal foods, rice, corn-starch, potato-starch, arrowroot, sago, tapioca, hominy, macaroni, vermicelli and farina.

Numerous substitutes for flour-products have been recommended. Bread is the most difficult of all articles of food for diabetics to abstain from. These substitutes are therefore a comfort to them. They can no

1. Klean and some others permit shell-fish; oysters contain only 2.6 per cent. of carbohydrate

are to be eaten with great freedom, for most of them contain too much of fat, nor are they relished for long when eaten steadily. They are also for the most part expensive. The following are among the best known of those substitutes: gluten, almond, sago, cocoanut, oat and Chicago Sanitary Flour. From the last and from cocoanut flour almost all trace of sugar, which is the carbohydrate present, can be removed by raising bread with yeast. The sugar can be almost as perfectly removed from almond flour by washing with acidulated water. These are the best substitutes for wheat bread. Commercial gluten bread contains half as much as, and sometimes more carbohydrate than, wheat bread. It is less palatable. It is much better to give a restricted amount of ordinary white bread than to use it. The bread made of nut-flours should be used very moderately, for it contains so much fat that it is not readily digested. The Chicago Sanitary Flour is the least objectionable on this score. Moreover, patients tire of it after a few weeks. It is well, therefore, to shift from one nut-flour to another and to make a variety of forms of bread, so that weariness of these preparations may be as long delayed as possible. The following receipt is recommended by O'Donnell as a substitute for home-made bread. It contains no starch nor sugar. It will also help to vary a diabetic diet.

Six eggs are to be beaten thoroughly; add a teaspoonful of baking-powder and a quarter as much salt; again beat the eggs. Pour the mixture into hot-waffle irons greased with butter; bake in a hot oven. Eat hot with butter or flavor with cheese or nuts.

Substitutes for home-made bread should only be used while patients are on a strict diet.

The following vegetables can be eaten by diabetics: cress, cabbage, lettuce, sprouts, endives, broccoli, spinach, celery, cucumbers, mushrooms, artichokes, green French beans,² sauerkraut, cauliflower, dandelion, sorrel, asparagus, onions, leeks, tomatoes.

Root vegetables, such as potatoes, carrots, and turnips, as well as beans, peas, and lima beans, must be forbidden to diabetics, because of the large amount of carbohydrates which they contain. When the diet is relaxed or the case is a mild one a potato can often be permitted. It is usually craved if long forbidden, and is undoubtedly much less harmful than the same amount of bread. Cranberries, strawberries, raspberries, blueberries and oranges contain from 1.5 to 6 per cent. of carbohydrates and can be permitted in mild cases. Kleen recommends peaches and apricots. All fruits should be forbidden to those who are on a strict diet. Dried fruit, preserved fruit and most dishes flavored with or garnished with fruit must at all times be prohibited. A measured amount of nuts—except chestnuts—can be allowed in mild cases.

Diabetic patients can be permitted to drink water as freely as they desire. Tea and coffee can also be allowed, providing no sugar is used in it and little cream. Cocoa and chocolate contain a considerable amount of carbohydrate and, as usually marketed, contain an additional percentage of sugar. The frequent or constant use of alcoholic beverages is undesirable, for they both irritate the liver and kidneys, which are unusually active in diabetics. Brandy, cognac, and

whisky contain no sugar, and several wines contain little, such as Swiss wine, Rhine wine, Burgundy, Bordeaux, Austrian (red). Wines should not be used, unless in the smallest quantities to flavor foods. Lemonade can be made with saccharin and is unobjectionable.

Several of the European spas are famous as resorts for diabetics. The best known of them are Carlsbad, Neuenahr and Vichy. It is doubtful if the waters in themselves influence diabetics. They may effect favorably concomitant digestive disorders and toxemia. That a short sojourn at these spas is of advantage is too well known to require a new demonstration. Benefit, however, is derived from a change of life, from an outdoor life, from exercise and a regulated diet, all of which such residence necessitates or presupposes.

Kleen,³ of Carlsbad, most frankly and justly says: "As for the glycosuria, Carlsbad and Vichy water, and doubtless, also Neuenahr water, in moderate and rational amounts recommended at present, which scarcely ever go beyond a liter a day, have no appreciable influence, or one that is extremely slight and uncertain."

Mental depression and excitement are extremely harmful for diabetics. Whenever possible they should be freed from business care, family troubles, or a life of excitement. During the last few years of widespread financial embarrassment I have frequently been able to trace the effect of sorrow and anxiety in the increasing physical trouble of my diabetic patients. Sexual excess should also be avoided by them.

The skin should be kept active by baths and friction. The patient should be carefully protected by woolen or silken underwear from sudden temperature changes. Regular exercise and, if possible, out-door exercise should be taken to ensure deep breathing, good oxygenation of the blood and vigorous metabolism.

The following menu will illustrate what should be prescribed while a strict diet is maintained. On "fast days" a limited amount of these same foods should be recommended.

Breakfast.—Tea or coffee without sugar or cream, one egg and bacon, and two or three slices of nut-bread with butter (Chicago Sanitary Flour or similar substitute for wheat flour).

Dinner.—Bouillon or broths; beef, mutton or chicken; spinach, or asparagus, or wax beans; salad of lettuce or tomatoes, with cheese; black coffee without sugar.

Supper.—Tea or coffee without sugar or cream; meat or fish, or mushrooms; a salad of tomatoes or lettuce, or chicory, etc.; two or three slices of nut-bread.

At bedtime or in the evening, an egg lemonade made with saccharin, can be given.

Use as much butter as possible on bread and oil on salads; eat by preference fat meats.

When a strict diet must be maintained, the cook should endeavor to furnish as large a variety of dishes by skilful preparation from the limited number of articles as possible.

When patients keep a "fast day" it is best to prescribe only two meals a day, one at breakfast time and one about six in the evening. At noon, if it is desired, an egg lemonade made with saccharin, can be taken. The amount of food eaten at the two meals should also be limited.

65 Randolph Street.

2. Kleen says when the seeds are developed string beans contain several per cent. of sugar and starch. They should be eaten when green. Saurkraut when well fermented contains a fraction only of a per cent. of sugar. Celery contains 10 per cent. of sugar and must be forbidden diabetics when they are on a strict diet, it is permitted by some clinicians at other times.

3. *Diabetes Mellitus and Glycosuria*, p. 282.

COMA DIABETICUM: ITS TREATMENT.*

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In a recent communication a New York writer expresses the opinion that most cases of diabetes mellitus end with coma. A research made by me of all the original death certificates of individuals who have died from diabetes mellitus in the city of New York—Manhattan and the Bronx—during 1899 revealed the fact that among a total mortality from diabetes mellitus of 202, but 60 cases, that is, about 30 per cent., terminated in coma.

The greater number of these sixty instances which were designated as "coma," it is safe to assume were not those of typical diabetic coma. Coma associated with diabetes deserves the appellation "diabetic coma" only in certain well-defined cases. A number of writers have furnished statistical data as to the frequency of coma in diabetes, but have omitted to differentiate between the typical condition and that which is the sequence of complications co-ordinate or intercurring with diabetes mellitus. Moreover, the term "coma diabeticum" is not a very specific one, as the phenomenon is by no means characteristic of diabetes alone. Naunyn,¹ after Kussmaul and Riess, suggests to substitute the designation "dyspneic coma" for "diabetic coma" on account of its greater significance and as it precludes the assumption of its occurrence in diabetes exclusively.

The characteristic symptom of typical coma diabeticum is the peculiar dyspnea, first described by Kussmaul.² The patient breathes with great exertion, although there is apparently no obstruction which either the inspired or the expired air has to overcome. Every respiratory muscle is greatly taxed; the thorax expands perfectly in all directions. The inspirations are perfect, intensely deep and long drawn. The expirations are also perfect, but of shorter duration. The respiratory movements gradually assume a greater frequency, and they may become more superficial, particularly in such instances where the patient has been unconscious for some time; at the onset the circulation remains unaffected, and cyanosis is rarely present.

In this clinical picture the singularity of co-ordination of extreme systemic asthenia with the vigorous respiratory movements is most striking.

The pulse is weak and regular, and in the beginning of the coma its frequency is not above 100. In the fully developed dyspneic coma, the extreme weakness of the pulse does not always permit ascertaining of its frequency. Sphygmo-manometric determinations of the tension of the radial artery, made by me on a patient during the prodromic stage of dyspneic coma, showed an arterial pressure equivalent to 70 mm. Hg. During the intensely deep inspiration the instrument recorded a tension equivalent to 50 mm. Hg. Later, when the respiratory movements had become more shallow, a pressure of 15 mm. Hg. was yet determinable.

The body temperature is very low from the beginning of the typical coma, and gradually declines farther as the comatose condition develops; a temperature of 31 to 33 C. (87.8 to 91.5 F.) is not unusual. An increase

in temperature, which is occasionally met with in the prodromic stage or at the onset of the coma, is invariably caused by an accompanying complication. The pupils are found dilated in most instances; occasionally, however, they are more or less contracted. Pupillary reflexes may continue to exist until the comatose condition is completely established.

The stage of somnolence is most always preceded by gastrointestinal disorders or febrile affections, headache, anxiety, mental excitement, vertigo, delirium, jactitation, pains in the abdomen or in the hypochondria, or other disturbances. Anxiety, jactitation and mental excitement may be even observed in the beginning of the comatose condition itself. Similar disturbances, though not so well pronounced, are often premonitors of the characteristic dyspnea.

The amount of the diurnal urine during the prodromic stage is rather increased; after onset of the coma the output of urine generally diminishes. A patient of mine voided 4250 c.c. of urine the day preceding dyspneic coma. The urine obtained from the same patient the second next day amounted to but 550 c.c. The urine is nearly always strongly acid; its degree of acidity, according to my observations, varies between .45 and .8. The specific gravity is neither abnormally high nor low; dextrose, which might have been eliminated in increased quantities during the week preceding the comatose condition, in my experience, is most always excreted in not only absolutely, but also relatively, diminished amounts as soon as the dyspneic symptom is well pronounced.

In about 60 per cent. of all the urines obtained by me from patients, while they were in the condition of true coma diabeticum, I found either no glucose at all or only insignificant amounts of it. The diminution or disappearance of glycosuria under these circumstances may be in part ascribed to the inane condition of the comatose diabetic.

The output of ammonia by the urine in diabetic coma is, as a general rule, excessively increased; in a few such specimens of urine, however, which I had occasion to examine, the contained ammonia seemed not excessive in amount.

Albuminous substances in small quantities are most always present in the urine just prior to and during the comatose state. Numerous casts, according to Kützle,³ are always found in the coma of true diabetes. The amount of urinary albumin does not stand in any relationship to the number of casts. These are true casts and possess a characteristic appearance; they have smooth contours, are pale, short and broad, are hyaline, or often decidedly granulated and seem to be ragged. They are rarely covered with leucocytes or kidney epithelium. They occur even frequently in the prodromal stage of the coma. Like Naunyn, I have failed to find these casts in the urine of some cases of dyspneic coma. Aceton, aceto-acetic and oxybutyric acids are frequently present in the urine of the comatose diabetic. Aceton and aceto-acetic acid I have found absent in a number of instances and the presence of oxybutyric acid could not be ascertained by me in some of the urines of patients in coma diabeticum. The urine, in most instances, assumes a deep-Burgundy red coloration with chlorid of iron, which, however, is not always indicative of the occurrence of diacetic acid.

The alkalescence of the blood seems to be somewhat diminished during dyspneic coma. Magnus-Levy,⁴ who determined the blood alkalescence, according to Loewy, found in one case of diabetic coma a diminution of blood

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alkalinity equivalent to 217 mg. NaHO in 100 c.c. of blood. In another instance the decrease amounted to 266, and in a third case to 170. In one of my own patients, who survived, I found the blood alkalinescence, which was determined after a modification of the Loewy-Zuntz method, during the beginning of coma, to be equivalent to 266 mg. NaHO. In another of my cases, after the establishment of Kussmaul's respiration, the blood alkalinescence was equivalent to 318 mg. NaHO in 100 c.c. of blood. The exhaled air in coma diabeticum possesses a peculiar odor, likened by all observers to that of acetone. The odor, however, whether due to acetone or not, I deem not characteristic of the comatose state; a trained olfactory will often detect it in the exhalation of patients afflicted with a comparatively mild type of the affection.

The symptom-complex as described in the foregoing may even occur in apparently mild cases of diabetes. The most insignificant causes may be factors in the production of diabetic coma. Digestive disturbances, long-continued proteid diet, constipation, bodily and mental exertion, localized affections, as inflammations and formation of abscesses, chloroform anesthesia and other occurrences, predispose to coma. A patient of mine had three attacks of genuine diabetic coma which were called forth in every instance by over-eating.

There is not a single phenomenon which indicates with any degree of certainty the approach of the comatose condition. The appearance of the heretofore described coma-casts may be of diagnostic value, it is true, but I failed to find them in some cases of diabetic coma. The increased excretion of oxybutyric acid may serve as an indication of imminent danger, but v. Noorden⁹ relates a case where oxybutyric acid was repeatedly found in the urine in quantities not less than 2 per cent. and where no coma supervened. The same author mentions that Weintraud had made a similar observation. A patient of mine, a female, 24 years of age, who is affected with diabetes mellitus for over seven years, has, during the last three months, while under a rigid fat-meat diet, repeatedly excreted oxybutyric acid in appreciable quantities; at the same time, the patient improved wonderfully, gained in weight and attended to her business, which demands much mental activity. She does not complain of lassitude and experiences no paroxysms of somnolence.

The alkalinescence of the blood apparently does not furnish a clue to the threatening coma. The degree of blood-alkalinescence, to be sure, is quite low in the advanced stage of diabetes, but the diminished degree of alkalinescence, as I have frequently observed, is by no means solely characteristic of the pre-comatose state. I have observed the same low degree of alkalinescence in apparently healthy individuals and in patients afflicted with diverse disorders.

After the dyspneic coma is well developed, death generally ensues within twenty-four or forty-eight hours. Non-dyspneic coma undoubtedly forms a great percentage of the cases of coma accompanying the advanced stage of diabetes mellitus. A goodly number of the cases of coma which occurred together with diabetes and which in the certificates of death are rightfully designated as "direct cause of death," have nothing at all in common with the genuine coma diabeticum.

The coma is atypic and only pseudo-diabetic in all such instances when it is the outcome of intercurrent affections or complications. Exhausting diseases like phthisis pulmonum and hepatic cirrhosis frequently terminate in coma. When one of these maladies or a septic

infection occurs together with diabetes and death supervenes by coma, the latter, in most instances, is of the atypic, that is, the non-dyspneic, type. The coma is most always of the latter type when affections of the central nervous system concur with glycosuria or the diabetic condition.

Chronic interstitial nephritis or pyonephritis does not infrequently occur together with diabetes. Uremic coma differs from true diabetic coma in its non-dyspneic character.

The pathogenesis of diabetic coma has been made the subject of investigation by many an observer. On this occasion it is neither opportune nor to the purpose to relate the results of my own work in this direction. Of the hypotheses which have been advanced to explain the origin of dyspneic coma, I mention the following:

1. Petters⁶ was the first to advance the theory that diabetic coma is the result of an autointoxication from acetone. The same observer proved the existence of acetone.

2. Klemperer⁷ is of the opinion that as yet unknown toxic substances are produced in the course of the diabetic affection. These poisons cause a specific disintegration of the protoplasm whereby aceto-acetic, and particularly oxybutyric, acid is produced. The toxic substances, when accumulated, call forth coma by paralyzing the brain.

3. Schmitz⁸ concludes that diabetic coma is due to the action of poisons which are of intestinal origin; he bases his assumption on the fact that in the latter stage of diabetes the feces possess a very offensive odor and that it is possible to avert coma by producing free evacuation of the bowels.

Stadelmann,⁹ and with him Minkowski, Naunyn and von Jaksch, trace the origin of coma diabeticum to an acidosis, an acid intoxication. The typical diabetic coma, according to the view of these observers, is, therefore, an acid coma. The increased ammoniacal excretion by the urine in advanced grave cases of diabetes mellitus serves as an indicator of the degree of acidosis. Levorotatory oxybutyric acid is the principal factor in the production of diabetic acidosis, but aceto-acetic acid, lactic acid or fatty acids may occasionally also call forth an acid intoxication.

Stadelmann's theory of the production of coma diabeticum has more adherents at the present day than any other hypothesis which has been advanced to explain the occurrence of this phenomenon. The modern alkali therapy of dyspneic coma is based on the assumption of an acidosis.

Stadelmann¹⁰ was the first to recommend sodium carbonate for the neutralization of the oxybutyric acid in cases of acid-coma. In order to prevent localized abscesses, which are often the result of subcutaneous injections of concentrated sodium-carbonate solutions, and to speedily increase the blood alkalinescence, Stadelmann proposed to inject the antacid intravenously. A normal-salt solution in which from 3 to 5 per cent. sodium-carbonate has been dissolved will not cause any untoward effects if directly introduced into the blood-current. The intravenous injection of sodium carbonate or bicarbonate has not fulfilled the expectations entertained. It is true, in many instances, an immediate improvement takes place after the infusions, but they afford only temporary relief. The lethal termination in coma, in the vast majority of cases is only deferred from twenty-four to thirty-six hours, and but few cases are on record in which coma had definitely subsided. The introduced alkali does not seem to exert a specific influence on the

acidosis and the transitory relief afforded by the infusion appears to be due simply to the blood dilution.

Naunyn¹¹ believes that dyspneic coma, when fully developed, in all probability remains uninfluenced by the alkali infusion.

The failure of the alkali therapy, in fully developed coma diabeticum, may be due to advanced tissue-changes which have been called forth by acid-intoxication and which can no longer be counteracted by an increase of alkalinity.

The alkali therapy may be employed with better prospects of success in the prodromic stage of diabetic coma. As soon as the first symptoms of the approaching comatose state set in, sodium bicarbonate, 15 to 30 grams daily, should be administered. There are instances on record where twice and three times this dose was given. The sodium salt should be continued until all signs of threatening coma have been dispersed. Naunyn, for prophylactic purposes recommends the continued administration of sodium bicarbonate in all such cases where the urine gives a strongly positive reaction with ferric chlorid.

While, as a general rule, I have seen good results following the prophylactic administration of sodium bicarbonate, coma was not prevented by it in some cases which have been under my observation. In the fully developed coma diabeticum, the alkali therapy proved such a failure in my hands that I have now relegated it to oblivion.

I have employed precipitated calcium carbonate for the past eighteen months in a variety of glycosuric disorders. As it had answered well in some instances, I concluded to prove its efficacy also in the comatose state of diabetes. I report the following two cases of typical dyspneic coma concomitant with diabetes mellitus, in which precipitated calcium carbonate was administered:

CASE 1.—R. A., female, aged 68 years; German, fifty years in the United States, widow, mother of three children.

Anamnesis: Family history negative; patient felt well until three years ago, when the family physician diagnosed diabetes mellitus. She had lost during this period about 17 kg. in body weight. In the last three months the patient had frequent attacks of vertigo, during one of which she fell and received injuries on the right hypochondrium. She has been under a diabetic regimen from time to time.

February 6, 1900: Pronounced emaciation and weakness; somnolence; cheeks flushed; pupils dilated; heart arrhythmic; pulse, 108; tension of right radial artery, 70 mm. Hg.; left radial artery, 160 mm. Hg.; temperature (rectal), 37.2 C.; respiration deep, 20 per minute; liver apparently normal; blood alkalescence, 266 mg. NaHO; abdomen inflated, ankles edematous. Urine: total amount in twenty-four hours, 3600 c.c.; color, Vogel's scale No. 3; transparency normal, odor normal, consistency normal; reaction acid, 45 deg., specific gravity, 1023 at 15.5 C.; total solids, 192.92 grams; no deposit soon after being voided.

Salts of hydrochloric acid increased; salts of sulphuric acid increased; salts of phosphoric acid, namely, alkaline and earthy phosphates, increased; salts of carbonic acid increased; free ammonia, none; carbamid, 1.2 per cent., or 43.2 grams; uric acid, normal ratio; xanthin, traces; creatinin, appreciable quantity; hippuric acid, traces; urobilin diminished; urine indican, normal quantity; nucleo-albumin, normal amounts; serum albumin present in considerable quantity; nucleo-albumin, normal amounts; serum globulin present; biliary acids, absent; fatty matters, traces; pus, absent; glucose, 3.22 per cent., or 115.92 grams in 3600 c.c. urine; glycuronic acid combinations, absent; acetone, present in small amount; diacetic acid, present; oxybutyric acid, present in appreciable amounts.

Microscopically: Uric acid, urates, calcium oxalate, calcium sulphate, round, columnar and squamous epithelium; short hyaline casts (Külz-Aldehoff's).

Treatment: Sodium bicarbonate, 5 grams per os every hour.

February 7: Comatose condition more fully developed. Pulse, 110; pulsatory dilatation and contraction of right radial artery hardly determinable; of left radial artery, much stronger. Respiration, 28 per minute; intensely deep inspirations. There is a peculiar odor penetrating from the mouth, which, however, is not alike to that of acetone or oxybutyric acid.

Treatment: Two liters of physiologic salt-solution by enteroclysis every four hours, to be followed after evacuation of the bowels by enteroclysis of 2 grams calcii carbonas præcipitatus, suspended in one liter of water of 42 C.; strychnin camphoricum, .0005 grams, hypodermically every six hours; with exception of water, all ingesta were withdrawn.

February 8: Comatose symptoms have disappeared. The treatment is continued in the same manner. Patient is permitted to take 100 c.c. milk every hour and a half. Also water and cracked ice ad libitum.

February 9: Patient is able to sit up. The alkalescence of blood is equivalent to 373 mg. NaHO. The urine gives but a faint reaction with chlorid of iron. The enemata of salt water are continued twice daily. Precipitated calcium carbonate is ordered to be given in 2-gram doses every two hours, and strychnin sulphate in tablets of .001 each three times a day. Diet limited to milk.

February 13: Improvement continues. Urinary glucose, .75 per cent. in diurnal output. No acetone. Gerhardt's reaction negative.

Treatment: Lavage of bowel with normal salt-solution every morning. Sodium bicarbonate, 4 grams every two hours. Strychnin sulphate continued. Diet still limited to milk on account of chronic nephritis.

February 18: Urinary glucose, 1.5 per cent.; albumin diminished; a few hyaline casts. No acetone; no aceto-acetic acid, Druzs and diet continued.

February 25: Urinary glucose diminished; albumin increased; hyaline casts; no acetone, no aceto-acetic acid. Druzs and diet continued.

March 1: The patient is up and about, but is very weak and restless. Complaints of headache, tremor and vertigo. Treatment as heretofore. Strychnin is withdrawn and morphin in doses of .015 gm. substituted.

March 4: Urine, glucose, 1.25 per cent.; no acetone nor diacetic acid.

March 14: Urine, diurnal output, 1200 c.c.; acidity, .35 degrees; specific gravity, 1014; glucose, .75 per cent., or 9 grams in 1200 c.c.; albumin, .75 per cent. (Esbach); hyaline casts, no acetone, no diacetic acid.

March 23: Urine, glucose, .75 per cent.; albumin present; hyaline casts; no acetone, no diacetic acid.

March 29: Patient was able to come to my office. Heart is in better condition; bronchorrhea; arterial tension, right radial artery, 100 mm. Hg.; left radial artery, 160 mm. Hg.; arteriosclerosis. The sides of the neck are noduliferous. Liver apparently normal. Abdomen somewhat inflated. Alkalescence of blood, 373 mg. NaHO. Patient complains of the milk diet. Medicines as heretofore. Diet unrestricted.

April 7: Patient had a slight attack of hemiplegia of the right side. Aphasia present, but not complete. Treatment consists of sodium and ammonium iodid, strychnin, bicarbonate of soda. Irrigation of bowels with physiologic salt-solution.

April 10: The hemiplegic symptoms have almost totally disappeared; patient can converse as before the attack. Treatment continued as above, but hydrochloric acid is substituted for the sodium and ammonium iodid.

April 12: Patient, under the circumstances, feels comfortable, but complains of weakness and restlessness.

April 13: Attack of typical dyspneic coma resembling very much the one of February 7. Treatment, the same as in the last attack, viz., two liters of physiologic salt-solution by enteroclysis every four hours, to be followed after evacuation of the bowels by enteroclysis of 2 grams precipitated calcium carbonate suspended in 1 liter of water of 42 C. Strychnin

camphoricum .0005 grams, hypodermically every six hours. Nothing but water allowed for ingestion.

April 15: The comatose condition has completely subsided; patient is totally exhausted and near collapse, involuntary micturition and defecation. Treatment: Enteroeclysis discontinued; strychnin camphoricum as above; milk.

April 17: The patient is extremely weak, but possesses her full senses and is able to speak. Involuntary micturition and defecation.

April 18: Death by collapse.

CASE 2.—C. S., female, aged 60 years; Russian; thirty years in the United States; married, mother of three children.

Anamnesis: Family history negative. Patient is afflicted with diabetes for almost eight years. She has been repeatedly on an antidiabetic diet; she, however, did not keep it up long enough to be benefited by it. Bulimia was always present, even in her younger days, long before diabetes was recognized. Of late she complained of extreme weakness and lassitude, of attacks of drowsiness and of obstinate constipation.

March 30, 1900: Patient is lying in bed, in an apathic and somnolent condition. On being aroused she answers the questions intelligently enough, but in a peculiar drawling manner. Her countenance is flushed and she complains of pain in the occipital and umbilical regions. There had been no movement of the bowels for about twenty hours. Micturition is frequent and involuntary. Her general appearance is quite good. The odor emanating from the mouth is similar to that of acetone. The pupils are rather dilated. The tongue is not furred. Temperature, rectal, 38.6 C.; pulse, 98; pulse tension, 110 mm. Hg.; heart-beats, regular, but somewhat accelerated; respiration, labored and deep without inspiratory stridor; liver and spleen of normal caliber. There is an old umbilical hernia, which, however, causes no trouble whatsoever. Abdomen greatly inflated. No local edema anywhere. Alkalescence of blood equivalent to 266 mg. NaHO in 100 c.c. of blood. Urine, exact diurnal amount not ascertainable on account of involuntary micturition; color, yellow; transparency perfect; reaction, acid, .53 degrees acidity; specific gravity, 1026 at 15.5 C.; carbamid, .5 per cent.; ammonia in increased amount; indican, increased amount; serum albumin and serum globulin absent; glucose, 4 per cent.; acetone, present (Lieben's test); Gerhardt's reaction strongly positive; oxybutyric acid present. (Distillation, determination of melting-point of crotonic acid.)

Treatment: High irrigation of bowel with normal saline-solution; administration per os of calcii carbonas precipitatus in doses of 4 grams every three hours.

March 31 (sixteen hours later): Dyspneic coma more fully developed. Alkalescence of blood, 318 mg. NaHO; a small increase since yesterday. Temperature (rectal), 35.4 C.

Treatment: Enteroeclysis of physiologic sodium chlorid solution, 2 liters every four hours, to be followed after evacuation of the bowels by enteroeclysis of 3 grams precipitated calcium carbonate, suspended in 1 liter of water of about 42 C. Strychnin camphoricum, .0005 grams hypodermically every four hours.

April 1: Patient has been conscious repeatedly. Respiration, 32 per minute, and shallow; temperature, 36.2 C. (rectal); pulse, 120, weak and thready. Treatment continued as heretofore.

April 2: Patient has almost fully recovered from the attack of coma, but still complains of slight vertigo and headache. The urine contains nearly 2 per cent. of dextrose and still gives a decided reaction with ferric chlorid. Treatment: lavage of bowel with normal salt-solution twice daily. Calcii carbonas precipitatus by the mouth, 2 grams every hour. Strychnin sulphate, .001 grams, by the mouth three times a day. Restricted diet.

April 3: Urine, dextrose about 1 per cent. (estimated); Gerhardt's reaction positive.

April 6: Urine, dextrose, 25 per cent. Gerhardt's reaction positive.

April 7: Patient is out of bed; feels much stronger and develops again a morbid appetite. Is not satisfied with restricted diet. Treatment continued as heretofore.

April 8: Urine, dextrose, traces; Gerhardt's reaction positive.

April 9: Urine, dextrose, 1 per cent.; Gerhardt's reaction very faint.

April 10: Urine, dextrose, traces; Gerhardt's reaction very faint.

April 11: Patient is able to leave the house. Feels much stronger. Experiences hardly any dizziness. Urine is free of glucose; the ferric chlorid reaction still occurs. Medicinally, sodium bicarbonate in 3-gram doses every four hours and strychnin sulphate as above ordered to be taken. Diet: milk in small amounts and some carbohydrates permitted, meats and fats ordered to be partaken of in greatly diminished quantities.

April 18: Dyspneic coma, not completely developed, due undoubtedly to over-eating and subsequent gastrointestinal disturbances. Treatment: by enteroeclysis of normal salt-solution, to be followed by high enemas of precipitated calcium carbonate, as in previous attack. Strychnin sulphate, .001 gram, hypodermically, every five or six hours. Nothing but water allowed to be ingested.

April 20: Symptoms of coma have again subsided. Blood alkalescence equivalent to 371 mg. NaHO in 100 c.c. of blood. Urine, dextrose absent; faint reaction with ferric chlorid. Treatment: daily lavage of bowel with salt solution; precipitated calcium carbonate, 2 grams every two hours. Mixed diet.

May 3: The patient felt quite comfortable ever since the last attack of coma was dispersed. Urine: glucose, 1.5 per cent.; Gerhardt's reaction positive, but quite faint.

May 19: Patient complains of lassitude and drowsiness during the day. Restlessness during the night. Emaciation is very marked. Urine: glucose, 2 per cent.; Gerhardt's reaction decidedly positive. Treatment: lavage of bowel with physiologic salt-solution; sodium bicarbonate per os in 4 gram doses, hourly repeated. Morphine, .015 gm. at 6 p.m. and at midnight. Diet continues unrestricted.

May 21: Urine, glucose, 1.75 per cent; Gerhardt's reaction very decided.

May 24: Urine, glucose, 2.5 per cent; Gerhardt's reaction very decided.

May 25: Patient has again indulged in the pleasures of eating, and has consumed at one sitting vast amounts of delicacies. She feels nauseated and has vomited repeatedly. Constipation is present. Complete anorexia and aversion for food. Treatment: high enemas of bowel with salt-solution; sodium bicarbonate per os in 4-gram doses every hour.

May 27: The condition remains unchanged. Anorexia and aversion to food unimproved. Glycosuria scarcely noticeable. Ferric chlorid gives decided reaction.

May 28: Dyspneic coma, resembling the two previous attacks, but apparently more severe. Treatment: enteroeclysis of normal saline solution, 2 liters every three hours, to be followed by enteroeclysis of 6 grams, calcii carbonas precipitatus suspended in 1 liter of water at 42 C.

May 29 and 30: Severity of the attack has lessened. The patient continues in a semi-comatose condition. Treatment continued.

May 31: The condition of the patient is unchanged in the morning. Blood alkalescence at 8 a.m., 266 mg. NaHO. The injections are retained but for a very few minutes. The water flows back slightly discolored, but without formed masses. At 7 p.m. patient is somnolent, but gives intelligent answers. Blood alkalescence at that time, 373 mg. NaHO. Treatment continued.

June 1: Patient is still in the condition of somnolence. Urine free of glucose; gives Gerhardt's reaction. Treatment continued.

June 2: The patient's condition remains unaltered. Treatment continued.

June 4: The patient's condition has changed but little. Treatment with calcii carbonas precipitatus is continued.

Postscript: The patient died in the evening of June 4. Exitus occurred by exhaustion. No coma.

The two cases reported in the foregoing were those of undoubted typical dyspneic coma. In every case of the five instances in which an attack of coma occurred in these two patients, the phenomena characteristic of coma diabeticum soon abated.

It is true, Patient No. 1 succumbed to diabetes mellitus, but death in her case ensued by collapse, seventy days after her first and five days after her second attack of coma diabeticum. Patient No. 2 was still alive when I saw her yesterday (June 4). The first attack of diabetic coma she experienced on March 31, the second on April 18, and the third on May 28.

It may be surmised that the cessation of the comatose state in the instances mentioned may be due to a mere accident or to enterolysis per se.

The rather unusual and unailing control of the coma in every instance, however, forces one to assume that its abatement is rather the result of a specific action of the calcium carbonate. Possibly some of the precipitated chalk had reached a portion of the intestines, where, by the influence of acids upon it, carbonic acid was evolved, which in one form or the other had found entrance into the blood-channels, there neutralizing the acidosis; possibly the calcium itself, probably after the liberation of CO_2 , served as a base with which a toxic substance united to form an inert or innocuous compound. In no instance did I find the calcium output by the urine increased in any noticeable measure.

As precipitated calcium carbonate is but very slightly soluble in water, I facilitate its suspension in that medium by the addition of 25 per cent. its weight of acacia.

In submitting this preliminary communication on the use of *calci carbonas precipitatus* in true coma diabeticum, I must preclude any supposition on your part that this agent should be considered an unailing one in this condition. Still, the good services this drug and the specific mode of application have rendered will certainly induce me to prove its efficacy in other cases of diabetic coma.

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DISCUSSION ON PAPERS OF DRs. DAVIS AND STERN.

DR. O. T. OSBORNE, New Haven, Conn.—I would endorse all that Dr. Davis has said on the question of when and how the dietetic treatment should be used in diabetes, and when it may be modified. The distinction is most important between glycosuria of dietetic origin and the diabetic condition in which the sugar is made from the proteids and is accompanied by wasting of the body. We all know how many persons go about in apparently good health, until it is accidentally discovered that there is more or less sugar in the urine. If they are hastily pronounced to be cases of diabetes and at once put on a restricted diet, they go down directly. It is, therefore, important to recognize not only cases in which the diabetic regimen is necessary, but also to recognize other cases in which it is not necessary and is positively harmful. I am surprised to learn that there is such a large proportion of men as compared with women—three to one. Perhaps this may be due to greater use

of alcohol by men. This leads to a consideration of the cause of diabetes. In a certain proportion of cases, the pancreas is at the bottom of the condition. I would like to believe that all cases of diabetes are directly connected with, or dependent on, the pancreas. It is not essential that there should be a gross lesion of the pancreas. It is possible to have disturbance of function of the pancreas without any actual pathological change in this organ. There may be a condition of overproduction of sugar, and a resulting glycosuria, which is analogous to functional albuminuria. Then there are conditions in which a limited portion of the pancreas may be doing all the work for the entire gland. There may be a certain amount of changed metabolism, or failure of function, which may end in glycosuria. I make the suggestion that some important function of the pancreas is at the bottom of these cases of glycosuria. If this is true, then we should be able to increase the function of the pancreas by proper remedies, just as in diseased conditions of the thyroid we obtain benefit from thyroid feeding.

DR. J. M. ALLEN, Liberty, Mo.—One question bearing on this subject we may consider settled, namely, that the function of the stomach in diabetes is well performed. We know that in order to get sugar into the blood it must be introduced through the medium of food which contains sugar or substances containing sugar. Therefore in diabetes there is a departure from the normal metabolic changes in the food which is dependent on pathologic changes in the digestive tract or perverted function of the nerve-center of the brain controlling the secretion of sugar. It is an accepted fact that this arrest of normal metabolic changes occurs below the pylorus; in my opinion in the duodenum. This portion of the digestive tract is abundantly supplied with blood and nerves. It is connected directly by its nerves with the spinal column, sympathetic nervous centers and brain center. It is the receptacle of the secretion of the liver, pancreas and its own glands. In the digestive process it performs as much work as the stomach itself. By its extensive nervous connection, in my opinion, it is the great reflex center of the gastrointestinal canal. Because of its location and physiological functions it is far more often diseased than the stomach. Chronic inflammation and ulceration of this organ is by far the most frequent cause of diabetes mellitus, either by the pathological changes arresting the metabolic changes in the food resulting in a product which can not be converted into glycogen and which by natural selection is taken up by the absorbers and passed into the blood to be deputed from it by the kidney, or by reflex irritation affecting the sugar centers of the brain, the irritation of which has been demonstrated by Bernard as resulting in sugar in the urine.

If this reflex irritation is continued long it is sufficient to produce organic changes (Brown-Séquard); then the case is hopeless. In confirmation of these facts I desire to report twenty-eight cases of diabetes mellitus which I have treated, all of which had chronic inflammation and ulceration of the duodenum. In seven of these cases I verified the diagnosis by post-mortem examination. In one the liver was slightly pale, in the remaining six the heart, liver and pancreas were perfectly normal. In support of the irritation of the sugar center, I have had two cases of pachymeningitis that during convalescence had diabetes mellitus, one case of syphilis on which I made post-mortem and found gummata at the base of the fourth ventricle of the brain. In these last three cases opium had no influence in controlling the amount of either sugar or urine. In the other cases it had a decided effect in controlling both. The conclusion I draw from this is that the only beneficial effect of opium in diabetes is in controlling reflex irritation. The dietetic list suggested by all authors, and even the essayist, points clearly to the fact that the stomach is required to do all the digestion, and food that would require functional action in the duodenum is eliminated, thereby giving this organ rest.

DR. D. R. BROWER, Chicago—I will refer briefly to the clinical history of a case of a woman, 50 years of age, who first came under my care five or six years ago, and I have seen her occasionally since then. She had passed the menopause, but had suffered with nervous symptoms for some time, which she had attributed to "change of life." On examination, I found a

large amount of sugar in her urine. Her history was that she had been treated years before for nervous symptoms which were supposed to be due to a fibroid tumor. She had been treated by Prof. Byford, and having refused operation, she had taken large doses of ergot for a long time. She improved and thought that she had recovered, but the nervous symptoms had returned shortly before applying for treatment. I found a large tumor and supposed that the former tumor had recurred. The large amount of sugar in the urine made any operative treatment out of the question. On account of constipation, she was treated by large colonic flushing; the amount of fecal matter discharged was enormous. She was put on a moderate diabetic diet and on codain. Coincidentally, with the disappearance of the fecal tumor, the sugar disappeared from the urine. A few months later, having been in good health in the interval, she returned with her former symptoms. I again recognized a fecal impaction, and again it was removed by colonic flushing. Several times during the past five years, this has had to be repeated, but she had no return of the sugar. This is a case in which the diabetes was due to fecal impaction and intoxication, and it has led me to be more careful in stating to patients, that they have diabetes merely because they have some sugar in the urine. In this case, it was the colon that was at fault.

DR. L. W. ZWIESOHN, New York City.—As stated in the paper of Dr. Stern, there are many cases in which sugar occurs in the urine, which are usually pronounced by physicians to be diabetes, and which go rapidly down when put on strict diet. I have in mind the case of a man, who was told that he had diabetes and was put on strict diet but did not improve. He went from bad to worse, lost 30 pounds in four months, had palpitation of the heart, vertigo and sinking spells; he was unable to walk from general debility. I was called to see him and found that he was not doing well; he said that he had been on strict diet for several months. There was at this time no sugar in the urine. If he had been kept on the strict diet one month longer he probably would have died. He was put on a general diet gradually. I watched the effect on the urine and found that the sugar did not return. He made an excellent recovery, improved rapidly, and within three months he has regained the 30 pounds and is attending to business as usual, for the last eight months. Therefore, if we find some sugar in the urine we should not at once tell the patient that he has diabetes, but the case should be studied while on a slightly restricted diet, but not too rigid. Patients should not be frightened by a diagnosis of diabetes, when they only temporarily have sugar in the urine.

DR. T. B. GREENLEY, Meadow Lawn, Ky.—In many cases when a patient comes under treatment for diabetes his chance for living is about the same as in tuberculosis and other diseases of a chronic character. I suggested, if the pancreas is the site of the disease, we should use pancreatin or the pancreas itself in the treatment of diabetes, just as we use the thyroid treatment for myxedema.

DR. E. T. SHELLY, Atchison, Kas.—I have a case in which the glycosuria occurs during some disturbance of the general health. Recently the patient had an attack of erysipelas, and at that time the urine was found to be loaded with sugar; in two days he had an attack of profound diabetic coma. He recovered from this and, in two weeks, he had another attack of erysipelas, and for a few days again had sugar in his urine; two days later it had again disappeared under restricted diet. One point of importance in uranalysis may be mentioned. Occasionally in examining urine with Haines's solution, there occurs no immediate change in color, but on standing for a time, it will precipitate the red oxid. Is this tardy reaction due to the presence of a small quantity of sugar or to something else?

DR. A. C. LYONS—As regards testing for traces of sugar with the copper solution, it is very difficult in such a complex fluid as the urine, because sugar is not the only substance which will precipitate the copper. There are many cases, the urine of which is perfectly normal, but which will precipitate the copper oxid on standing for several hours. However, when there is enough sugar to be of any consequence, it can always

be readily recognized by the usual tests, and when it disappears sufficiently to make it doubtful to determine whether it is present or not by the tests, the patient will be greatly improved. The laboratory tests for small quantities of sugar are not applicable to clinical use by physicians generally.

DR. E. H. BARTLEY, New York City—I wish to add my testimony to support what has been said with regard to the diet in diabetes. I am opposed to the extreme diet, and have seen it do great harm; but, on the other hand, I think some modification of the diet necessary. This idea of putting patients on almost an exclusive meat diet, or meat and water diet, is certainly harmful. While attempting to avoid one difficulty, we are almost certain to run into another one as serious. As far as the patient's general health is concerned, we can do as well, or better, with a moderately regulated diet, as by the exclusive diet. While it is admitted that, by the aid of the exclusive diet, we reduce the amount of sugar in the urine, this is not the only point to be considered; the general condition of the patient must be regarded. I have many times seen an outbreak of nervous symptoms with loss of weight, and failing health, while on a rigid, restricted diet, and as soon as it was changed to a modified diet, the patients regained their health, while the amount of sugar was not greatly increased. With regard to the question of the accuracy of the tests for sugar, I think that it is time to abandon entirely the copper test as a means of determining the presence of sugar. I prefer the bismuth test, always taking care that albumin is not present in the urine to be analyzed. There are so many things which interfere with the copper test, that it can not be relied on when small quantities only are present. Where the proportion of sugar is so great that it can be easily recognized by other means, stickiness for example, then the copper test will be liable, but for small quantities it is often misleading.

THE CHAIRMAN, DR. SOLOMON, of Louisville—I would like to emphasize one or two points in the papers just read. The first one is that man's natural diet, the food from which he derives the greatest amount of energy, will consist of about two-thirds carbohydrates, and, safely there can, as a rule, be no considerable departure from this, for any great length of time without the general health and strength showing it. We must not lose sight of the fact that it takes a certain number of calories, or units of heat (force or energy), to run a man from to-day at 6 o'clock till to-morrow at the same hour. Starch is pre-eminent in its importance to supply the required number of calories necessary to keep man alive and at work during the twenty-four hours. Along this line I wish to suggest that the gradual admission of small quantities of starch, or sugar-forming food, would enable the patient to bear the restricted diet better. It is my practice to endeavor to teach patients to do without sugar by allowing them a small cube before food, and giving a smaller piece with each meal, gradually decreasing the quantity. I can hardly agree with Dr. Davis as regards his stress on alcohol and the dangers of its use. I consider alcohol very valuable, since it produces proportionately a very large number of calories or units of heat. Alcohol I regard as an important factor in the dietetic treatment of diabetes mellitus. I fully endorse the remarks of the other speakers, as to the importance of considering the general health of the patient. It is not a question merely of removing the sugar from the urine, but of keeping up the patient's nutrition and strength and maintaining the weight of the body. The scale is a good guide.

DR. J. M. ANDERS, Philadelphia—It gives me pleasure to hear the evidence of professional change of opinion on the dietetic treatment of diabetes, and to see that we are slowly discarding a very rigid diet for a mixed one. It is surprising how small a quantity of starch is really needed to keep up the strength of our patients suffering from diabetes. I call attention particularly to the good effects of small amounts of starchy food in the dietary. When a mixed diet is used, one or two ounces of carbohydrates are often quite sufficient. The main point is to prescribe a definite amount of starchy food and watch its effects, from day to day, on the urine. I use levulose for sweetening for coffee or tea at the table, in preference to saccharose.

DR. W. W. TOMPKINS, Charleston—These cases are very unfavorable to treat because of two things: They will not carry out instructions as to diet, especially if too rigid, and when they feel a little better they discontinue treatment. My plan is to allow a certain amount of carbohydrates in the daily food. In attending the case, we should pay more attention to the general condition of the patient than to the precise amount of sugar in the urine. In fact, sometimes the patients are doing better when the quantity of sugar in the urine is rather large.

DR. HEINRICH STERN, New York City—The discussion has not brought out any points in connection with my paper on "Coma Diabeticum and its Treatment." In reply to the question as to the frequency of diabetes mellitus and its relative occurrence in both sexes, out of 1867 deaths from this affection which took place from 1889 till 1899 inclusive, 931, that is nearly 50 per cent. ensued in women. Former authors speak of a mortality of males from 2½ to 3 times as large as that of women.

Glycosuria is only a symptom of diabetes; it is not an entity per se. I have seen it following extirpation of the sublingual glands. I have seen it also occur after removal of the tonsils. Glycosuria may be the result of prolonged chloroform anesthesia. True diabetes, as I have pointed out some years ago already, is not dependent on the mere excretion of glucose. Long before dextrose is recognized in the urinary fluid, the disease has made its appearance. I have substituted for "diabetes mellitus" the designation "diabetic deterioration," for, by careful observation we may recognize a pre-glycosuric stage. The stage of toxemia, most always occurring with diminished or no output of grape-sugar, forms in reality a post-glycosuric state. I think I was the first to use the exclusive milk regimen in diabetes mellitus. My experiments date back to the year 1889. While, in my experience, many patients do very well on the exclusive milk diet, others, after the injection of but 150 or 250 c.c. excrete dextrose. This shows plainly that we have conversion of lactose into glucose in certain cases, while this transformation does not occur in other instances. In other words: chronic glycosuria is not always due to the very same underlying systemic disturbances; the causative factors of diabetes differ widely, and we should not confine ourselves to treat a mere symptom, but we should try to recognize and treat the original affection.

I fully agree with my friend, Dr. Bartley, that the copper tests, as Haines', Fehling's, Trommer's, Elliott's, etc., do a great deal of mischief in the hands of physicians and even in those of physiological chemists. A great many minor constituents, of normal or abnormal occurrence, besides dextrose, bring about copper reduction. Thus it occurs that cases have been treated for years for diabetes, where in reality diabetes never occurred.

If a total meat diet is continued for a protracted period—a period which differs as to its length materially in different subjects—diabetic cachexia with its protean manifestations is apt to be produced. It is necessary that we individualize each single case; that we study minutely the condition and systemic idiosyncrasies of every patient, and that we prescribe a diet suitable for the special case. Routine treatment in diabetes, I hesitate not to say, is responsible for just as many deaths in diabetes as is no treatment at all.

I am opposed to alcohol, as a food as well as medicine. Still, in some cases, especially where the patient was a habitual user of alcohol and where it is of the utmost importance to increase the caloric value of the food, and where a natural aversion against the diabetic diet has been produced, I was compelled to use alcohol. I have made use of alcohol in three forms: first, by ordering Moselle wine; second, by recommending diluted brandy, and third, by prescribing spits, vini rect. together with stomachics and bitter tonics.

Menstruation by Vagina and Eyelids.—A curious case is related by Dolganoff in *Wratich* of September 9, of a young woman with normal menstruation, accompanied by an oozing of blood on the external surface of the eyelids, appearing in minute droplets like sweat. The eyes are otherwise normal.

PROLONGED FEVERS OF OBSCURE ORIGIN.*

R. B. PREBLE, M.D.

CHICAGO.

There are a considerable number of organisms that normally, or at least frequently, cause prolonged fevers, which may be called obscure, only when the localization of the organism is unusual, or the disease appears in portions of the country in which the disease is exceptional. For example, the tubercle bacillus is a common cause of long-continued fevers, but the nature of the disease is usually manifest; the malarial organisms cause cases of prolonged fevers of obscure origin in portions of the country where malaria is not endemic. It is not my intention to consider these cases, nor do I plan to mention such obscure conditions as the chronic recurrent fever (Ebstein), commonly called pseudoleukemia, but to limit this paper to that very common and wonderfully polymorphous disease or group of diseases which Leube so aptly calls "kryptogenetic sepsis." Sepsis is too commonly considered a condition within the exclusive province of the surgeon, and from the conspicuous absence of this subject from most of the text-books upon medicine, one might believe that it is a disease which the medical man is not called upon to treat. This idea, however, is erroneous, and I fully believe that the more serious forms of sepsis are more common in medical than in surgical practice; this is certainly true if I am correct in including under this head a considerable number of diseases at present described as morbid entities. In the present state of our knowledge a concise definition of sepsis, septicemia, septicopyemia, is difficult. It is a combination of infection and intoxication of the organism as a whole by any one of a large number of bacteria and their chemical products, and is characterized by the great irregularity of its clinical course, and by the multiplicity and varying intensity of its manifestations. In addition to this, the infection atrium is unknown during life, and often undiscovered after death.

Etiology. A large number of bacteria have been found in cases of this class, but not all with equal frequency. The various pus cocci are most often found, probably the pneumococcus comes next in order of frequency, and then come such organisms as the gonococcus, bacillus pyocyaneus and bacillus coli communis.

These bacteria may enter through any broken surface, cutaneous or mucous, and because the atrium is often small, or hidden, or has already healed and been forgotten before constitutional symptoms develop, it is impossible clinically and often also at the autopsy to discover it. In many cases we may infer something as to its location; for example, symptoms of an angina often precede the constitutional symptoms; in other cases there are signs of a severe gastro-enteritis; in others, a bronchitis, and so forth. In still other cases the autopsy will show some old and encysted suppurative focus which has furnished, after years of quiet, the bacteria necessary for the constitutional symptoms. The demonstration of the bacteria during life is usually difficult, but is sometimes successful, as is illustrated by the cases of pneumococcus septicemia and septicopyemia reported to this Section last year. It is perhaps possible that the many failures are due to the fact that only small quantities of blood are used in the inoculation of the culture-media. For this to be successful, large numbers of the bacteria must be present, in order that each

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drop of blood may contain bacteria. Blood for this purpose should be drawn directly from a vein.

When one considers that this disease or group of diseases may arise from a large number of bacteria, each of which shows marked variations in virulence; that the individuals infected show varying degrees of resistance to the infection, and that the bacteria may exert their influence upon the organisms as a whole or mainly upon any set of organs, it becomes at once evident that the clinical manifestations are so polymorphous that a detailed description of them is impossible in the brief time allowed, and we can refer only to the various types of cases now described as morbid entities, and leave the more complete description and illustrative cases to the paper, of which this is but an extract.

The cases may be conveniently arranged in two main groups: 1. The systemic group, in which the organism as a whole suffers. 2. The focal group, in which some organ or set of organs furnishes the bulk of clinical symptoms. Among these cases we recognize the following subgroups: *a*, cardiac cases; *b*, pulmonary cases; *c*, gastro-intestinal cases; *d*, hepatic cases; *e*, renal cases; *f*, osteal and articular cases; *g*, dermal cases; *h*, hemolytic cases; *i*, nervous cases.

THE SYSTEMIC TYPE.

The onset may be gradual, resembling that of typhoid, with depression, malaise, anorexia, headache, myalgia, and a temperature; but usually the onset is sharp, with single or repeated chills, followed by rise in temperature, and the constitutional disturbances common to acute fevers. The type of the temperature is oftentimes markedly irregular, and interrupted by chills at varying intervals; but there are many variations from this rule, and the temperature may be perfectly regular and continuous at any level, like the temperature of a typhoid; it may be regularly intermittent like that of a typical malaria, or it may be absent altogether. Such temperature may continue for days or weeks.

The pulse is usually rapid for the temperature, even from the onset, a point which may have differential value when the case resembles typhoid, but cases are seen in which the pulse is slow throughout the course.

The patient is much depressed and weakened from the onset; is manifestly ill, although examination shows no demonstrable change in any organ except an enlarged spleen, such as is seen in most infectious diseases. The blood suffers a rapid loss in hemoglobin and red blood-corpuses. The number of leucocytes may be increased, but are often normal in number or even decreased. These blood-changes may be so marked as to overshadow all other symptoms. Examination for a bacterium is usually without result. The Widal reaction is absent. The diazo-reaction in the urine is frequently present and marked.

The diagnosis of such cases, while simple in surgical practice where some gross infection atrium is present, is difficult when such atrium is lacking. The diagnosis is based mainly upon the exclusion of the more typical infective processes, and in many cases subsequent localization upon some organs removes all doubt as to the diagnosis. It is in the diagnosis of this group of cases that the greatest progress has been made of recent years; many cases formerly classed as typhoid, typhomalaria and malaria are now readily recognized. This improvement is due to the more careful examination of the blood and the discovery of specific serum reactions. Repeated failure to demonstrate the plasmodium malariae excludes malaria. Persistent absence of the Widal reac-

tion, especially when the diazo-reaction is also absent, excludes a typhoid.

THE FOCAL TYPE.

Localization Upon the Heart.—Here we must place the cases generally included under the heading of malignant endocarditis, which I believe, with Leube, is merely a localized sepsis. Most will agree to his proposition, but many may be unwilling to place here the cases of so-called simple or verrucose endocarditis, so frequently appearing in the course of acute articular rheumatism; but most will agree that the simple and the malignant endocarditis differ in degree but not in kind.

The constitutional disturbances with the endocarditis are such as briefly described above; the recognition of the endocardial process must be delayed often for weeks until the changes in the valves of the heart have led to physical signs. Great care must be exercised in the diagnosis for, because of the anemia and changes in the heart secondary to it, the commoner valvular defects, notably the mitral insufficiency, are frequently simulated. The appearance of diastolic murmurs is of great value in the diagnosis, for they are not often accidental, although I have once heard a persistent diastolic murmur over the heart of a patient dying of sepsis, and found the heart valves normal at the autopsy.

Gastrointestinal and Liver Cases.—Gastrointestinal symptoms not infrequently initiate the clinical course, and this, with the violence of the symptoms, sometimes suggests that the infection atrium is here. The symptoms consist of nausea, vomiting, purging, pain. To these are added the constitutional symptoms, fever, chills, etc., and in a considerable number of cases jaundice, with acute swelling of the liver. Here, perhaps, we should place such cases as have been described under the name of Weil's disease, and here also belong some of the cases which present themselves clinically as acute yellow atrophy, cases which are in reality diffuse systemic infections, with especial localization in the liver.

Articular Cases.—A considerable number of the cases of sepsis show bone and joint symptoms exactly resembling those usually described under the heading of acute articular rheumatism. This last disease is, to quote Sahli, "a faded mirror image of pyemia," and transition cases from manifest pyemia to ordinary acute articular rheumatism have been seen by you all, the transition being so gradual that it is impossible to say where one leaves off and the other begins. For the present, at least, we must consider them as the same condition, the only difference between them being one of degree.

The frequent association of joint pains with hemorrhages into the skin brings us into contact with the *peliosis rheumatica*, another septic condition which can not be separated from the simple purpura, and the *morbus maculosus Werlhofii*, just as the latter can not be sharply separated from the scurvy.

We have, then, in the cryptogenetic sepsis, a wide group of cases which border upon, if they do not cover, a number of diseases now described as morbid entities; the malignant endocarditis, the Weil disease, and possibly the more intense acute yellow atrophy, the acute articular rheumatism, and the various forms of primary purpura, including the scurvy. In the present state of our knowledge, it is well for us to remember that while these various diseases are described separately, they may all be various manifestations of the same underlying condition, and I believe that this thought will lend clearness to our general conception of this puzzling group of diseases.

In closing, I must mention briefly the general lines of treatment. Having no specific treatment, we can but treat symptoms, and our efforts are directed mainly to supporting the strength of the patient. Hydrotherapy, quinin, iron, strychnia, salicylates, guaiacol, mercurials, and various nuclein preparations are all used. Mention should also be made of the Credé ointment, the anti-streptococcus serum, the bleeding and subsequent intravenous injection of salt solution, all of which at times seem to yield results.

DISCUSSION.

DR. WILLIAM KRAUSS, Memphis, Tenn.—I have observed a number of times, particularly in the autumn, a number of cases of fever neither malarial, typhoid nor tuberculous, which, upon blood examination, showed only leucocytosis. The paper of Dr. Preble was very instructive to me, and I shall follow up those lines and try to verify the observations made.

DR. LOUIS FAUCERES BISHOP, New York—We often have cases in which we fail in making a diagnosis, because we insist upon putting them in long-established groups. I have been impressed with the thought that there should be a group of cases that, in popular parlance, we might call blood-poisoning. Such are the patients who run a long course of irregular temperatures after we exclude every possible disease that can be diagnosed by the microscope or by physical examination and about which we can not arrive at any definite conclusions. But such a group must not be made a dumping-place for undiagnosed cases. The suggestion of Dr. Preble that some of these are cases of typhoid is a good one. I was called in consultation to see a case in New Jersey a few months ago. The patient was a woman, of middle life, who had a great deal of pelvic trouble. She was a chronic pelvic invalid. A very clever gynecologist who examined her said there were many adhesions, but no pus in the pelvis. The woman was sick for a long time running this irregular temperature. Then it was thought it might be tuberculosis. I examined the chest and found only a slight amount of dullness at the base of the right lung; I suspected there might be pus there, but the needle introduced at that point did not show any. A careful restudy of the case led me to suspect typhoid fever which had attacked a person already an invalid. I then took some of the blood and got a very good Widal reaction. The case was entirely atypical. It was simply a chronic invalid who had commenced to run an irregular temperature. On that reaction, without symptoms of typhoid, I made the diagnosis of typhoid fever and gave a good prognosis. The woman recovered after prolonged nursing and treatment.

DR. N. S. DAVIS, JR., Chicago—The obscure cases which are difficult to diagnose and difficult to describe are made much clearer by what Dr. Preble has said regarding them. There is one point that I wish to emphasize, i. e., the liability in certain cases of infection through the gastrointestinal tract. This important point has been impressed upon my mind by several instances. I will call attention to two in the paper which I am to read here to-morrow. Another point is the frequency with which, in these cases, cardiac symptoms arise. In prolonged fevers of obscure origin we should watch for an endocarditis. And yet, when we ultimately discover the existence of a cardiac lesion we are not justified in concluding that we have had to do from the beginning with ulcerative endocarditis, but with a septic disease, in the course of which endocarditis has developed. I speak of this particularly, because in meeting other physicians and talking over cases, especially cases of malignant endocarditis, I find that it is usually an endocarditis superimposed on a general sepsis.

DR. ROBT. B. PREBLE, Chicago—In regard to the Widal reaction, I would be unwilling to make a diagnosis upon it; nor would I be willing to exclude typhoid fever in the absence of this reaction. I believe, though, that it can be obtained in the vast majority of cases.

Iron in Eggs for Invalids.—The *Gazzetta degli Osp.* of October 18 states that Dr. Viray feeds hens with salts of iron incorporated in their food. The fowls tolerate the iron perfectly and eliminate it mostly in their eggs, which are thus delicately medicated.

ACUTE ARTICULAR RHEUMATISM—ITS ETIOLOGY AND PATHOLOGY.*

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PHILADELPHIA.

With the exception of a small and gradually lessening number, modern writers consider acute articular rheumatism an infectious disease. The nervous origin of rheumatic arthritis, proclaimed by the elder J. K. Mitchell¹ in 1831, and defended by Charcot, and more recently by Friedländer², who places the primary lesion in the medulla oblongata, has been abandoned. More tenacious is the lactic acid theory of Prout, Todd, Fuller, Richardson, and others, according to which rheumatism is dependent on an excess of lactic acid in the blood. I need not bring forth any arguments against this theory. As MacLagan³ says, the advocates of the lactic acid theory have taken one of the phenomena of the disease and raised it from its normal and subordinate position as a symptom to the rank and dignity of an exciting cause. Edwards,⁴ Eisemann, and lately Haig,⁵ have modified the acid theory, and replaced the lactic with uric acid, the retention of which in the system Haig considers to be the causative factor in rheumatism. He presupposes the existence of an excess of uric acid in the blood, and that this is driven into the joints, owing to a diminution of the alkalinity of the blood. But not only has he failed satisfactorily to prove that uric acid accumulates in the joints in acute articular rheumatism, he has also drawn a conclusion that is scarcely warranted even in the premise—a pre-existing "uricacidemia"—is accepted; for it is just as likely that if an excess of uric acid does occur in rheumatism, it is a consequence—a symptom, merely—and not the cause of the disease. The very fact that Haig finds uric acid retention in so many affections suggests the thought that, like fever, leucocytosis, or albuminuria, the hypobiotic "uricacidemia" is only a symptom.

There are two ways of proving that a disease is infectious: by direct evidence, that is, by the unequivocal demonstration of the causative agent; and by indirect or circumstantial evidence, which rests largely on analogy. I may say that in the case of acute articular rheumatism we are not yet in possession of direct or prima facie evidence; in other words, I do not believe that the cause has been definitely discovered. It is true that a large number of investigators claim to have found the specific micro-organism, but in no instance has indubitable proof of the causative relation of the particular organism been brought. If it were that the micro-organisms hitherto found could not be cultivated, we might, as in the cases of leprosy and malaria, rest content with the mere demonstration of their invariable presence, and not demand, for final proof, the production of the disease in the lower animals; but the organisms which have been found are, for the most part, readily cultivated, and yet it has not been possible to reproduce in the lower animals the typical picture of rheumatism as we see it in man. This fact, however, does not render invalid the proposition that acute articular rheumatism is an infectious disease. The same is true of syphilis, scarlet fever, smallpox, chickenpox, and possibly of whooping-cough and measles; and yet no one doubts their specific nature. The circumstantial evidence in favor of the infectious origin of rheumatism

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is as strong as in the diseases which I have mentioned, although two of their important characteristics are not possessed by rheumatism, viz.: contagiousness and immunity after one attack. Regarding contagiousness, however, I may add that Wagner,⁶ of Leipsic, believed it possible, and made it his practice to isolate cases of acute rheumatism in the hospital. As for immunity, it is such a vague concept, and its duration in different diseases varies so much, that it is not out of the realm of possibility that there is a brief period of immunity after one attack of rheumatism, perhaps as long as that obtaining in diphtheria, which, as is well-known, is of comparatively brief duration.

I wish now to take up the facts which, although they do not demonstrate it absolutely, point in an unmistakable manner toward the infectious origin of acute articular rheumatism.

Fever.—While fever may be due to causes other than infection, it is most natural in the case of a continuous fever, like that of rheumatism, to look for a micro-organismal agent. The occurrence of hyperpyrexia is also strongly suggestive of the activity of toxin-producing organisms.

Chill.—At times, as I have seen in several instances, the disease is ushered in by a distinct chill or rigor. I do not mean by this the chilling of the surface which often precedes an attack of acute articular rheumatism, but the initial chill which inaugurates so many infectious diseases, and which indicates that the period of incubation is passed and invasion has begun.

The Occasional Epidemic Outbreak of the Disease.—McClymont⁷ and Newsholme⁸ have both called attention to this epidemic incidence, and Risse⁹ has reported the concurrence of an epidemic of acute articular rheumatism with one of influenza. Edlefsen,¹⁰ McClymont, and Stoll¹¹ have observed house epidemics of rheumatism, such as we occasionally find in croupous pneumonia, an unquestioned infectious disease.

The Seasonal Influence.—Malaria, typhoid-fever, pneumonia, and influenza vary in their prevalence with the time of year and with meteorologic conditions. The same has been proved to be true of acute articular rheumatism by Edlefsen, Newsholme, and many others. The first-named has shown that, as a general rule, the incidence of acute articular rheumatism increases with the diminution of the precipitation and decreases with increased rainfall. Newsholme confirms this, and finds that rheumatism is more prevalent in dry seasons, when the ground-water is low, than at other times. He found that at Croydon and at Brighton epidemics occurred at a time when the sub-soil water was very low, especially if there had been more than one year of deficient rainfall. In London a low sub-soil water and a high earth temperature are the conditions in which the rheumatic poison finds its most favorable opportunities for activity.

The Complications of Rheumatism.—They are the complications that are pre-eminently characteristic of infectious diseases—endocarditis, pericarditis, pleurisy, and hyperpyrexia. So common is the first that it may readily be considered a manifestation of the disease, rather than a complication. Acute endocarditis is certainly an infectious process under practically all the conditions in which it occurs. It may not always be due to the bacteria themselves, for it can probably be produced by bacterial toxins. In rheumatism it sometimes happens, especially in the case of children, as pointed out by Cheadle,¹² that the endocarditis precedes the rheumatic manifestations or begins simultaneously with them.

Thus, in a case of my own, a boy of 8 years, there had been pain and swelling of the knees for less than twenty-four hours when I found a well-marked systolic mitral murmur. Such occurrences strongly suggest that the endocarditis and the joint manifestations are, under these circumstances, due to one and the same cause. Phlebitis, seen in many typical infectious diseases, may also occur in rheumatism, as pointed out by Remlinger,¹³ Censier,¹⁴ and others.

Portal of Entry.—The majority of infectious diseases have a demonstrable portal of entry through which the exciting cause invades the body, and if we can prove that in rheumatism there is also a portal of entry we have strongly fortified the infectious theory of the disease. Haygarth,¹⁵ it seems, was the first to state the connection between sore-throat and rheumatism. Trousseau¹⁶ also upheld it, and since then a number of writers have referred to the subject, among others Roos,¹⁷ Bloch,¹⁸ Buss,¹⁹ Gallois,²⁰ Sacaze,²¹ Pettersohn,²² and lately Packard,²³ who has summed up the relevant literature in an admirable manner. As to the frequency with which tonsillitis or, to use the more comprehensive term, angina, precedes rheumatism, it is variously stated: Stoll¹¹ gives 5 per cent.; Lebert,²⁴ 5 per cent.; Gerhardt,²⁴ 20 per cent.; Fowler,²⁵ 30 per cent.; Whipple,²⁶ 24.12 per cent., and Stewart,²⁷ from 70 to 80 per cent. Some of these figures are unquestionably too large. They include, in many instances, attacks of angina long antecedent—in Whipple's statistics by as many as fourteen years—to the rheumatic attack.

I recently saw a case with Dr. T. R. Currie, of Philadelphia, which seemed to illustrate the pharyngeal origin of rheumatism. The patient was a man aged 31 years, who had had an attack of acute articular rheumatism of seven weeks' duration at the age of 19, and another at 21, which lasted only a few days. Two weeks before I saw him he had been taken ill with sore-throat, and this was followed by an attack of rheumatism of most severe type. In addition to the involvement of the joints, he had an acute pleurisy on the right side and was bathed in the most profuse sweats that I have ever seen in rheumatism. There was no evidence of endocardial or pericardial involvement, but the poor heart-action suggested myocardial changes.

Packard is strongly of the opinion that rheumatic polyarthritides, as well as other manifestations of what Cheadle has called the rheumatic group, may be brought about through the medium of the tonsils; but infection may also enter through other channels. Gradenigo²⁴ and Bloch¹⁸ have each recorded cases of acute articular rheumatism following otitis media, and recently a case was reported by Kronenberg²⁸ in which an attack of acute articular rheumatism followed an operation on the nose. Bloch cites instances of rheumatism following felon, furuncle, fistula in ano, and vaccination, and in a case of Sacaze's²¹ the attack occurred in a patient who had an infected wound of the foot.

It might be averred that the arthritis in these cases was not rheumatic, but pyemic. In some instances, no doubt, this was true, but hardly in all of them. The course of rheumatism and the influence of the salicylates generally serve to distinguish the disease from the ordinary pyemia. Moreover, the latter has a tendency to lead to suppuration, while rheumatism scarcely ever has; indeed Iluë²⁹ states that no true case of suppuration in rheumatism is on record. He found a total of forty-four alleged cases, but in all of them he discovered internal evidence that made it improbable that they were examples of rheumatism. Körte,³⁰ in 1880, de-

scribed six cases of suppuration in rheumatism, all occurring in women. It seems strange that one observer should see so many examples of what must be considered a complication of maximum rarity.

There is another possible source of infection in rheumatism—the intestinal tract. I have no evidence to offer in proof of this point, but I believe that careful attention to it may yield some interesting results. That the intestines may at times be the infection atrium has also been suggested by Chvostek.³¹

Direct Transmission from Mother to Offspring.—This, if proved, would be a powerful argument in favor of the infectious nature of rheumatism. Two rather convincing instances are on record—those of Poccock and Schaeffer, which are quoted by Singer.³²

Contagion.—I have already referred to the subject of contagion. One indubitable example would be decisive, but there are so many possibilities of error in interpreting cases of contagion in rheumatism that we must look upon reports of such an occurrence with scepticism.

BACTERIOLOGY.

I want now to dwell briefly on the bacteriology of acute articular rheumatism. Diligent search has been made for a micro-organismal cause. Some, as MacLagan³ and Kahler,³³ have thought that this would be found in a miasm allied perhaps to that of malaria, but it seems to me that the resemblance between malaria and rheumatism is very slight.

Bacteriologists have examined the blood, the joints, the urine, the cerebrospinal fluid, and the lesions of the heart, pleura, pericardium, etc. Organisms were found by earlier observers, such as Guttman,³⁴ Wilson,³⁵ Mantle³⁶ and Bouchard and Charrin.²¹

Guttman found the staphylococcus aureus; Wilson found a bacillus in the pericardial fluid; Mantle, a bacillus and a micrococcus in the joints in seven cases, and in the blood in sixteen, both in acute and chronic and in gonorrhoeal rheumatism. Bouchard and Charrin discovered the staphylococcus albus, but only in subacute and chronic cases. Anyone who has made cultures from the living body knows how difficult it is to eliminate the possibility of contamination, and I am inclined to think that the observers I have named, whose studies were made before the present more exact methods were in vogue, dealt with accidental germs. This is the view also taken by St. Germain.³⁷

The observations of Sahli,³⁸ made in 1892, attracted much attention. He found the staphylococcus citreus in the synovial membrane, pericardial exudate, endocardial vegetations, blood, and bronchial glands of a case of articular rheumatism, but not in the fluid of the joints. He concluded that rheumatism was an abortive form of pyemia.*

Very painstaking studies were made by Singer,³⁹ of Vienna, who, distrusting the examination of the joints and believing that if the organism were in the blood it would be present in such small numbers that it might escape observation when culture was made, examined the urine, hoping that the bacteria at work in the body would be in part eliminated through the kidneys. The elimination of micro-organisms by the kidneys has been abundantly proved—experimentally by Biedl and Kraus⁴⁰; clinically, by Singer, Gwyn⁴¹ and others. Singer's examinations yielded positive results in 59 out of 84 cases of acute articular rheumatism. He found the different forms of staphylococcus and the streptococcus pyogenes, and believed with Sahli that

rheumatism is an attenuated form of pyemia. Chvostek³¹ took exception to Singer's observations on the ground that organisms eliminated through the urine might have entered accidentally through the mucous membranes, and might have no bearing whatever on the primary disease. His own bacteriologic studies were entirely negative.

Wassermann⁴² quite recently, in a case of rheumatic chorea, found a streptococcus which he thinks differs from the streptococcus pyogenes. It grows best in a strongly alkaline medium, which the ordinary streptococcus scarcely tolerates, and is most easily cultivated in hog bouillon containing 2 per cent. of peptone. The observation was carefully made in a single case, but no animal experiments were undertaken to test the virulence of the germs, and I think that we must keep our opinion under advisement.

Riva,⁴³ on a serum made from horses' joints and synovial fluid, obtained the growth of a polymorphic, spore-bearing organism in eight cases, cultures being made from the joints, the pleural fluid, and the blood. It did not grow on ordinary media. As far as I can determine, no animal or other control experiments were made, yet Riva concludes that he has found the cause of rheumatism. I think that we must adopt the same attitude in this case as in that of Wassermann's discovery.

More important than any of the preceding is the observation of Achalmé,⁴⁴ who, as far back as 1891, discovered an anaerobic bacillus at autopsy in the body of a man who had died of cerebral rheumatism on the fourth day of a second attack of acute rheumatic polyarthritis. In a second case of rheumatism examined six years later he found the same organism, and subsequently discovered it in the blood of the living patient in six cases—four times pure and twice associated with a micrococcus. The best culture-medium was found to be milk or a mixture of equal parts of milk and bouillon. Animal inoculation produced, among other changes, a marked edema, the effects being the more intense the younger the animal. Guinea-pigs died in from twenty to thirty-six hours, but when inoculated with some of the edematous fluid they perished in ten hours. Achalmé does not state whether or not any joint symptoms were present in the animals.

An anaerobic bacillus had been found in 1892 by Lucatello,⁴⁵ who seemed to be unaware of the prior work of Achalmé. The latter's observations were confirmed in 1897 by Thiroloix,⁴⁶ who found the organism in the blood *intra vitam* in five cases of rheumatism; also in one case in the pleural fluid, as well as in the blood. He noted no changes in the joints after intravenous injection in rabbits, but intra-articular inoculation produced marked edema of the joints and of the entire extremity. With the edematous fluid from guinea-pigs he obtained in rabbits, arthritis, pericarditis, and pleurisy. The blood from the human subject had no agglutinating action on the organism; that from the infected guinea-pig had at times such an action. The growth of the organism was markedly retarded by the addition to the culture-medium of salicylates in doses smaller than those necessary to check the growth of other bacteria.

Reports of the discovery of the same bacillus in rheumatism have since been made by Petit and Achalmé,⁴⁷ Papillon,⁴⁷ and Carrière,⁴⁸ and recently also by Sawtchenko,⁴⁷ The latest observations are those of Pic and Lesieur,⁴⁷ who isolated the organism during life from a case of cerebral rheumatism. They found that it grew best in sterile milk, but only under strictly anaerobic conditions. It did not grow on gelatin, but developed

*Der Rheumatismus ist eine Staphylocoekenkrankheit." Stewart had expressed the same view as early as 1881.

in secondary culture on bouillon. It is a long, slender bacillus, slightly motile, and stains by Gram's method. It is pathogenic for guinea-pigs, rabbits, and mice. In guinea-pigs it produces dyspnea, tachycardia, slight fever, and at the moment of death generally a sub-normal temperature. Suppuration does not occur. At the point of inoculation a gelatinous edema, poor in leucocytes, but rich in bacilli, develops. There is also pericarditis, but no arthritis. Injection of the edematous fluid into rabbits is fatal in ten hours, the principal lesions being focal necrosis of the liver, edema of the lungs, pleurisy, and pericarditis. The liquid products of the micro-organism seem devoid of toxic properties, but after their injection the animals appear to be immune to otherwise lethal doses of the bacteria. The bacillus is not agglutinated by the serum of patients suffering from acute articular rheumatism or chorea.

Triboulet and Coyon⁴⁹ in eleven cases isolated a diplococcus which was associated with Achalmé's bacillus in two cases. While not asserting that the diplococcus is the cause of rheumatism, they deny the specificity of the bacillus of Achalmé, believing that the latter is present only in complicated cases.

Of the various micro-organisms that have been discovered in rheumatism, the bacillus of Achalmé has apparently the strongest claims to be considered the cause, but I do not think the time is ripe for a definitive opinion. In the first place, the various experimenters have not succeeded in producing a disease in animals comparable to articular rheumatism in man; secondly, the organism has not been found with sufficient constancy. Thus, Pic and Lesieur failed to find it in seven instances out of the eight examined by them.

Summing up the bacteriologic evidence then, it may be said that the cause of rheumatism is not definitely determined.

We may consider rheumatism etiologically from two points of view; either as a group of diseases having a multitude, or at least a variety, of causes, which is the view taken by Singer, Chvostek, and others; or we may hold that there is a distinct form of acute polyarthritis, to which the term rheumatic may be properly applied, which has a single cause. The latter seems to me the more correct attitude. I believe that we may have in the case of joint affections a condition somewhat analogous to the pseudomembranous inflammations of the throat. Formerly these were nearly all classed together under the name diphtheria, but now we know that there is only one disease diphtheria—that due to the Klebs-Loeffler bacillus; nothing else deserves the name. With improved methods of investigation we shall no doubt find the organism which is the specific cause of rheumatic polyarthritis.

PATHOLOGY.

I have taken so much time in the consideration of the phases of the subject hitherto discussed that I must make my remarks concerning the pathology of rheumatism very brief.

Joint Inflammation.—In a majority of instances the fluid has been found sterile and the synovial membrane and the periarticular tissues free from germs.* This

*Since reading this paper I aspirated the ankle-joint in a young colored woman who was suffering from typical acute articular rheumatism. Only a few drops of fluid were obtained and these were at once placed into a mixture of milk and bouillon (two tubes) and glucose agar (one tube). The glucose agar had been previously melted. After inoculation it was quickly solidified and overlaid with an equal bulk of fluid glucose agar, which was then also congealed. This placed any bacteria present under moderately anaerobic conditions. No growth was obtained on the glucose agar, and of the milk-bouillon tubes one remained sterile. In the other a few diplococci, the result of contamination, developed.

leads us to the conclusion that the joint changes are probably toxic in origin, a view emphasized by Chvostek, who points out the resemblance of the rheumatic changes to the occasional joint swellings seen after the injection of diphtheria antitoxin. However, anaerobic cultures have not often been made and might lead to different results from those hitherto obtained. The synovial membrane in acute cases is swollen and injected and at times somewhat ecchymotic, and may be covered with a fibrinopurulent exudate. The fluid is more watery than the synovia and is reddish or yellowish in color. Ollivier and Ranvier⁵⁰ found proliferation of the cartilage cells and capsular and circumscribed ulceration.

Rheumatic Nodules.—These were first clearly described by Jaccoud and later by Troiser,⁵¹ although they may have been recognized long ago by Fropier. They usually occur in children, but also in adults, as multiple, pin-head or pea-sized bodies—sometimes a little larger—are situated under the skin and are tender on pressure. Microscopically they show a necrotic focus with round-cell infiltration, dilatation of the lymphatics, and thrombosis of the small arteries. Riess⁵² believes that they have an embolic origin.

Endocarditis.—You are familiar with the small vegetations that dot the valves, usually just behind the free edge at the lines of contact, and little need be said regarding their general structure. Recently, however, Achalmé⁵³ has made a contribution to the subject of their minute anatomy that merits attention. He divides rheumatic endocarditis into three phases: 1. The edematous microbial phase. 2. The proliferative phase. 3. The cicatricial phase.

The naked-eye appearance of the first stage in one case that came to autopsy a few hours after death consisted in a thickening of the valves to five times their normal thickness; the auricular surface of the valve had lost its polish, and there were slight elevations a few mm. above the free border. The myocardium was softened and of a dead-leaf color. Microscopic examination revealed an edema of the interstices of the tissue of the valve, together with an enormous bacterial invasion and an extensive transformation of the connective-tissue cells into Ehrlich's mast-cells. The edema occupied the entire valve, but predominated at certain points. Least affected was the fibrous expansion of the ring, but the cellular tissue extending from it into the auricle was markedly infiltrated, and the elements almost completely dissociated. The elastic tissue of the auricular layer of the valve was much thickened by the edema and had lost its homogeneous aspect. This was also true of the elastic layer at the free border of the valve. The bacterial invasion with Achalmé's bacillus was greater than that seen in any other disease. There might have been some growth after death, although one autopsy was made four, and the other twenty-five, hours post-mortem. The transformation of the connective-tissue-cells into the cells of Ehrlich is the most characteristic feature of rheumatic endocarditis. It is much more marked than is seen in any other affection. I have myself observed these cells in rheumatic pericarditis and found them penetrating deeply into the myocardium. The granules which they contain, and which are splendidly brought out by thionin, are often so large as to resemble micrococci.

The proliferative phase is distinguished by a proliferation of the flat cells of the superficial elastic layer. All the space previously distended with fluid becomes filled with mononuclear cells which displace the elastic

bundles. The latter become granular and indistinct and their affinity for orcein is lessened. New blood-vessels form, the walls of which are friable and are apt to rupture at the base of the vegetations, leading to minute hemorrhages. The characteristic feature of the second period of the second phase is the appearance of vegetations. According to Ziegler, the primary process in their formation is the deposit of fibrin on the valves. According to Achalmé, the first change is an alteration in the tissue of the valve, consisting in a dissociation of the superficial elastic tissue and the formation of a prominence on which fibrin is subsequently deposited. The next step consists in a proliferation of the endothelium of the blood-vessels leading to a narrowing of the lumen. Proliferation of the cells then ceases and cicatrization begins, and brings about the well-known results: stenosis and insufficiency of the valvular orifice. As the earliest changes in the valve do not produce a murmur, we may infer that endocardial lesions are more common than is clinically demonstrable. It is probable that the muffling of the heart-sounds noticed so often is due to edema of the heart-valves, and indicates the earliest organic changes.

As to the cause of the endocarditis and of the inflammation of other serous surfaces, as the pleura, the pericardium, and possibly the peritoneum, it is probably the same as that giving rise to the joint inflammation, but it is conceivable that under the damaging influence of the toxins of the rheumatic germ the heart-valves become prepared for the reception and activity of the common micro-organisms of mixed infection—the streptococci, staphylococci, and pneumococci. This would be in keeping with what we know of other diseases, such as typhoid fever and diphtheria, in which endocarditis may be due to specific organism of the disease, but is more often caused by secondary infection, the toxins bathing the valves having facilitated the invasion of pyogenic bacteria.

Rheumatic Pneumonia.—This has been described, but I have never seen an instance. Lebert⁵⁴ found only 2 in 140 cases, although Valliard⁵² makes the proportion very much greater; Stoll¹¹ gives the percentage as 1.1.

Nephritis occurs occasionally, but presents nothing characteristic. I have already referred to the occurrence of *phlebitis*, to which attention has recently been drawn by Censier.¹⁴

Cerebral Rheumatism.—The pathology of so-called cerebral rheumatism is unknown. In a case reported by Soques,⁵⁴ in which there was also hyperpyrexia, the blood and cerebrospinal fluid at autopsy were sterile, and injection of the latter fluid into animals was without effect. Soques believes that the cerebral localization of the disease is favored by a neuropathic taint.

Changes have been described in the spinal-cord—rheumatic myelitis—but the cases hitherto reported are in no way convincing.

CONCLUSIONS.

The following conclusions, based on what has been said before, seem to me to be warranted:

1. Acute articular rheumatism is a specific infectious disease.
2. It is not an attenuated form of pyemia in the sense that it is due to pyogenic organisms of reduced virulence.
3. Its true cause has not been definitely discovered, although the bacillus of Achalmé may prove to be the long-sought micro-organism.
4. A number of joint affections resemble acute articular rheumatism, just as certain pseudomembranous in-

flamations of the throat resemble diphtheria, and various diseases of the lung resemble typical lobar pneumonia.

5. These joint diseases should, wherever possible, be separated as *rheumatoid* or *pyemic* affections.

6. They are best designated according to their cause, as streptococci, staphylococci, gonococci, or pneumococcal arthritis.

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COLOSTOMY FOR PERMANENT FECAL FISTULA.*

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The operation I desire to demonstrate deals entirely with those inoperable lesions which cause occlusion of the rectum or lower portion of the sigmoid flexure of the colon. Its chief feature is the formation of a very considerable loop of that portion of the colon which is immediately above the artificial anus, making what might be called an artificial sigmoid flexure or store-

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house capable of holding a large amount of fecal matter, which may be discharged at long intervals, thus preventing the frequent soiling of the dressings, which are so common in the ordinary operations for fecal fistula.

After making the incision through the abdominal wall, in the left inguinal region, the large intestine is drawn through the wound and strong traction made on the lower portion so that all of the bowel between the rectum and the wound is put well on the stretch. About 4 inches of each leg of the loop should be brought out, thus exposing about 8 inches of colon through the abdominal wound. In uniting the contiguous portions of the loop I employ the method of suturing devised by my friend and former assistant, Prof. J. A. Bodine, making two parallel rows of running silk sutures 4 inches in extent and about one inch apart, one row being on either side of the mesocolon. This structure containing the vessels is caught between the two lines of sutures and adds greatly to the strength of a permanent spur. As soon as the two rows of sutures are completed, the loop is dropped back until only about one inch of the knuckle remains through the wound of incision. This should be held steadily in place by means of silk sutures passed beneath the bowel, that is, through the mesocolon just where it joins the bowel, or the glass rod may be employed to support the loop until adhesions are secured. The margin of the peri-



toneum lining the abdominal wall in the entire circumference of the wound of incision, is now carefully stitched to the intestine by the usual method. It is my practice to carry the needle well into the muscular tissue of the bowel wall—taking care not to enter the cavity—in order to get a firm hold of the bowel. Every third suture is made to include with the edge of the abdominal peritoneum the muscle and skin, in order to secure such a strong support that the bowel can not tear loose and drop back into the wound. This precaution should be taken even when the glass rod is used. When the condition of the patient will allow, it is safer to wait twenty-four to forty-eight hours before incising the bowel, for by this time the adhesions will have shut off most securely the peritoneal cavity. This can be done under cocain anesthesia, and consists in shaving off the projecting knuckle about one-half inch above the level of the skin. The fecal contents are discharged through the upper aperture of the bowel, and in the course of time the lower opening becomes contracted, and is used only for the purpose of irrigating the lower bowel, if this should be deemed necessary.

In late years many prominent surgeons prefer to perform the operation recommended by Bailey, and carried successfully into practice in a number of instances by my friend, Prof. James P. Tuttle, of New York. This consists in splitting the external oblique

muscle in the direction of its fibers and separating the fibers of the internal oblique and transversalis in the same manner that these muscular fibers are separated in the "gridiron" operation for appendicitis. The peritoneum being incised and the colon secured, it is brought through the wound. The skin at the lower portion of the incision is now dissected up for 2 or 3 inches from the abdominal wall in the direction of the groin, where it is a second time incised. The knuckle of bowel is drawn beneath this raised strip of integument and out at the lower wound, where it is held in place by the glass rod until adhesions occur. The knuckle is then incised and the artificial anus established in this manner. Wearing a truss-like pad on the skin which overlies the bowel-loop, prevents leakage when the patient is moving about. The formation of the extra pouch or loop of colon above the aperture applies equally to this operation as to any other method for the formation of an artificial anus.

REPAIR AFTER INTESTINAL RESECTION.*

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The title of this paper is misleading, in that it gives the idea that healing in the intestine is to be fully considered. I shall discuss the question of stricture following anastomosis, and especially end-to-end anastomosis. The other points in the healing process will be treated very cursorily.

The position which the paper advocates is that the danger from secondary stricture due to development of scar tissue in the submucosa and muscular tunics is very slight. This should be removed from the list of objections to operative procedures. I have been led to this opinion by two sets of observations. I have been confirmed in it by a tone that I find in the literature—illy defined, but present.

The first observation is this: For ten years the profession has been doing anastomosis with great frequency. There has been time enough for the literature to teem with reports of secondary stricture. I have not found such abundance of reports.

The second observation is: I have examined with the unaided eye, and with the microscope, a great many specimens of intestinal union. These have been operated with the Murphy button, Frank coupler, the Connell and various other suture methods. I have not found distinct strictures. Harris says that the major amount of contraction after intestinal operations takes place during the first six months. In his case, no contraction having taken place at the end of ten months, he concluded that danger from that source was past.

As a further part of this observation, I have noted that the scar-tissue fibers occupying the region of the submucosa, muscularis and serosa are never circularly arranged. None but the circularly arranged fiber produces stricture.

Examinations of many specimens of intestines that had been resected show the following arrangement: The mucosa is commonly nearly perfectly arranged. Sometimes we find villi perfect in form directly in the line of union. Commonly the villi are not quite as symmetrical in arrangement as normal. Usually the crypts of Lieberkühn are quite natural. The surface epithe-

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lium is generally perfect in shape and arrangement. The subepithelial mucosa is nearly normal. Occasionally a solitary lymph-gland can be distinguished. The muscularis mucosa commonly blends into the layer of scar-tissue. The submucosa forms most of the scar. The circular and longitudinal muscular layers do not participate in the process of healing. In consequence of this fact, there is usually a sulcus at the point of cicatrix. Sometimes there is a point of projection just below the zone of scar. Usually the peritoneal surface shows a slight elevation. The great interest centers in the scar. The amount of scar-tissue is always small if the healing has been uncomplicated. The fibers nearly always run in one of two directions. Sometimes they run from the mucosa to the serosa, or vice versa. More frequently they bridge the wound, running lengthwise of the intestine. Often there is some pouching. In no specimens of single healing are connective-tissue fibers found running circularly around the intestines. This is the important observation that I offer.

I find the following in Barbat's study of the subject of intestinal union: "In the Murphy button cases the submucosa forms a continuous layer, the directions of the fibers being parallel with those on each side." He adds that the results obtained with the Frank coupler are the same as those with the Murphy button. Through the courtesy of Dr. Barbat, I have had his specimens for study, and I corroborate his observation.

Let us consider the reason why the fibers do not run circularly. Thoma has enunciated the following law of pathology: "In scar-tissue the direction of the fibers is that of the tension." Biologically, this must commend itself. The connective tissues, being for the purpose of holding or retaining, must come, in time, to such an arrangement as best fulfils their function. That arrangement must be such that the fiber runs in the direction of tension.

J. B. Murphy says: "Experience shows that contraction does not take place in the cicatrix produced by this method of approximation when the viscus is in full function." This is confirmed by von Frey.¹ Dr. M. E. Connell, the deviser of the bone plate, says there is no danger of contraction in lateral anastomosis, provided the original channel is completely and permanently stopped. If, however, the old channel is open, or reopens before the new habit is established, the artificial opening will close. Full function and the use of the new channel when the old channel is closed would tend to cause the fibers to arrange themselves other than circularly.

When we come to study pathologic processes, further confirmation of the fact that fibers run in the direction of "pull" is found. When we think of the tubes that are subject to stricture, we find that those most frequently affected are the tubes in which practically the only motion is distention and contraction, for instance, the urethra, the esophagus. When there is true stricture of the intestine, it is almost always in the large intestine, rather than the small. In the statistics of Fitz, in 295 cases of intestinal obstruction 14 were due to stricture of the large intestine, and 1 to stricture of the small intestine. This is accounted for by the comparatively stationary position of the large intestine. Of the strictures of the small intestine, practically all are of tubercular origin.

As illustrating the rarity of cicatricial stricture of the small intestine from all causes, I cite the following:

In Koehler's address on "Intestinal Obstruction," to the British Medical Association, in 1898, he reported 95 cases of intestinal obstruction under his own observation. Of these 19 were due to tubercular stricture; 16 to peritoneal adhesions. None were due to ordinary cicatricial tissue in the submucosa.

Skłodowski, in a report of intestinal obstruction, reports 2 cases of cicatricial stricture, both due to tuberculosis. In Nothnagel's clinic, autopsies have been held on 343 cases of intestinal stricture. Of these, 326 were in the large intestine, and 17 were in the small intestine. These 17 were probably all either malignant or tubercular.

Prewitt says that of the chronic obstructions of the bowels, 60 per cent. are due to stricture; 25 per cent. of the strictures are in the small intestine. True stricture is the cause of obstruction in the large bowel, while "contractures" are the almost invariable cause of obstruction of the small. He uses contractures—after Fagge—as meaning peritoneal adhesions. Hofmeister was able to collect 83 cases of intestinal stricture due to tuberculosis which had been operated. He explains the reasons for tubercular stricture in the small intestine.

As showing the very small amount of stricturing, even from tuberculosis, Eisenhart reported 1000 post-mortems on tuberculous subjects. There was intestinal tuberculosis in 566; only 9 of these showed stricture. Here was a chronic ulcerative process in 566 cases and only 9 strictures—1.5 per cent. How does this compare with the results of chronic ulcerative processes in the urethra?

Troves, in 1884, collected 78 cases of stricture of intestines. Of these, 26 were in the small intestine. Of the 26, 10 were due to cancer, 4 to strangulated hernia, 2 to injury and 10 to cicatrix after ulcer. Continuing, he says: "Of the cicatricial strictures of the small intestines, the most are due to tuberculosis, primary or secondary."

Matas reported a case of multiple stricture of the small intestine, coupled with the most extensive peritoneal adhesions, all tubercular in origin. He says: "It is now recognized that notwithstanding the frequency of tuberculosis of the bowel, this condition is rarely followed by complete cicatricial stenosis. Yet, it is undeniable in the light of recent experience that tubercular ulceration in the bowel is capable of producing obstructive conditions, not so much because of cicatricial contraction, but, as Koenig, Czerny and Hofmeister have demonstrated, because deep-seated tubercular ulcer will give rise to so much secondary inflammatory thickening, edema and plastic exudation, that the lumen of the bowel will be narrowed and obstructed."

Oster, under the head of causes of intestinal obstruction, gives "simple cicatricial stenosis which results from ulceration, tuberculous or syphilitic; more rarely from dysentery, and most rarely of all from typhoid ulceration." He gives no other cause of stricture.

When we come to study the reason for strictures following tubercular ulcers, we find confirmation of the idea advanced. In tuberculosis we have to deal with an ulcerative process, chronic in character, producing local muscular paresis, and very frequently associated with local peritonitis. Adhesion bands result from this peritonitis. These adhesion bands render nugatory the efforts at pull on the part of the intestine. In consequence, the only change in the position and shape of the intestine is that which results from the

1. Beiträge f. Klin. Chir., 1895, xlv

passage of intestinal contents, and the muscular contraction which follows. Therefore, the cicatricial fibers run circularly, and stricture results. Matas calls attention to the great frequency of multiple as compared with single stricture in tuberculosis. This is confirmation along the same line as that just cited.

In this connection I call your attention to the scar-tissue of chronic interstitial myocarditis. There is an absolute lack of uniformity in the direction of the connective-tissue fibers. In the ventricular wall pull is from every direction.

In making a circular enterorrhaphy the circular muscle bundles are split lengthwise of the fiber. In consequence, as the circular muscle contracts and distends it pulls very little on the developing scar-tissue. On the other hand, the longitudinal muscle is cut across. Its fiber ends are caught in the scar. Some small portion of these fibers degenerate, to-wit, those parts separated from their governing nuclei. The remainder of the muscle remains functionally active. In consequence, every muscular contraction pulls on the scar in the direction of the long axis of the intestine. Therefore the scar-fibers run lengthwise of the intestine. We can not avoid the scar-tissue, but so long as the fibers run properly, it does no harm.

Barbat, as the result of a continued and careful study of the histology of healing after various methods of anastomosis, makes the following observations, apropos here: "Muscle cells, after being cut, will never repair in such a way as that the muscle cells will cross over the point of division; there will always be a layer of scar-tissue at the point of union."

Van Hook says that scar tissue is always found in circular enterorrhaphy, no matter by what means one performs the operation.

Lee reports a dog which was operated on with a Murphy button five months before being killed. "There is very little scar-tissue to be seen, it being most evident in the muscular coat. It was a beautiful specimen, with absolutely no contraction present."

Dr. Barbat further says: "If we follow these suture cases, we will find that the connective tissue which is formed between the approximated surfaces begins to contract, and as the amount of contraction depends on the amount of scar tissue, it necessarily follows that with the two comparatively wide surfaces which we get in all suture anastomosis, we will have considerable contraction." I may say that I can not quite agree with this point, and I do not think that his specimens would indicate great danger in this direction. I am of the opinion that exclusive peritoneal contact is not best. The more the submucosa participates in the repair process, the better the result. Barbat says: "It will thus be seen that in order to have secure anastomosis, the perineum and submucosa are the only coats which are essential, therefore the method which approximates these coats the earliest must be the best."

I quote Harris: "The error of supposing it necessary to oppose serosa to serosa was pointed out in my former paper—September, 1892—when it was shown that peritoneum unites as readily to any raw surface as it does to peritoneum." He quotes Greig-Smith's demonstration of the advantages of sero-fibrous union.

I have examined some of the cases cited as proving the possibility of secondary stricture from growth of fibrous tissue: such cases as Keen's and Abbe's. Some of them are very difficult of explanation. Some cases can be explained on the basis of an extension of the primary process, for example, malignant disease; others

on the fact that the original outlet remaining pervious, or later becoming pervious, the artificial opening tends to close. Against these we place such cases as those of Dunne and Murphy, in which the opening was larger, some time after operation, than at the time of operating.

In looking over specimens of intestines operated on many months before the animal was killed, I sometimes find great difficulty in locating the point of operation. This will be apparent to you in some of the specimens that I show, notably some of Dr. Barbat's and one of Dr. Frank's. I am certain that some of you have noticed the complete disappearance of scars after typhoid, dysentery, violent gastroenteritis, or caustic poisons. I dare say that you have often wondered what had become of the scar-tissue in cases where you have known of a most severe typhoid a few years previously. The explanation is that in areas of great functional activity, scars have a very great tendency to disappear. Especially is this true of epithelial structures. The mucosa-healing in the intestine is most complete. The muscular regeneration is least complete, and in consequence of this last fact an old scar sometimes persists as a place of thin intestinal wall.

Please do not understand that I deny the possibility of a diaphragm. Operations, such as the Czerny-Lembert, which turn in a large portion of intestine in order to accomplish a broad peritoneal contact, must result in a diaphragm. I show a cast made of such an intestine. I also show a slide showing a large amount of internal projection. I do not propose to enter on a discussion of the harmfulness of these diaphragms. Rosenthal, Goetz, Roser, Chaput, Madelung and Kunner, quoted by Harris, cite cases in which the diaphragm produced marked and sometimes symptomatic obstruction. As a general proposition, we are apt to lose sight of the fact that partial diaphragms constitute a part of the physiological arrangement of the intestine.

The conclusion that I arrive at is: The possibility of secondary stricture is not great enough to constitute a legitimate objection to end-to-end anastomosis.

I have to thank Drs. Murphy, Frank, M. E. and F. G. Connell, Barbat, Herzog, Lee and Turck for the opportunity of examining specimens.

HEMORRHAGIC GLAUCOMA.

A CLINICAL AND PATHOLOGICAL STUDY OF A CASE.*

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PHILADELPHIA.

Hemorrhagic glaucoma may be defined as an ocular affection characterized by an increase in the intra-ocular tension, as the result of a previous hemorrhagic iritis. Although now generally recognized as a distinct type of glaucoma, the pathology of hemorrhagic glaucoma is still obscure, so that the microscopical examination of each case is of value as serving to elucidate the precise nature of this disease. It is with this object in view, therefore, that the following case, which has been carefully studied, both clinically and pathologically, is reported.

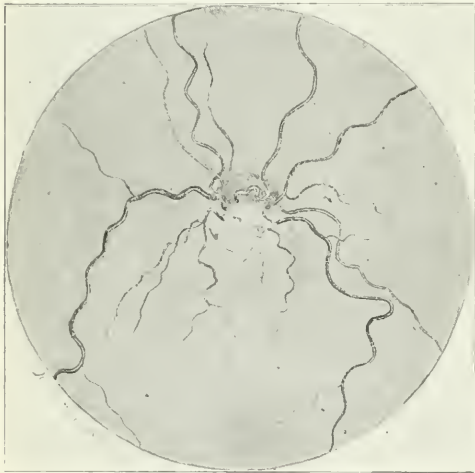
The patient, G. W. H., aged 58 years, consulted the writer in December, 1894. He said that he had never had any trouble with his sight until the preceding August, when he noticed one morning on rising that everything appeared blue and that objects were seen

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indistinctly. He could not remember any illness, or having subjected himself to exposure or to any unusual strain which might have accounted for this. He thinks that the eyes were not red or painful at the time. For some months prior to these ocular symptoms, he had had attacks of vertigo in the barber's chair and at stool, and had been short of breath on slight exertion. He had had piles for years, and the month before his vision failed he had bled from his nose quite freely on several occasions.

Objects still appearing blue and his vision being still clouded, he was instigated, a few weeks after the attack, to seek relief from these conditions at the Wills Eye Hospital, where he came under the care of Dr. Edward Jackson, to whom I am indebted for the following notes:

"Patient had complained of failing vision in the right eye for the last few weeks, but without inflammation or pain. Examination shows the conjunctiva of the affected eye to be injected. The cornea are clear. The pupils are 3 mm. in size, and respond actively to



Left eye.—Showing unusual dilatation and tortuosity of the retinal vessels, particularly the veins.

light stimulus. With the ophthalmoscope, the media in the eye are clear, but the disc is red and hazy, its edges being wholly obscured except at the upper margin. The retina is swollen and hyperemic and there are innumerable hemorrhages in the papillo-macular region. The retina in the left eye exhibits a similar condition, though less pronounced. Vision in the right eye equals counting fingers at 50 cm.; in the left eye 5/10. Examination of the urine showed specific gravity of 1020, and was negative regarding the presence of albumin or sugar. The patient was placed on eserin and nitroglycerin gr. 1/100, three times daily. Three weeks later the disc in the right eye was less obscured, though the retina was still very hazy. The retinal arteries were noted as being relatively very small, with their walls much thickened. Vision of the right eye now equalled counting fingers at 5 inches."

The patient employed the drops and pills which were prescribed, but did not return for further treatment as the drops made his eye painful and brought on vomiting. He then consulted several other ophthalmologists, who advised the continuance of the same treat-

ment, but as the drops still exerted the same disagreeable influence, he became disheartened and discontinued all treatment for several months. At the end of that time, he consulted the writer in the hope that the sight of the right eye, which had now failed him utterly, might be restored to him.

Examination showed the patient to be a large powerful man, but with marked evidence of faulty circulation. His hair was quite gray, his lips rather blue and his temporal vessels prominent. The right eye presented all the cardinal symptoms of absolute glaucoma; the globe being brick-red from deep ciliary congestion, the cornea steamy and needle-stuck, and the scleral vessels full. The anterior chamber appeared to be only slightly shallowed; the pupil was widely dilated and the iris was immobile to light and accommodation stimuli. There was a greenish reflex from the pupil and the tension was +2. On account of the cloudiness of the media, but a faint red glare could be obtained from the fundus. The eye was absolutely blind.

The fellow eye was almost quiet, although in addition to a faint arcus senilis above, there was a faint haze of the cornea and some congestion of the scleral vessels. The anterior chamber was of good depth; the pupil, which was 3 mm. in size, reacted well to light and accommodation stimuli; the sclera was rigid. The fundus was plainly seen, and the appearance of the optic nerve and the retinal vessels was so striking that they were thought worthy of a sketch. As seen in the sketch, the nerve was quite gray in the deeper layers, especially to the temporal side, but was markedly hyperemic and slightly swollen on its nasal half, this edge of the disc being almost hidden by the swollen nerve-fibers. There were also several minute hemorrhages on the head of the nerve, and a few corkscrew-like vessels projected from it. The outer two-thirds of the disc were embraced by a large physiological excavation, at the bottom of which the lamina cribrosa was plainly visible. The retinal veins were enlarged and very tortuous, especially on the disc, and projected into the vitreous, being twisted about one another like a cluster of angleworms. The arteries were reduced in size and their walls were thickened, presenting somewhat of a waxy appearance. The entire retina was slightly hazed, and was so swollen at the nasal edge of the disc that the distended veins were at times obscured by it. In the macular region there were several minute scattered spots of pigment. Vision equaled 5/10, and with +0.50 D. S. \ominus +0.25 D. C. ax. 90°, equaled 5/5; with +3.D. additional, type 0.50 D. was read from 12 to 20 cm. The field in the left eye was normal both for form and color.

A careful physical examination by Dr. Alfred Stengel discovered a somewhat enlarged left ventricle, and a strong high-tension pulse. The sounds over the heart were free from murmurs, but the first sound was peculiarly heavy and booming in character, while the second was sharp and accentuated, especially at the base and at the aortic region. There were faint bruits in the arteries of the neck. The vessels were everywhere stiff, but not calcareous. Dr. Stengel was of the opinion that the case was one of moderate arteriosclerosis.

An examination of the urine made by Dr. S. M. Hamill was as follows: specific gravity 1024, reaction acid; microscopically, a few cylindroids and urates, but no casts.

The patient was cautioned about overexerting himself; his diet was restricted; his bowels were kept open by salines, and his circulatory apparatus regulated by

nitroglycerin. Two drops of eserin salicylate—gr. $\frac{1}{4}$ to the ounce—were instilled into the right eye twice daily, preceded by a few drops of a 2 per cent. solution of cocain. After several weeks of this plan of treatment the eye became less painful and the circulation improved to such an extent that the outlines of a hemorrhage in the retina, slightly up and out from the disc, could be discerned. This improvement lasted for several months, when there was a recurrence of the attacks of pain in the eye, which radiated into the nose and was accompanied by profuse lachrymation. The iris gradually became vascular, the cornea more densely steamed and the globe harder, and the pain was so severe that enucleation was finally advised to avoid further discomfort. The patient's consent being obtained, this operation was performed without accident under ether, and the globe placed in Müller's fluid for examination. The socket healed satisfactorily. In order to protect the remaining eye from a glaucomatous attack, a weak solution of eserin was instilled into it, the proper correcting lenses adjusted, and a careful regimen of the patient's life insisted upon. As a result of these precautions, the patient's health improved, and there have been no untoward symptoms in his remaining eye.



Section through the angle of the anterior chamber, showing its complete obliteration by the adhesion of the base of the iris to the cornea.

An ophthalmoscopic examination, which was made a few days ago, showed that the circulation in the eye had improved, the caliber of the arteries was greater, and the veins were not so dark and full as at the time of the sketch. The intense striation of the fibers on the nasal half of the nerve still persisted, but the few pigment massings, the remains of the hemorrhage noted by Dr. Jackson, had entirely disappeared.

The enucleated globe was allowed to harden in Müller's fluid for several months preparatory to its pathological examination by the writer in the laboratory of the State Hospital for the Insane at Norristown. After the hardening process had been accomplished, the eye was frozen in a mixture of salt and ice and divided with a brain section-knife. Macroscopically, it was noted that the antero-posterior diameter of the globe was 25 mm., the horizontal 24 mm.; the lens was 9 mm. in its horizontal diameter, and 3 mm. in its posterior diameter; the anterior chamber and vitreous were filled with an albuminoid material, and the nerve-head was swollen.

MICROSCOPICAL EXAMINATION.

Cornea.—The epithelium and Bowman's membrane were intact, although the presence of tiny cavities between these two layers, as well as the increased prominence of the lines separating the individual cells, espe-

cially in the deeper tissues, gave evidence of a considerable degree of edema. The lymph-sheaths of the vessels at the periphery were much distended, and the vessels here, in common with all through the globe, showed a decided proliferation of the lining endothelial cells of the intima, thickening of the adventitia, with hyaline change, and in many places nearly complete obliteration of the lumen.

Sclera.—This coat was infiltrated in places with round cells, and was somewhat thickened posteriorly about the entrance of the optic nerve. A section across one of the anterior perforating arteries showed a hyaline thickening of its walls.

Anterior Chamber.—As shown by the sketch, the angle of the chamber was obliterated, though clinically the chamber appeared deepened. This was occasioned by the marked retraction of the entire plane of the iris with the exception of its base, which was in close contact with the cornea. The chamber was partly filled with homogeneous transudate, which extended into the posterior chamber and occupied the space between the fibers of the zonule and thence back into the vitreous, where it formed a layer on the inner surface of the retina.



Section through the head of the optic nerve, showing intense neuro-retinitis, unusual vascularity of the head of the nerve, and embolism of the central artery of the retina.

Iris.—The base was quite atrophic. The stroma was dense, and contained but few vessels, and the lumen of many of these was almost obliterated. There was a layer of organized lymph on its anterior surface, which had occasioned by its contraction a marked degree of ectropium uveæ. There was but little pigment in the membrane, except at the pupillary border, where it was found in irregular clumps, instead of the normal pigment cells. The pupil was dilated.

Ciliary Body.—The muscle fibers were atrophic; the tissue was infiltrated with fluid, the processes were pushed forward and occasioned a stretching forward and inward of the fibers of Müller of the retina. Owing to the adhesions formed by the base of the iris and the cornea and the changes in the ciliary body, the posterior chamber was greatly enlarged by a large saccular dilatation of its outer angle.

The Retina.—This membrane was covered by a sheet of organized lymph, which was blended with the disorganized internal retinal layers, and was thickest on the temporal side. Its deeper layers contained but few cells, while the more internal were freely organized. The inner surface was covered with a thick layer of mononuclear round cells, many of which had assumed a spindle form. A detachment of the retina on the temporal side had been occasioned by a contraction of the

mass. The retina was thrown into numerous folds, and in places there were large cavities between the retina and the sheet of lymph, which were filled partly with transudate and partly with fresh extravasations of blood.

The retina had been the seat of an intense inflammation, its layers being blended into a firm mass, richly infiltrated with wandering cells filled with blood-pigment. The rods and cones were broken down into irregular globules, and the space between the retina and the pigment layer, which remained attached to the choroid contained an extensive hemorrhage. Farther to the temporal side, the retina showed less inflammatory reaction, but the hypertrophied fibers of Müller were drawn out into long processes by the exudate, and by their separation allowed the formation of numerous smaller cavities, which were filled with fluid. On the nasal side of the nerve the same effect had been produced, but the cavities were smaller and there were no marked inflammatory changes. Throughout the mass there were small hemorrhages. Anteriorly, the retina showed changes due to long-standing edema; hypertrophy of the supporting fibers, cystic degeneration of the fiber layer, and disappearance of the ganglion cells. In this membrane, as elsewhere, the same vascular changes had occurred as were described above. The pigment epithelium was irregularly proliferated, especially in the papillo-maculary region, and in many places was separated from the lamina vitrea of the choroid by a faintly staining exudate.

Optic Nerve.—The excavation was .5 mm. in depth, and was filled in by the mass of organized lymph, and by the retinal fibers which had been pulled over the edge of the cup by the contraction of the newly-formed tissue. The lamina cribrosa was bent backward and the excavation occupied the entire nerve-head. The central vessels showed a marked degree of thickening of the walls and proliferation of the endothelium. The veins were full of blood, but the lumen of the main artery was partly filled with a mass of spindle cells, which was firmly filled with the proliferated endothelium. Sections of the vessel within the nerve indicated that the obliteration at the time of enucleation was, in this place, incomplete, as a small channel remained on the nasal side, which contained fresh blood-corpuscles. Sections of the temporal branch of the artery within the lymph mass, however, showed complete obliteration. The connective-tissue septa of the nerve were very much thickened, and the nerve-fibers were completely atrophic. The supravaginal space was distended.

Choroid.—This membrane was little affected beyond an enormous dilatation of its vessels, with bundles of newly-formed connective tissue scattered through it in places. There was some round-cell infiltration beneath the areas of intense retinitis.

Vitreous Chamber.—The retina and the inflammatory mass on the head of the nerve were covered with homogeneous exudate previously described in connection with that in the anterior chamber. From the center of the mass on the nerve there extended into this exudate a channel about the width of the central artery, the walls of which were at first composed of several layers of spindle-shaped cells, but were soon represented by a single layer of flattened cells. This channel was partly filled with red blood-cells, and evidently represented a new blood-vessel springing from the organized exudate, and extending into the vitreous chamber. In the homogeneous exudate surrounding it there were numerous small collections of blood-corpuscles, mononuclear cells

which showed vacuolization and disintegration of their nuclei, and cells containing absorbed pigment.

The changes which have just been described are most striking and their significance deserves careful consideration. Dr. E. A. Shumway, who kindly studied a series of the sections for the writer, has given the following explanation of them, which seems to be both pertinent and conclusive:

The finding of an occlusion of the central artery raises the interesting question: Was this the primary cause, and the subsequent changes in the nerve and retina secondary to it, or was the thrombosis dependent on the inflammation of the surrounding tissues? I think that the answer can be readily given if we compare the clinical history of the case with the pathological findings. In the first place, the process was slow in onset, and the failure in vision was not sudden, but gradual. The ophthalmoscopic examination, which was made some time subsequent to the beginning of the affection, showed a marked neuroretinitis, with numerous changes in the exudation in the nerve-head, and in the substance of the surrounding retina. There was considerable tortuosity of the venous channels, but no noticeable change in the size of the arteries. Moreover, the presence of a similar, though less-marked condition in the fellow eye, and the evident changes in the blood-vessels throughout the system, point to the fact that we are dealing here with changes due to disease of the general vascular system, and not with a mere local disturbance. The pathological examination, therefore, confirms the clinical diagnosis. As a result of the endarteritis and periarteritis of the retinal vessels, there occurred a severe inflammation of the head of the nerve and neighboring retina, with hemorrhages from the diseased vessels, an outpouring of lymph and round cells, subsequent organization of this inflammatory mass, with detachment of the retina, atrophy of the optic nerve, hemorrhage into, and round-cell infiltration of, the vitreous; glaucomatous symptoms then supervened, the filtration angle of the anterior chamber was closed by the forcing forward of the ciliary processes and lens, and as the base of the iris became adherent to the periphery of the cornea the glaucoma became absolute.

While there is still far from unanimity among pathologists regarding the changes which occur in the ocular tissues in hemorrhagic glaucoma, the majority of observers agree that the most constant lesions are found in the blood-vessels, and more especially those of the retina and optic nerve. Undoubtedly this view largely resulted from the thesis of De Bourgon, which showed, in a comprehensive review of the literature, that these tissues were the most frequently affected in the cases hitherto reported.

Thus, of 13 complete pathological examinations which had been made, all exhibited vascular lesions in the retina, such as miliary aneurysms, hyaline and amyloid degeneration, and periarteritis and sclerosis. In 7 of these cases there were lesions in the vascular system of the choroid also.

As a result of this initial general vascular disturbance it appears that a diminution in the circulation of the blood follows that favors the occurrence of hemorrhages, which are rather the result of diapedesis than of rupture of the vessel walls.

As De Bourgon has pointed out, a vicious circle is thus inaugurated: the diminution in the circulation giving rise to the hemorrhages, and the hemorrhages, in their turn, in conjunction with a fibrous transformation of the retina which occurs in the majority of the cases, contribute still further to the stasis of the blood-current. As a result of this, the hemorrhages increase in number, become more extended, and the circulation is finally so impeded that venous thrombosis ensues, in association with a dilatation of the capillaries. Serous exudation then takes place, the intraocular pressure increases and the glaucomatous attack is precipitated.

HEMORRHAGIC GLAUCOMA.*

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PHILADELPHIA.

Frequency.—Fortunately, this almost universally fatal ocular condition, which, as Stirling says, "must be distinguished from hemorrhage into an already glaucomatous eye," is quite rare in this country. Risley's statistics of 4 in 20,000 cases are similar to mine of 8 in 40,000.

Symptoms.—Following an intraocular hemorrhage that is, as a rule, due to some gross disturbance of the vascular system, such as endarteritis or thrombosis, it is either rapidly, or even suddenly, announced by all the expressions of a subacute or an acute attack of glaucoma.

Ophthalmoscopically, if at all visible, the main retinal veins will appear engorged and tortuous, this being particularly noticeable in the larger stems as they bend into the optic nerve-head and pass through its cribriform plate. In these cases, though more particularly in the more pronounced ones, or, at times, in those eyes in which there has been a partial or a complete absorption of an intraocular hemorrhage, neuro-retinites from the veriest haze and edema to the most intense swelling and inflammation become visible. Varying grades of contraction of the arterial currents and irregular dilatations of the venous channels, with perivascular changes, are only too frequently seen. With these, both old and fresh, deeply seated and superficially situated hemorrhages will be found associated.

Should the case last sufficiently long for the gross pressure-signs to evidence themselves—though unfortunately only too frequently first determined at the post-mortem table—the nerve-head will be found deeply cupped and filled with both lymph and blood elements.

If the organ is still able to withstand these ravages on its structures, signs of further lymph-infiltration and increase of vascular exudation, with thickenings, ossifications and degenerations, will all manifest themselves until the organ is affected in its entirety; necroses in the anterior segment of the eye followed by hemorrhagic discharges appear and terminate the scene.

Pathology.—This increase of contents of an already diseased organ has offered a series of post-mortem findings to the pathologist which are quite certain. Inflammatory and degenerative changes in the vessels of the choroid and entire uveal tract have been seen by Knies, Oliver, and Randolph. Similar conditions in the iris and ciliary body have also been noted by Valude and Dubief, and Wagenmann; while the retinal series, as in the well-known cases of Hache and Pagenstecher, are the ones that at times are principally affected. The findings that are mainly seen in the vascular system of the organ consist in scleroses, hyaline changes in the vessel-walls, obstruction of the lumens by thrombi, distention of the vascular canals with blood, and ruptures. With these, the signs of more or less gross inflammatory reactions in the surrounding tissues are constantly found.

The presence of corneal bullæ, the formation of cataract, shrinkage and separation of the vitreal elements, combined with degeneration of the retinal vessels, in association with hemorrhagic extravasations into the substance of the retina, which is generally detached and cystic in places, constitute some of the main pathological

changes that may be recognized in most of the cases. In addition, there may be formations of newly organized inflammatory products throughout the entire organ, as for example, the vascular convolutions that at times are found in the cupped nerve-head and which are believed by Mauthner to be a part of the morbid processes.

In the old and extremely rare chronic cases in which the eyeball has been repeatedly attacked and escaped enucleation, the expressions of bulbar disorganization become increasingly apparent. Ulcerative processes in the cornea, more greatly pronounced degenerative changes in the crystalline lens, and loss of the true vitreous humor with the substitution of grumous and gelatinoid exudates—all become noticeable. To these more widely disseminated gross hemorrhagic extravasations and more greatly pronounced marks of inflammatory reaction are soon superadded.

In the worst and most prolonged types, both infectious and general suppurative changes with panophthalmitis will be found: while the results of hypotony and bulbar shrinkage, both with and without the appearance of gross hemorrhagic and lymphoid extravasations, may be seen.

Treatment.—General therapy must be employed in every case, though unfortunately, by the time the case is met with by the ophthalmologist, it is almost invariably in the stage or condition which requires immediate radical interference. In every case, however, the vascular system must be closely watched and constantly cared for. Sleep, betterment of surroundings, dietetic and emunctorial hygiene in combination with the treatment of any dyscrasia, particularly gout and rheumatism, as shown by Richey, and not infrequently syphilis, constitute some of the main therapeutic means in our possession. Specifically, salicylate of sodium, in large and frequently repeated doses, has, as previously demonstrated by Friedenwald, served the greatest good in two cases that were temporarily relieved by me for quite long periods of time.

Locally, I have never ventured with paracentesis of the cornea, believing that the transient relief gained at best was overbalanced by the danger of vessel-rupture from a too rapidly produced lowered support of vascular structure. With anterior scleral puncture I have not had any experience, nor do I wish to essay it in this type of cases. Sclerotomy I have both tried and seen tried, though in my experience it alone has not been productive of the least permanency in beneficial result. The duration of value of iridectomy followed by equatorial sclerotomy as proposed by Randolph, I have not yet had an opportunity to adequately study; neither have I seen any case in which Ball's suggestion of removal of the cervical sympathetic after unsuccessful iridectomy in inflammatory glaucoma, might be tried. Galezowski's crucial sclerotomy and Spencer and Watson's scleral trephining I have not as yet made any acquaintance with; while sympathectomy without the application of leeches to the corresponding temple, combined with the internal administration of ergot and sulphate of quinin as championed by Abadie, I have never employed. Stretching of the external nasal nerves and electricity can not, even hypothetically, be considered of any real use in this type of cases. In regard to excision of the related superior cervical ganglion of the sympathetic, I agree with Ball that the procedure is of more value in simple glaucoma than it is in the inflammatory type.

The value of the production of thin, breakable cystoid cataracts or the use of the formation of permanent

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istulous openings is uncertain, as they seem to me to only serve to expose an already disabled organ to microbic invasion with probable septic inflammation.

In my hands, I have had the best permanent results with slowly performed iridectomies made after the patient had been properly placed under the full influence of a general anesthetic. The cases chosen were those with apparently healthy irises. As far as possible, the patient was carefully prepared. The operation was done on the bed in which the patient was to lie. The head of the bed was placed on a higher level than the foot, thus raising the patient's head higher than his feet, and reducing the chances of any increased blood-pressure while he rested. The instrument used was a properly sharpened bent keratome. The corneal incision was set far back. The knife was slowly entered and as slowly withdrawn, allowing the aqueous humor to dribble away along the sides of the instrument. A firm double figure-of-eight pressure-bandage was applied for the first twenty-four hours. The best of hygienic and constitutional measures were vigorously sought for and strenuously maintained.

As a result, three out of eight cases—37.5 per cent., a much higher percentage than in any other statistics with which I am acquainted—have been saved for periods of eight, six and four years, respectively, with almost, if not quite, normal vision in fairly large and well-shaped fields that have remained intact to the present time, an almost unprecedented result in this so universally considered hopeless disease.

Two other eyes, cared for in a similar manner, were kept in abeyance for quite long periods of time without adequate working vision—the usual result of so-called successful cases. Unfortunately, both of them, after several months' intervals, were ruined by fresh intraocular hemorrhages that were produced from slight local traumatism and undue general violence.

During any of the operative procedures that I have tried in this type of cases, I have never had the misfortune to have a hemorrhage appear, although I have seen it take place in three instances.

Two cases of hemorrhage into the interior of the fellow eye previously operated on—one with four days' and the other with two days' interval—I have seen followed by a permanently successful iridectomy on the second eye, the eye primarily operated on required removal.

In three instances in which miotics seemed to be of some temporary value in mechanically opening the filtration angle, the drugs eserin and physostigmin were usefully continued for some time, though they did not seem to act as well as they do in some of the other types of the disease.

If these measures fail—as they most generally will—however, recourse must be had to immediate removal of the globe.

Prognosis.—As can be now well understood, prognosis is almost invariably fatal, although when the local conditions have been gotten into abeyance, the general health kept constantly guarded, and the organ has resumed its functionary powers, relapses may, with a reasonable degree of certainty, not be feared, as, for example, in the 37.5 per cent. of cases in my own series—three out of eight. No rule, however, can be laid down.

From the sweeping, broad statement made by some, that all such eyes are irremediably lost, to the most sanguine views of those who, by improperly including every doubtful case in their series, have obtained data that are both uncertain and misleading, there is a mid-

dle ground that must always be occupied by the conservative and yet fearless practitioner.

The state of the patient's health, the condition of the eye, the gravity and the duration of the attacks, and the frequency of recurrence, all enter so persistently into the question of prognosis that the answer for the value of the best applied local and most judicious general therapy in each individual case becomes in large measure idiocratic in character.

DISCUSSION ON PAPER OF DR. POSEY.

DR. E. C. ELLETT, Memphis—Some years ago I had the opportunity to watch a case which from the clinical side was a very interesting and satisfactory study, but very unfortunate from the patient's point of view. The case is reported in the *Annals of Ophthalmology* for October, 1887. She was about 60 years of age when the trouble affected the left eye. When I first saw her she had a typical hemorrhagic retinitis, and I observed the development of glaucoma in spite of everything I and one or two consultants could do to control it. I finally did an iridectomy, which was followed by free hemorrhage, but with good recovery and relief of pain for the time. I finally enucleated the eye, and that was followed immediately by a hemorrhage with great infiltration of the orbital tissues. The case illustrated very well Dr. Risley's classification, dividing the course in two stages, hemorrhagic retinitis, and then confirmed glaucoma. This woman is still in good health, though she has passed through some nervous crises since that time, and the other eye is perfect. The stump of the enucleated eye, while it shows nothing abnormal to inspection, is very irritable and she has never been able to wear an artificial eye.

DR. J. E. WEEKS, New York City.—This class of cases is extremely interesting to me. The condition is due to vascular degeneration and is more frequently monocular than any other type of glaucoma, except the secondary forms due to keratoseleritis, injury or intraocular tumor. The walls of the arteries, principally, are affected but the hemorrhage takes place from the small veins and capillaries. Glaucoma seems to develop only in those patients who possess marked tendency to plastic formations. The treatment that will do most good in these cases is that which prevents the formation of fibrin, and for that reason the iodids and salicylates are apparently of the greatest value. Operative treatment is simply worthless unless we can influence the element that I have just mentioned. The condition of the blood-vessels is not one confined to the eye alone by any means; it involves the general arterial system, being often more advanced in one organ than in another.

DR. S. D. RISLEY, Philadelphia.—The Section should be grateful for Dr. Posey's paper, since it gives opportunity for the discussion of a most important subject. Perhaps no form of eye disease is so universally fatal to vision as hemorrhagic glaucoma. At the Pan-American Congress meeting at Washington I read a paper on the subject, in which I presented an abstract of the literature, gave the experience of a number of friends, secured by correspondence, and added the histories occurring in my own private practice. I could discover no instance of recovery in a well-authenticated case of the disease. It is important that hemorrhagic glaucoma should be carefully differentiated from acute or subacute glaucoma with hemorrhages. The latter, as we all know, is unfortunately frequently observed, and its course modified or assisted by treatment; while the former is fortunately rare, since no treatment is of any avail and blindness the inevitable result. It is but a local expression of the disease of the general vascular tree, and as such anticipates in blindness the fatal result which in many cases speedily follows. I am greatly pleased with the admirable statement just made by Dr. Weeks of the pathological conditions in these cases. It is important, when viewed from the medicolegal standpoint, that hemorrhagic glaucoma should not be confused with other more hopeful forms of glaucoma, since a too favorable prognosis might in that case be given. As a source of mutual protection this section should voice its opinion, as to the fatal character of this disease, in the most clear-cut and emphatic manner.

DR. J. L. THOMPSON, Indianapolis—I have seen many of

ose cases and in a great majority of instances I have had centrally to enucleate the eye. I recall one case, however, and it is the only exception, of an old gentleman now 70 years of age who came to me 10 years ago with just such a hemorrhage, and I told him of the dangers and fears of subsequent trouble. I put him on salines, used leeches and sent him to the springs. He stayed there a while and the eye began to clear up, but eventually he had glaucoma. I began the use of eserine, and glaucoma set in in the other eye. The vision in the hemorrhagic eye is still 20/70. Of course, I look for trouble yet, and I fear an iridectomy so much that I have refused to do it in either eye. It is the only case I have ever had of hemorrhagic glaucoma where I did not have to enucleate the eye subsequently.

Dr. W. C. POSEY—In closing, I wish merely to say, as I have ready stated in my paper, that the essential lesion in hemorrhagic glaucoma is vascular, both general and local. As a result of the general arterio-capillary fibrosis there is a diminution in the circulation, which affects the intraocular condition as well as that of other parts of the body. Hemorrhages occur in the eye, plastic exudates are formed, a still greater impediment is offered to the proper circulation of the blood within the eye, and more hemorrhages are the result. This vicious circle is continued until the proper exchange of the intraocular fluids is no longer possible, and glaucoma results.

I fully agree with Drs. Weeks and Risley that the treatment of this form of glaucoma should be directed to the general system, and to the lowering of the intraocular tension by local medicinal measures, for I believe iridectomy in this class of cases to be inexpedient.

IMMATURE CATARACT AND ITS TREATMENT.*

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It may be asked: Why waste time on this hackneyed subject, which has so often been discussed, especially in our own country, for example, by Risley,¹ Woodward,² Alt,³ W. L. Pyle,⁴ and by others, and when we know that there is no specific treatment of incipient cataract and that all which can be done is to keep the patient in the best state of health and the affected eyes in the most perfect optical and nutritional conditions until that time arrives when the crystalline lenses may be safely extracted? While this is undoubtedly true, may it not be pertinently inquired whether a too strict adherence to this view of the case does not engender a species of unjustifiable pessimism and unwarranted therapeutic nihilism which drive patients out of legitimate consulting-rooms into the hands of irregular practitioners?

In general terms, all complicated cataracts, especially those caused by acute and chronic affections of the eye, *e. g.*, iritis, iridocyclitis, iridochoroiditis, active choroiditis, detachment of the retina, malignant myopia, glaucoma, corneal ulcers, etc., all cataracts caused by toxic agents and by direct or indirect traumatism, and those usually described under the term *juvenile* or *congenital* are excluded. So, too, it is not possible to adhere to a strictly pathological classification of lenticular lesions; but I may, for convenience sake, be permitted to describe these opacities as we usually meet with them in the consulting room, *viz.*, 1, non-progressive cortical opacities; 2, progressive cortical opacities; 3, nuclear and mixed opacities.

Non-Progressive Cortical Opacities.—Sometimes in so-called senile or simple cataract the development of the lenticular change is so slow as to justify the term "non-progressive." We see cases of this character con-

stantly, the lesions usually appearing in the form of a few equatorial streaks or tufts, the favored position being in the naso-inferior quadrant of the lens.* Dr. J. L. Thompson has particularly described them. An illustrative case is the following:

A woman, aged 68, consulted me in 1890, with the statement that, twelve years before, she had been told by two of the most competent eye surgeons of the city that she had incipient cataract. At my examination the vision of the right eye, after the correction of a slight refractive error, was 6/9 and of the left eye 6/12. In each lens downward and inward were well-marked streaks of opacity slightly fluffy on their margins. The eye-grounds were normal and the patient was in excellent health. Ten years later the findings were almost exactly the same, the vision of the right eye being 6/12 and of the left eye 6/15. The opacities, therefore, have existed for twenty-two years and have undergone practically no change. The patient has used her eyes on the finest kind of work and has never for a day ceased to do so.

At our annual meeting in Denver in 1898, Dr. Hotz quoted a similar instance, the opacities having remained unchanged for thirty years, and agreed with Dr. Jackson that cases of this kind ought not to be classified as cataract; that is to say, the patients themselves ought not to be told that they were suffering from a disease which was likely to progress and produce blindness, and they should not be debarred from a reasonable use of their eyes.

A good deal has been written to show that age itself, while a very important factor in the development of cataract, is often, as Jackson has shown in his interesting statistics, only a predisposing cause. Indeed, one of Schoen's well-known conclusions is: Simple cataract is not a manifestation of age, but frequently begins in young persons; therefore the characterization *senile* is inappropriate. Cataract, as Fuchs well puts it, "occurs very frequently in old people, but not so regularly as to be regarded as a physiological attribute of age—as the turning gray of the hair is, for example—but as a pathological process." In other words, if we wish to prove that age is the only causative factor, all other etiological processes must be excluded; that is to say, diseased processes in the patient generally or in the eye locally.

Risley has thoroughly investigated this subject, and believes that the frequent coexistence of disturbance of the choroid coat and incipient cataract indicates that, while opacity of the lens—so-called *senile*—is a condition commonly seen in advanced life, it does not in all probability depend on senile changes, but is originated in local pathological states involving the nutrition of the eye itself. This, you observe, is going a step further, and practically excludes age as a causative factor, which it seems to me is a step too far to take, because undoubtedly a certain number of incipient lenticular opacities, particularly those just described, are not associated with any pathological condition in the eye itself ophthalmoscopically demonstrable, or with any general disorder of the patient's constitution, unless age itself, as has been maintained, is a disease. They are distinctly concomitants of age, and the eyes require no treatment other than suitable optical aid. To make to such patients a solemn-faced announcement that a disease exists which will soon lead to blindness is unnecessary, cruel, and, in fact, untruthful.

True, it is difficult, if not impossible, to foretell the rate of progress such lens-changes will pursue, but careful study will, I think, often separate them from the other classes, and a definite prediction may be deferred

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until examination reveals signs of increase, or visual acuity can no longer be maintained at a reasonable standard by suitable optical therapeutics.

Progressive Cortical, Nuclear and Mixed Opacities.—On the other hand, the large majority of cataracts, properly classified under this heading, are slowly progressive, the period of growth from incipency to full maturity varying considerably. Whether we should make a distinction between those forms of opacity which are degenerative in character, particularly the nuclear varieties, and those which partake more of the nature of an inflammation, as some of the cortical types do, a distinction which has been made by Brailey and others, is not now pertinent. What I hope to bring out in discussion is: What we shall do for the patient while the crystalline lens is passing through the stages of cataract-formation, and what measures we may employ to check the rapidity of the opacification, or to increase the patient's ocular comfort. I will hence pass at once to a consideration of:

Cases suited to Medicinal Therapeutics based on the Condition of the Choroid and the Nutritional Processes of the Eye.—At the very outset I wish to repeat distinctly what I have written and always taught, to wit: Drugs do not exist which can dissolve a growing cataract. On the other hand, I would not without qualification say, as W. L. Pyle⁴ has: "Drugs have proved absolutely valueless."

Risley has well shown that a great number of cataracts depend on alterations in the choroid coat; not alone on active choroiditis in the sense of exudations, hemorrhages, pigment heapings, etc., because I have excluded such conditions as these from this inquiry, but on changes that are best described under the vague term, "choroidal disturbances"—the nerve-head is congested, the surrounding choroid is flannel-red, woolly in appearance, and there are faint dark areas in the periphery of the eye-ground indicating the interspaces between the choroidal vessels, or the pigment epithelium has been absorbed and one sees the exposed choroidal circulation, a state of affairs when pronounced amounting practically to an epithelial choroiditis. This is a familiar picture in cases of eye-strain, and there can be no question that Galezowski, Schoen, Magnus, Risley, Jackson, and many others who have written on this subject, are entirely correct in supposing that the strain of uncorrected ametropia, particularly the neglect of proper presbyopic correction, is frequently responsible for the production of these lesions, which in their turn sufficiently disturb the nutritional processes of the eye to cause alterations in the lens-fibers, which lead to opacities.

When in the neighborhood of the 50th year, or a little later, streaks of opacity begin to appear in the lens of an eye with a choroid coat like the type described. I am convinced that properly applied therapeutic agents are of avail in checking the progress of the disease by favorably modifying the choroidal changes, although they have no influence on the opacities already formed in the lens. These agents may be classified, it seems to me, into optical therapeutics, local remedies and general medication.

The optical measures necessarily consist of glasses which absolutely correct all refractive error, both for near and far, and which should be changed as frequently as necessary to conform with the alterations in the refraction of the eye caused by the developing opacities in the lens. This of itself will reduce the hyperemia of the conjunctival and the choroidal coats, a reduction

which may be further enhanced by such local measures as the systematic application of hot water in the form of hot stupes at night or when the day's work is done—an old-fashioned but most efficient agent—and the instillation into the conjunctival sac of a weak solution of pilocarpin or eserin—gr. 1/40 to 1/20 to the ounce. Of the drugs which have given me the greatest satisfaction I may name the alternatives, particularly the iodids, especially the iodid of sodium; the bromids, most efficiently the bromid of sodium in conjunction with ergot; and some preparations of mercury, the best, it seems to me, being the biniodid. I am inclined to think that cannabis indica has a favorable influence, although I am not quite clear what its physiological action is. These remedies are of no avail unless the patients can be persuaded to take them for long periods at a time, preferably, I think, in small or broken doses. An illustrative case is the following:

A woman, aged 54 years, consulted me on June 13, 1887, for the relief of great asthenopia with well-marked striae in each lens, and fine clouding of the general lens-structure, a little more marked on the right than on the left side. The conjunctive were congested; the ciliary circle was hyperemic. There was general wooliness of the choroid coat, over-distention of the central lymph-sheaths, especially around the veins, which were unduly filled, and each disc was moderately hyperemic and the scleral rings marked. Refraction was:

O. D. +.50 C. axis 90, 5/5.

O. S. plano, 5/5. +2.25 added for near work.

January 15, 1899, or eighteen months later, the refraction was:

O. D. +.62 C. axis 105, 5/5.

O. S. +.50 C. axis 120, 5/5. +2.75 added for near work.

June 25, 1891, or thirteen months later, the refraction was:

O. D. +.75 C. axis 75, 6/6.

O. S. +.25 S. \bigcirc +.50 C. axis 105, 6/6. +2.75 \bigcirc 3 degree prism, base in, on each side added for near work. (The insufficiency of the internal recti at 30 cm. was 15 degrees.)

April 28, 1893, or two years later, the refraction was exactly the same and the vision unaltered; the presbyopic lens was slightly increased in strength.

May 15, 1898, or six years later, the refraction was:

O. D. +.50 S. \bigcirc +.75 C. axis 90, 6/9.

O. S. +.75 S. \bigcirc +.50 C. axis 105, 6/7.5.

During all this time—eleven years—only a very slight increase in the lenticular opacity had occurred. The patient was under the strictest supervision, her brother being a physician; her general health was kept in the best possible condition, and the various alterative tonics previously mentioned were administered almost continuously. She returned always when the asthenopia reappeared, and in the intervals between the changes of refraction was entirely comfortable. The appearance of the eye-ground gradually improved.

This is a type of incipient cataract very different from that described as non-progressive, in the beginning of the paper. It is the type to which Risley refers and represents a class of cases which, he demonstrated, can be, and ought to be, relieved by such lines of treatment. Naturally, we may not always or perhaps not often succeed. Doubtless we may be obliged to say, with Alt, that frequently the choroidal disturbance yields, but the formation of the cataract goes on undisturbed "in its slow and steady progress." Be it so; we have at least put the eye in the best condition possible to receive the highest benefits of future operative interference. I plead only that these patients shall have constant supervision and the benefits, whatever they may be, of the lines of treatment suggested. They must not, on the one hand, be deceived with exaggerated

promises of help, but, on the other, they ought not to be discouraged by indifference and the neglect of therapeutic trials.

Cases of Incipient Cataract Suited to Medicinal Therapeutics based on the Constitutional Condition of the Patient.—A good deal has been written on the relation of disease and of morbid conditions other than those located in the eye to the formation of cataract,⁵ but the conclusion reached by Becker that a connecting link between constitutional maladies and opacities of the crystalline lens has not been established remains in large measure true at the present time, although we know that cataracts of various types have been credited to typhus and typhoid fever, to the exanthemata, whooping-cough, malaria, influenza, gout, rachitis, syphilis, diabetes, nephritis, diseases of the heart and atheroma of the vessels, particularly the carotid. So, too, to various nervous diseases, especially epilepsy, and even to some diseases of the skin the formation of cataract has occasionally been attributed.

We may exclude at once as not likely to lead to profitable discussion all of the diseases mentioned, except diabetes, nephritis, lithemia in the widest acceptation of the term, and angiosclerosis.

While it may be true, as Mauthner once maintained, that there is reason to believe that the relationship between diabetes mellitus and the formation of cataract has been overstated, even he was unwilling to exclude this disease entirely as a causative factor, and there is no doubt that in a certain percentage of cases the excessive elimination of sugar and of water which occurs in diabetes mellitus leads to the formation of cataract. While the dietetic and medicinal treatment of the diabetes under these circumstances can not cause an absorption of the lenticular opacities, which, as we all know, are prone to rapid increase, I am inclined to think that in certain cases they may hold them in check for a time. A case in point is the following:

A woman, aged 50, who stated that she had always been slightly short-sighted, consulted me on June 15, 1895, the vision of the right eye without correction being 6/22 and of the left eye 6/60. Each lens contained large flocculent opacities, the central lenticular structure being filled with a fine haze; the maculas were normal and the general fundus was in fair condition. The urine contained 10 per cent. of sugar. After prolonged mydriasis, the following refractive result was reached:

O. D. —1.00 S. —.75 C. axis 135, 6/7.5.

O. S. —.75 S. —1.50 C. axis 15, 6/9.

The patient was referred to her family physician, who placed her upon a carefully arranged diet and prescribed various remedies which have a reputation for reducing the amount of sugar.

For seventeen months the vision and refraction remained practically stationary; then the lenticular opacity of the left eye began to increase, as did also the myopia, so that —1.50 S. —1.50 C. axis 15, was required to bring back the vision so nearly what it had been primarily, viz., 6/12.

In another year there had been no change in the vision of the right eye, but the myopia had increased 1 D. In the left eye, however, the lenticular opacity had markedly increased and the myopia had risen to 2.50 D.

Six months later, during part of which time the patient had gone to a sanitarium where cataracts are supposed to be cured by absorption, and had utterly neglected her treatment so far as the diabetes was concerned, the cataract of the left eye rapidly increased and was near maturity when she returned to decent medical supervision. On the right side, however, the vision still remained 6/12, but the myopia had again increased 1 diopter. After this the patient disappeared from view, but I know that subsequently the cataracts became complete and were extracted by surgeons abroad.

This case is interesting, as it shows that for two years nearly, by suitably changing the glasses and keeping the patient on the strictest kind of diet, there was no increase, or no material increase, in the cataractous processes. Whether the same slow rate of progress would have taken place without this general medication it is, of course, impossible to say, but it seems fair to attribute the apparent checking of the process for the time being to the measures which were employed, and it is further interesting to observe that a rapid increase in the opacity took place when for a time these measures were discontinued.

Naturally, the so-called nephritic cataracts, which it seems to me is a doubtful name, because although albumin is present in about 6 per cent. of cataract cases, the etiological relation of nephritis to the disease has certainly not been proved, would be treated, if they were not ready for operative interference, with such remedies and dietetic measures as would put the patient in the best possible condition, but certainly without the slightest hope that they would cause absorption of the cataract, or do more possibly than put off operative interference.

While it would be impossible to prove, and probably unwise to attempt to prove, that gout directly causes lenticular opacities in the sense that the opacities are gouty deposits or gouty manifestations, as these deposits and manifestations may occur in other tissues of the body, it is certainly safe to say that indirectly lithemia in the widest acceptation of the term may be a cause of lenticular opacities by affecting those portions of the eye particularly concerned in the nutrition of the crystalline lens. Naturally, it could do so by producing an iritis, cyclitis or choroiditis of active and evident manifestation, but it is possible, and I think probable, that it causes finer lesions in the uveal tract than are readily detected by the ophthalmoscope, lesions which we vaguely designate as disturbances of nutrition. Be that as it may, a careful examination of the urine and of the general constitution of many persons past middle life who come with beginning lenticular opacities will give evidence of the lithemic state, and therefore reveal an evident indication of therapeusis.

Many cases could be quoted in support of the value of treatment under these circumstances, one of the most striking being that of a woman who developed about her fiftieth year numerous gouty manifestations, such as occipital head-pain, slight alterations in the knuckles, burning and stinging of the soles of the feet, etc., and at the same time delicate streaks of opacity began to appear beneath the capsule of each lens. These opacities appeared to become stationary, or practically stationary, coincidentally with a marked improvement in the patient's general health brought about by the most scientific dietetic and medicinal treatment to alleviate the gouty manifestations, a treatment which was followed by encouraging success.

Michel once tried to establish an etiological relation between atheroma of the carotid and the formation of the so-called senile cataract. Later Becker disputed this association; at any rate, he proved that cataract was just as often unassociated as associated with alterations in the walls of the carotid. Doubtless this accurately sums up the connection of the two processes; but when that age is reached—which varies much in different subjects—when an intrusion of the lime salts may be expected, an age has also arrived when cataract formation commonly begins. Is it unreasonable to suppose that changes in the nutrient vessels of the

anterior uveal tract may also take place at this time and aid in the development of lenticular opacities? In the retina we can study ophthalmoscopically the early signs of atheroma all the more intelligently since the publication of Mr. Gunn's admirable paper; but in the uveal tract we can only surmise their presence unless, perchance, microscopic examination should become possible. Under such circumstances the patient's general condition improves with the regulation of habits of life, character of food, and the administration of such remedies as iodid of potassium, well diluted, iodid of sodium, nitroglycerin, and perhaps the chlorid of gold and sodium. I have never seen the smallest speck of opacity disappear by such treatment, but sometimes lenticular changes apparently on the increase seemed to receive a check in their rate of development. Why should it not be so? If the remedies and the diet improve the vascular conditions elsewhere in the body, is it not likely that they improve them also in the nutritive organs of the eye and therefore indirectly become of advantage to the lenticular well-being?

In this connection it is interesting to quote the theory of Magnus.⁶ The development of cataract depends on an unequal distribution of the nutritive fluid of the lens. The entrance and flow of this fluid is facilitated by the changing tension of the zonula during accommodative acts and the elasticity of the normal lens-fibers. If disturbances of the circulation (atheroma), reduction or increase of the normal play of accommodation (high myopia and hypermetropia), lessening of the elasticity of the lens-fibers (senile nuclear sclerosis), check the nutritive stream a lymph-stasis results. This shows itself either in the equatorial region and poles of the lens (which are the nutritive ports), or in the neighborhood of the sclerotic nucleus, and passes by chemical changes in the lens-fiber (un-resisting by reason of senility) to real lens-opacity.

If this hypothesis is correct, then certainly the methods thus far urged receive distinct support. True, it may be argued that the retardation of the cataractous process in diabetic, lithemic, or angiosclerotic individuals, which has apparently occurred when their constitutions were brought under the influence of such general measures as have been described, was a mere coincidence and that the lenticular changes were non-progressive from their incipency. The reply to this is that the character of the eye and of the lens-lesions in these cases is such as to indicate that the progression of opacification is to be expected, and that retardation apparently begins coincidentally with improved general conditions. What I wish to insist on is that we must first of all, as Fromaget recently said, be physicians and we should regard opacities of this character as indicating a sick eye containing a sick lens, just as much as a leaking valve in the heart indicates a sick central organ of circulation. It seems to me to be our duty, after we have fulfilled the optical therapeutic indications in the manner described, to insist that these patients shall have the treatment which is indicated by the general malady, which may or may not be the underlying cause of the lenticular changes.

Consideration of the Cases suited to Optical Therapeutics, with Special Reference to the Development of Astigmatism and Prodromal Myopia.—As has been more than once stated, the patient with incipient cataract should wear those glasses which give him the highest type of visual acuity and permit such use of the eyes which he may have with the least strain. Hence

optical therapeutics are applicable to all these cases, so long as the glasses afford any gain in visual power.

The development of prodromal myopia, or the "second-sight" of the laity, by which a patient previously emmetropic or hypermetropic owing to intumescence of the crystalline lens as the result of forming cataract, is able to lay aside his reading glasses and improve his distant vision with concave sphericals, is well known. I do not wish to detain the Section with a discussion of these cases, which recently have been reviewed and commented on by Dr. William F. Norris.⁷ I refer to the subject only because the development of the astigmatism in association with the myopia is occasionally very great, perhaps even greater than one would imagine, and a correcting lens produces the most surprising results. A striking example of what I mean is the following:

A woman, aged 64 years, who stated that cataract had begun to form ten years prior to her visit to me, on September 29, 1899, had a vision in the right eye of 3/60 and in the left eye of 3/100. Both lenses were evidently swollen, the striæ being most marked down and in, while up and out were clear areas. The pupils were small, the eye-ground was dimly seen and much distorted. Lenses did not improve the vision of the right eye, but with a -5 C. axis 90, the vision of the left eye rose to 6/25. She came to me believing that the cataracts were ready for extraction and went away almost as well satisfied as if I had performed the operation. She was seen nearly four months later with the same vision, which, so far as I am aware, has continued to the present time, now more than a year ago.

Naturally one hunts for astigmatism, particularly for changes to be made in the cylindrical glasses of patients with incipient cataract, but that such high grades are sometimes overlooked is evident from the case just detailed. This woman had often been examined by physicians and been told she had beginning cataract. For years she had lived in semi-blindness, a fate which might have been averted by a little more careful examination of refraction. This naturally leads me to

Consideration of the Cases suited to Mydriatic and Myotic Treatment.—Of course almost the first treatment that is tried in incipient cataract, particularly of the nuclear variety, when the pupil is small and glasses cease to raise the visual acuity, is mydriasis, and very frequently by permitting the patient to see through a peripheral portion of the crystalline lens there is marked improvement in vision. I would not even refer to so well known a subject were it not that we all of us now and then see cases for which mydriasis has been prescribed without a subsequent re-examination of the refraction. I can illustrate this with a case:

A woman, aged 60 years, consulted me not long ago with a nearly ripe white cataract on the right side and incipient cataract on the left, wearing a +3 S. over each eye. The opacity on the left side was encroaching on the pupil space, and with the pupil dilated her vision with the glass named was 6/22. After a number of trials, both with the retinoscope and by objective methods, +2 S. \ominus +1.50 C. axis 105 was selected, which gave a vision of 6/9. With +3 added the patient could read quite comfortably ordinary newspaper print. This glass, tinted No. 3 London smoke, combined with daily homatropin mydriasis, is giving the patient the greatest comfort while she is waiting for full maturity of the cataract on the opposite side.

It seems proper, however, when calling attention to this well-known topic, to state that it is my experience and doubtless the experience of many of those who hear me, that daily mydriasis is frequently followed by rapid increase in the lenticular opacity, acting

very much as a preliminary iridectomy does. Thus, occasionally, as in the case cited, the cataract on the side on which mydriasis has been maintained will mature more rapidly than the cataract on the opposite side, although this was originally far more advanced in its opacification. There are many illustrations of this. A good one is the following:

A woman, aged 65 years, consulted me on January 20, 1898. The vision of the right eye was 5/100; of the left, fingers at 50 cm. Each lens was filled with thick cortical striae, and on the left side, in addition, there was a dense central opacity, forbidding any view of the fundus. Mydriasis produced no effect on the vision of the left eye, nor was this benefited in any way by a glass. On the right side, with pupil dilated, —2 S. gave a vision of 6/25, and with +3.50 added, the patient could read coarse print. Very soon, however, the lenticular opacities of the right eye began to increase, and nineteen months later the cataract was fully ripe and extracted without accident and with normal healing, while that on the left side, originally more advanced than its fellow, has remained unchanged to the present time.

In a certain number of cases myosis is very efficient in sharpening visual acuity. Most frequently I have seen this either when the opacities have run across the pupil in parallel lines, leaving between them a clear space of lens-tissue, or when the lens has been fissured in several directions by striæ of refraction. The effect of the myosis under these circumstances, if there is a spot of central clear lens-tissue, is that of the ordinary pin-hole diaphragm, or of the iris diaphragm when its aperture is contracted. Sometimes I wonder whether we sufficiently often try the effect of maintaining a mild myosis, together, of course, with suitable correction. A good example is the following:

A patient in whose crystalline lenses, most marked on the left side, spicules were first discovered in 1892, was placed on the ordinary treatment described, together with proper glasses, which were changed at suitable intervals. There has been little or no change in the opacity in the equatorial region, but there has been some encroachment on the pupil space, so that the opacities cross in front of it, giving somewhat the impression of a lattice-work. The vision in the left eye dropped to 6/25, when the experiment was tried of keeping the pupil slightly contracted with a weak solution of eserine or pilocarpin. The vision, under these circumstances, rose to 6/12 and remains so unless the pupil is allowed to assume its natural form. In addition to this action, we obtain the beneficial effect of weak solutions of eserine on the congestion of the ciliary region before referred to.

Consideration of Cases Suited to Operative Interference—Optical Iridectomy and Operations for Ripening Cataract.—With a few words we may discuss these methods of treating incipient cataract. Naturally, when a practically stationary nuclear cataract directly occludes the pupillary space and mydriasis indicates that the vision can be raised to double or treble that which the patient possesses when the pupil is of its natural size, an optical iridectomy placed at the most advantageous position is a perfectly proper surgical procedure. One caution I would introduce, however, namely, that very frequently, not only in eyes with nuclear cataract, but in which, in addition to the nuclear haze, there are cortical striae and opacities, mydriasis in the office will materially improve the vision and one is tempted to make, as it were, a permanent mydriasis by means of an iridectomy. When, however, the patient is allowed, with dilated pupils, to pursue his ordinary occupation, and compare his condition with his ability to carry on this same occupation when the pupil is undilated, he will not describe any particular advantage gained during the mydriatic stage. Under

these circumstances optical iridectomy leaves the patient dissatisfied unless it is explained to him that he can not expect much gain in vision, but that it will render easier and safer the subsequent extraction of the lens. If, however, after trial of mydriasis, both in the office and outside of the office, the patient returns stating that the increased visual acuity is a comfort, optical iridectomy followed by proper correction is a very satisfactory procedure. It gives the patient a period of increased visual acuity; it renders the subsequent extraction of the lens easier, provided one does not care to wait for maturity; and it not infrequently hastens maturity without the disadvantage of actually triturating the lens.

I have elsewhere expressed my views in regard to the extraction of immature cataract and indirectly in regard to the ripening operations.⁸ "that I prefer always to wait for maturity, or for that time of life when the lens, even though immature in the ordinary sense of the term, will cleanly leave its capsule, but I prefer the extraction of immature cataracts to the performance of any operation for ripening."

Consideration of the Evidence on the Value of Electricity, Massage and Absorbents (so-called) Introduced into the Conjunctival Sac in the Treatment of Incipient Cataract.—Personally I have had no experience with electricity, but, so far as I am aware, there is absolutely no evidence that it ever has done one particle of good in the treatment of incipient cataract. I have seen a number of patients who have faithfully tried electrical treatment at the hands of reputable physicians with negative results, and I have also seen a number of patients who have purchased the so-called batteries sold by charlatans, which really contain in most instances as their active principle pieces of flannel soaked in oil of mustard, and naturally, I have never seen the slightest sign of improvement.

My personal experience with massage is too limited to make any opinion drawn from it of value, and the same may be said of the instillation of the so-called absorbents introduced into the conjunctival sac in association with massage. I have seen a number of patients who have gone to various institutions where these methods of treatment are pursued, both prior to their departure and after their return. I believe that with a single exception I am correct in stating that under these circumstances the massage and the instillations have invariably produced an increased opacity, in two instances bringing about rapid complete opacification, so that I extracted the cataracts shortly after the return of the patients from these sanitariums, without difficulty. This has led me to think that in some instances of slow-forming cataract perhaps a vigorous massage of the eyeball, particularly now that instruments are on the market by means of which the massage movements can be adapted with scientific accuracy to individual areas of the eye, might be of benefit in hastening the ripening process with less disadvantage to the patient than those ripening operations which depend for their success on the trituration of the lens-substance after evacuation of the contents of the anterior chamber.

The exception which I have noted was an old-standing traumatic cataract which certainly was absorbed, or partially absorbed, while the patient was undergoing massage treatment of the eyeball, a treatment which extended over many months and which was followed with great accuracy, so I am informed. The result was negative because of the extensive choroiditis behind the cataract. If the operator under these circumstances

had taken the trouble to investigate the light-field, he might have placed himself in possession of the data which would have assured him of the probable diseased condition of the eye-ground.

Perhaps we have permitted massage and treatment of this kind to fall too much into the hands of irregular practitioners and that it is worth while to investigate its advantages in a truly scientific spirit. We all remember that Kalish, in 1891, and again in 1899, published papers in which he advocated the treatment of uncomplicated immature cataract by a special form of manipulation and the instillation of a mixture of equal parts of glycerin and 1 per cent. solution of boric acid and rose-water. He claimed good results, but his method has not been followed, chiefly, it seems to me, because less troublesome methods are equally efficacious and because Dr. Kalish very properly gave the greatest attention to frequent correction of refractive error in his cataract patients and to keeping their general and ocular health at the highest pitch, in other words, pursuing methods such as have been advocated in this paper, and which of themselves are capable of exercising a retarding influence. Therefore, it is difficult to judge what value his method of manipulation and instillation in the conjunctival sac of itself may possess.

Now and then certain specific remedies have been advanced for the treatment of immature cataract. Perhaps the one which is best known, and to which the attention of the profession has been very much directed, is the fresh juice of the *cimeraria maritima*, a drug which, so far as we know, has in no way justified the claims that were made for it. Doubtless all have read Dr. J. Ellis Jennings' interesting research as to the value of this remedy.⁹ The extraordinary influence of the thyroid preparations, particularly in the form of thyroid extract, led me to try its effect in one or two cases of partially formed cataract. As far as I could see it did no harm; certainly it did no good.

CONCLUSIONS.

1. Certain lenticular opacities, most often situated in the naso-inferior quadrant of the lens, occasionally are practically stationary and may be designated "non-progressive." They do not handicap the patient's ocular abilities, and may with propriety be separated from the class to which the name incipient cataract is ordinarily given.

2. Certain lenticular opacities undoubtedly depend, as Risley and others have shown, on what may be designated "disturbances of the choroid" as apart from active and actual choroiditis; and their progress is sometimes apparently checked by measures—optical, local and general medicinal—which restore the choroid coat to normality. Such measures do not, however, remove from the lens the opacities which have already formed when the patient comes under treatment.

3. Certain lenticular opacities which appear in association with diabetes mellitus, nephritis, lithemia and arteriosclerosis, particularly the last two diseases, are sometimes apparently retarded, like those in No. 2, by measures which are suited to the patient's general condition in connection with local and optical therapeutics; but these measures never dissipate the lense-lesions already present.

4. Certain lenticular opacities produce not only prodromal myopia but very high degree of astigmatism, the correction of which may result temporarily in a surprising improvement in visual acuity.

5. Certain lenticular opacities cause an obscuration of vision that may be largely dissipated temporarily

by providing the patient with glasses moderately tinted which give the best visual acuity during mydriasis and maintaining this mydriasis with a mild mydriatic. Sometimes, under these circumstances, the mydriasis seems to hasten maturation; this fact should be explained to the patient.

6. Certain lenticular opacities, especially in the form of striæ of refraction, cause an obscuration of vision which is somewhat relieved by maintaining a mild myosis with weak solutions of one of the myotics.

7. If the vision of eyes suffering from incipient cataract of the nuclear type is improved by mydriasis, this is not a sufficient indication for optical iridectomy, unless the patient finds by observation that the increased visual acuity, as noted by test-type examination, is also advantageous in pursuing his ordinary occupation.

8. The extraction of unripe cataracts is preferable to any of the ordinary operations for ripening cataract.

9. There is no evidence that electricity has the slightest influence in checking the rate of progress of incipient cataract, or in dissipating the opacities which have formed.

10. If there is any evidence that massage of the eyeball favorably modifies the rate of development of cataract it is still very insufficient; there is some evidence to show that massage sometimes hastens the opacification of the lens. The subject demands further investigation.

11. There are no "specific remedies" for the treatment of cataract, and there is no reliable evidence that drugs exist which cause the absorption of partially or fully formed cataracts.

12. All lenticular opacities, unless perhaps those which belong to the so-called non-progressive group, should be regarded as indications for a thorough investigation of the patient from the general as well as the ocular standpoint, and for an employment of remedial agents—optical, local, medicinal—according to the findings.

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COMPLETE TRANSPOSITION OF VISCERA.

REPORT OF A CASE.*

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In my work at the anatomical laboratory of the Tulane Medical College a case of complete transposition of the viscera came under my observation. Owing to the facilities of the laboratory I was able to make a thorough dissection of the viscera of the large cavities of the trunk. The subject was a negro, about 25 years of age, and fairly well developed. It presented no external abnormal signs.

On opening the thorax I found both lungs consolidated and with such adhesions as to preclude any means

* Read before the Louisiana State Medical Society, April 20, 1900.

of distinguishing the right from the left. The heart occupied the middle mediastinal space and was placed obliquely in the chest; the apex was directed downward, forward and to the right, reaching the fifth intercostal space and three inches to the right of the median line; the base was limited above by the second costal cartilage, and the left border of the heart extended to the left border of the sternum. The inherent relationship of the heart itself was changed, so that the normally right ventricle was in front and to the left, and the normally left ventricle lay to the right and posterior; that is, it was simply reversed. The venous side of the heart was toward the left, the *venæ cavæ* being on the left side and entering the left auricle (normally the right). The arch of the aorta was directed upward and slightly to the left, then backward and outward to the right, making a short curve like a Gothic arch. The innominate artery arose from the commencement of the arch of the aorta in front of the right carotid, and ascending obliquely to the upper border of the left sterno-clavicular articulation, divided into the left common carotid and left subclavian arteries. The right carotid arose from the highest part of the arch of the aorta and ascended vertically to the root of the neck. The right subclavian artery passed nearly vertically from its origin at the arch of the aorta to the inner margin of the scalenus anticus muscle. The thoracic aorta was situated on the right side of the spine, approached the median line as it descended, and at its termination lay directly in front of the column. The esophagus lay on the left side of the aorta above, then at the lower part of the thorax passed in front of the aorta and at the diaphragm was situated to its left side. The right pulmonary artery, shorter than the left, ran in front of the descending aorta and right bronchus to the root of the right lung; the left pulmonary artery passed behind the ascending aorta and superior vena cava to the root of the left lung. The right innominate vein, about two inches in length, passed from right to left, crossing the three large branches of the arch of the aorta near their origin. The left innominate vein, much shorter than its fellow of the opposite side, passed almost vertically downward and joined with it close to the left border of the sternum, to form the superior vena cava. The relations of the superior vena cava were in front, with the pericardium and sternum; behind, with the root of the left lung; on the right side, with the commencement of the innominate artery and ascending part of the aorta, and on its left side with the phrenic nerve and left pleura. The right pulmonary veins passed in front of the thoracic aorta with the right pulmonary artery; the left pulmonary veins passed behind the left auricle and ascending aorta. The right pneumogastric nerve crossed over the arch of the aorta, its recurrent branch winding behind the arch; the left pneumogastric nerve passed in front of the left subclavian artery and sent its recurrent branch behind that vessel.

On opening the abdominal cavity, the stomach was situated, for the most part, in the right hypochondriac region, beneath the liver and diaphragm and above the transverse colon; its fundus, which projected upward and to the right of the esophageal opening, touched the diaphragm, while the pyloric extremity was directed downward and to the left.

The duodenum presented its normal horseshoe curve, the convexity being directed toward the left and the concavity to the right, embracing the head of the pancreas. The common bile duct and the pancreatic duct

entered the duodenum on the inner side of its descending portion. The other divisions of the small intestine presented nothing of interest. The cecum was found in the left iliac fossa, the vermiform appendix two and one-half inches in length, and in normal relation with it. The ascending colon passed upward to the left hypochondriac region; the transverse colon was found in its normal position; the descending colon passed down on the right and terminated in the sigmoid flexure, which was somewhat shorter than usual, and situated in the right iliac fossa. The rectum originated opposite the right sacro-iliac symphysis, passed obliquely downward from right to left to the middle of the sacrum. The liver extended to the lower border of the ribs and occupied the entire left hypochondrium; the left lobe was in the epigastrium, extending to the right hypochondrium. The round ligament was to the left of the median line. The gall-bladder bore its usual relation to the liver. The spleen was normal in size and appearance and in the right hypochondriac region. The pancreas extended horizontally from left to right, the head being embraced by the concavity of the duodenum and the tail extending to the right as far as the spleen. The left kidney was a bit lower than the right; otherwise the kidneys were normal. The ureters and bladder were normal in appearance and position. The abdominal aorta presented its usual branches, but on the left side it was in relation with the inferior vena cava, which in its course upward perforated the central tendon of the diaphragm to the left of the esophageal opening. The left spermatic vein, instead of emptying into the left renal vein, emptied directly into the inferior vena cava, whereas the right spermatic vein emptied into the right renal vein instead of into the *venæ cavæ*.

Anomalies of position in various organs of the human body are occasionally observed during life, but for the most part the preternatural situations of organs are discovered in the course of post-mortem examinations or in the dissecting-room.

Entire transposition of the visceral organs is extremely rare, but a sufficient number of cases have been reported to show that this condition is not at all inconsistent with good health and longevity. This case is reported for the purpose of showing the anatomical anomaly and of suggesting an explanation for the abnormal condition.

The organs are evolved and developed in the embryo, right or left, as are the hands and feet and other parts of the body which possess right and left symmetry. Hence all true cases of transposition are congenital, and not the result of morbid processes. Therefore, transposition of the viscera, or of the viscera, can not be acquired.

We must look to embryology for the only rational explanation which can be furnished of transposition of viscera. In reviewing the scant literature on the subject, I came across the following plausible explanation in the "Reference Hand-Book of Medical Science."

"It has been observed that in the early embryo the heart is situated precisely in the median line, and that it gives off two arches, which curve to either side and unite below in a single central trunk: these are the two aortæ, and the single trunk formed by their union becomes the abdominal aorta. As the septum between the two ventricles makes its appearance, that division of the right aortic arch which constitutes the vascular portion of one of the bronchial arches becomes obliterated, disappears, and loses its connection with the abdominal aorta; a branch, however, persists during

the whole of intrauterine life, and constitutes the ductus arteriosus, and another branch is permanent, forming the pulmonary artery. During the sixth week the heart is vertical and situated in the median line, with the aorta arising from the center of its base. At the end of the second month it is raised up by the development of the liver, and its apex presents forward. During the fourth month it is twisted slightly upon its axis, and the point presents to the left."

Von Baer suggested the theory that in a few instances the embryo lies with its left side directed toward the yolk, whereas the right side is normally in this position. He considers the condition in all probability the cause of the transposition.

Ingenious as this hypothesis is, it is, unfortunately, wanting in proof, and does not appear to explain the absolute reversal.

SUBTROCHANTERIC AMPUTATION FOR DIFFUSE SKIN CARCINOMA.

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The following case is of interest on account of the extent of the carcinomatous invasion and the clinical history, which gives another instance of the origin of carcinoma from post-natal embryonic tissue. The clinical examination revealed much evidence in favor of blastomycetes, and it was only after a most painstaking pathologic study by Professor Hektoen that a positive diagnosis of carcinoma was made.

Mr. W. P. R., age 23, American, had good health until 9 years of age, when he became the victim of a severe accident. While hanging on a train, he was struck on the inner side of the thigh by the sharp point of a diamond-shaped switch that caused a gaping wound of the thigh, extending below the knee. There was considerable hemorrhage at the time and the wound is said to have been closed by sixty-three stitches. After the injury there was a denuded surface on the inner aspect of the knee about the size of the palm of a hand. This was covered with skin-grafts taken from the father, mother and two sisters. The three latter are alive and in good health at the present time; the father died of pneumonia seven years ago. The whole surface healed well, except an area about the size of a dime, located just above the patella and which never healed. This ulcer was only skin deep. One year ago, there appeared six inches above this erosion, a black area in the old scar, which was exquisitely tender. The epidermis exfoliated, the base being of a deep-red color, and formed an ulcer; this rapidly extended, first along the scar tissue in a peripheral direction and later invaded surrounding healthy structures, involving almost the entire circumference of the thigh. There was a chain of enlarged glands in the groin.

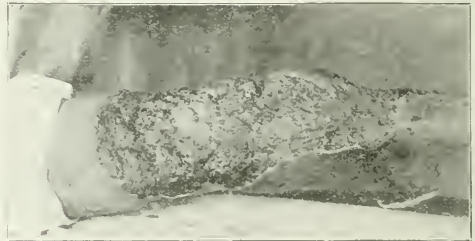
The patient was in a very emaciated condition, having lost twenty-five pounds in weight during the five months previous to the operation.

Patient entered St. Joseph's Hospital Dec. 14, 1899, but on account of his weakened condition and feeble pulse, operation was not deemed advisable at this time. He was given a thorough course of supportive treatment, consisting of daily enemata of salt solution, forced feeding, alcohol, and large doses of strychnin, which

practice I always follow, if possible, as a preliminary to major operations. He gradually grew in strength, and subtrochanteric amputation was performed on Dec. 22, 1899. Immediately before the operation, the patient was given an ounce of whisky, per rectum, and 1/32 gr. of strychnin. The anesthetic was ether, by the open method. The usual orthodox amputation was performed, long anterior and short posterior flap. Hemorrhage was controlled by an Esmarch constrictor around the uppermost portion of the thigh, which was prevented from slipping by two mattress needles passed through the fleshy portion of the thigh. The operation was rapidly performed with virtually no loss of blood; nor was there any shock following, which I attribute to the rigid preliminary treatment. On account of the patient's weakened condition I deferred enucleation of the enlarged glands in the groin. The wound healed by primary intention and the patient left the hospital in the course of two weeks. He refused a second operation for removal of the lymphatic glands.

The following is the report of Professor Hektoen from the pathological laboratory of Rush Medical College:

Macroscopic Examination.—The specimen includes the left foot, leg and the greater portion of the thigh, the latter having been amputated at a little above the junction of the upper and middle thirds of the femur. The distance from the upper end



of the femur to the inner malleolus is 70 cm.; from the upper end of the femur to the lower border of the patella the distance is 27 cm. The knee is firmly ankylosed at nearly a straight angle. The tibia is longer than usual, measuring 43 cm. from the lower edge of the patella to the inner malleolus. There is also some anterior curvature in the tibia, the point of greatest convexity corresponding in front to the junction of the upper and the middle thirds.

The foot is slightly deformed, there being present some degree of talipes equino-varus. On the outer aspect of the foot, just in front of the outer malleolus, there is seen a small smooth scar about as large as a nickel and slightly depressed but unpigmented.

On the leg proper, several scars are present. These vary in size from that of a dime to that of the largest one situated on the upper half of the tibia, which extends, anteriorly and laterally, over an irregularly quadrilateral area measuring 12 by 15 centimeters. The outline of this cicatrix is irregular, and in many places the edges are decidedly pigmented.

This scar is directly continuous above the ulcer that involves the upper 2.5 cm. of the anterior surface of the tibia, the knee and the entire lower two-thirds of the thigh, being rather more pronounced on the upper and inner aspect of the thigh, where it extends down to and into the bone. The ulcer has affected the entire front of the thigh and extends laterally for a variable distance; at one point, namely, at the lower third of the thigh, it nearly encircles the limb, leaving about 8 cm. of skin surface, which although the site of an extensive scar is not now involved in the ulceration. The ulcerating surface is 30 cm. in length and measures variously from 10 to 22 cm.

width. It is thus irregularly oval in shape, the widest portion being just above the center. The borders of the ulceration are for the most part irregular and the edges in many cases are distinctly undermined.

On the lowermost portion of the thigh, the patellar region and the uppermost portion of the tibia, the ulcerating process destroyed the integument only, leaving on the floor of the ulcer the fascia and subcutaneous tissues generally; while on the upper and inner side of the thigh the subcutaneous structures have also disappeared; at one point a narrow ridge of subcutaneous tissue extends entirely across the deeper portion of the ulcer to be connected with the corresponding tissue above. This projecting line of tissue, however, is distinctly undermined and is easily separated from the deeper structures. The edges of the ulcer are indurated and thickened, while the floor is distinctly nodular. These nodules, for the most part, are small and single, generally not exceeding a large hazel-nut in size; they are fissured somewhat irregularly by sulci, which tend for a variable distance, in the median line, even down to the bone. The entire surface might well be described as resembling a cauliflower mass. The surface of the ulceration is studded in a small amount of whitish-yellow semi-fluid pus, of a slightly offensive odor; not infrequently small collections of pus or miliary abscesses are encountered; and pressure causes small drops of pus to exude from the sides of incisions.

Bacteriologic Examination.—In the cover-slip preparations of a few round, homogeneous, non-nucleated, bodies about six to twelve mikrons in diameter were seen, both when stained and unstained. Apparently budding forms were also met. These were probably degenerated epithelial cells. Numerous and extensive culture experiments failed to reveal any colonies of blastomyces. The pus contained innumerable bacteria of many kinds and there were isolated and identified, bacillus pyomyositis, bacillus subtilis, bacillus coli communis, micrococcus fragilis, staphylococcus pyogenes aureus, staphylococcus pyogenes albus, streptococcus pyogenes, and irregularly stained micrococci not stained by Gram's method.

Microscopic Examination.—Numerous sections from all parts of the ulceration and stained by various methods were examined. All present essentially the same structure. The striking feature is a rather coarse but intricate network of narrow and wider ribbons composed of cells mostly of the type of the prickly cells of the rete. Wherever the surface is covered by epithelium, narrow down-growths of this kind are seen. At frequent intervals the bands of epithelial cells present rather small bulbous and spindle-shaped enlargements and connective layers of flattened and horny cells, which stain by Gram's method. Small whorls are also found in the anastomosing cellular bands; isolated whorls, some quite large, are also present. Many of the epithelial cells are vacuolated—dropical degeneration—and many curious cell-forms are seen; in some places the nucleus refuses to stain or is very small, the protoplasm staining deeply with eosin and with methan-violet; these degenerative changes in varying degrees are scattered quite diffusely throughout the sections. The stroma is often of a rather marked fibrous character; here and there are accumulations of cells mostly of the polymorphonuclear and lymphocytic type; occasionally small abscesses are seen in the stroma, often opening on the surface of the sections. Here are found various kinds of bacteria, but no yeast-like bodies. The vessels generally have thick walls and in some are leucocytic thrombi, in other places newly-formed vessels are present. The carcinomatous tissue extends deeply into the tissues of the thigh, especially in the central parts of the ulceration, replacing the muscles, the nerves being the seat of a marked interstitial process.

I have lately examined the patient and found him in excellent health, having gained over thirty pounds in weight, and there is no sign of recurrence of the disease. The lymphatic glands in the groin were much reduced in size, showing that in all probability their enlargement was due to secondary pus infection from the eroded surface rather than carcinomatous invasion.

COLOSTOMY FOR THE CURE OF AMEBIC DYSENTERY.*

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Although medical treatment of dysentery yields good results in many cases, a large number of dysenteric patients succumb in spite of careful and painstaking treatment. The unqualified success which has attended the use of colostomy in the treatment of the case which I present leads me to believe that many patients die because the application of remedies to the diseased portion of the bowel is impracticable by ordinary methods.

The pathological description, as given by Osler,¹ assists us in comprehending the difficulty which is experienced in treating some cases of dysentery. It can readily be conceived that if the ulcerated portion of the colon is situated at a distance from the rectum, i. e., if it occupies the ascending colon or the cecum, any fluid injected will have difficulty in reaching the diseased area and, if it should reach it, it will not remain long enough in contact with the affected surface to accomplish its remedial action. Furthermore, the character of the ulceration, with its sinuous tracts and undermined edges, is a feature which, in itself, renders the application of solutions difficult and impossible, at times, when indirect methods are used.

The treatment of dysentery, according to our best text-books, is restricted to dietetic measures, to remedies given by the mouth, and to remedies applied to the large intestine by means of injections into the rectum.

Rectal injections have often been attended with success, but many patients do not respond to any method of treatment, grow progressively worse and finally die.

The case which I present serves as a good example of the resistance of the disease to nearly all measures used in the treatment of dysentery, as the patient was sick a year and a quarter before I saw him and during that time had submitted to the most careful treatment by capable surgeons both in the Philippines and in San Francisco.

F. C., aged 35, enlisted in the First California Volunteers, May 4, 1898, and sailed on the transport *Pekin* for Manila, May 25. He was well until about December, 1898, when he had a slight diarrhea, which was not sufficiently severe to prevent his remaining on duty. In February, 1899, while on the firing line, he became quite sick and was given bismuth by the surgeon. On February 27 he entered the Ermita Hospital—the field hospital—and while staying there was on a dietetic and medicinal treatment. Among the remedies used were nitrate of silver injections and quinin injections. He remained either at the Ermita, or at the general hospital until May, 1899, when he was transferred to Negros Island and entered the hospital at Bocolod. He remained there until July 3, and then was consigned to the transport *Sherman* and sent home. While on the *Sherman* he passed much blood and mucus and some large membranous shreds.

On Aug. 24, 1899, he entered the hospital at the Presidio, San Francisco, and there received treatment until Oct. 11, 1899, but did not improve. From Oct. 11, 1899, till April 4, 1900, he was confined to his home in this city without methodical treatment. He could get about the streets a little, but was very weak, was having from eight to twenty passages a day, and was never sure at any moment that he would not have an evacuation. He was also suffering extreme pain in the abdomen.

On April 4, 1900, I saw him at his home and found him in a deplorable condition. He was extremely

* Read before the San Francisco Medico-Chirurgical Society.
1. Text-book on Practice of Medicine, pp. 132-133.

emaciated; he was suffering and his voice was weak. At times he endeavored to concentrate his mind on a game of cards or similar amusement, but found it impossible to do so. He lay around the house all day, not venturing to go out, and took milk and occasionally eggs as diet. If he took meat it caused great irritation and numerous watery evacuations.

I had another case of dysentery, also contracted in the Philippines, which had recovered under the use of large injections of sulphocarbolate of zinc—15 grains to the pint—and I thought it would be an easy matter to accomplish the same result in this case. But although I used these injections faithfully every day and took the greatest care with the diet, the patient became progressively worse. His stools, consisting of water, mucus and blood, numbered from ten to twenty a day. He became very weak, his voice became low and whisping and he could scarcely rise in bed.

The antiseptic solution was evidently not reaching the ulcerated patches in the upper part of the intestine, for while the local tenderness had disappeared over an area represented by the descending and the neighboring part of the transverse colon, the right portion of the transverse and the ascending colon became more tender, until the most exquisite pain and tenderness existed in this region. It was evident that while the solution was relieving the pain and inflammation as far as it penetrated, it was only aggravating the more remote region of the cecum and the ascending colon by exciting severe peristalsis.

At this juncture Dr. J. Henry Barbat suggested the feasibility of performing a right inguinal colostomy and flushing the bowel through the opening thus made. By this he expected to accomplish two things: 1. give rest to the inflamed bowel by preventing the feces from passing over it; 2. allow a large flushing irrigation of a portion of the bowel which was probably not reached by injections into the rectum.

The patient was removed to the hospital April 21, 1900, and was operated on by Dr. Barbat April 25, the bowel being brought up and attached to the abdominal wall. On April 30 the bowel was incised and a stream of pyrozone solution—half a pint to the gallon of sterile water—was passed through the large intestine and as the peristalsis operated it passed out by both outlets, the anus and the artificial anus, thus thoroughly flushing the whole of the large intestine. This treatment was continued daily.

Before the operation the patient had a temperature varying from 99 to 101 F., but on May 2, two days after the operation, it was normal. The pain, which had been excruciating and agonizing, ceased immediately after the first few days and he began to eat well of a soft diet, including fish. He gained flesh rapidly. He was kept under this treatment from April 30 until Aug. 30, 1900—four months—when the opening was closed and the bowel dropped back into the abdominal cavity. While the patient was in the hospital careful examination of the feces was made, and the ameba coli, which were found in large numbers before the operation, disappeared a few days after the operation and could not be demonstrated after. He now weighs 151 pounds, has but one or two evacuations a day, and feels well and free from pain.

This case I believe demonstrates the utility of this measure in the treatment of dysentery. The method certainly possesses two cardinal points of value: 1. it affords rest to an inflamed surface; 2. it permits direct applications of remedial solutions to a portion of the

bowel which is practically beyond the reach of injections into the rectum.

REMARKS BY DR. BARBAT.

The abdomen was opened for a distance of two inches at the external border of the right rectus muscle, and the intestines were examined as far as the fingers could reach. The small intestine appeared normal, but the cecum and ascending colon were very much thickened and of a dull gray color, the normal luster of the peritoneum being diminished. Rolling the cecum between the fingers showed that the bowel was not uniformly thickened, some spots feeling thinner than normal, but the greater portion felt about one-quarter of an inch thick and of a brittle consistency, showing all the coats to be very much infiltrated. The appendix was swollen, but not congested; it was cut off close to the cecum and the opening closed with two rows of catgut.

The colon was sutured to the peritoneum with interrupted black silk sutures, and sterile dressings applied. The gut was opened on the fourth day without anesthesia and the intestine flushed with antiseptic solutions.

The opening did not close spontaneously, and necessitated an operation, which was done four months from the first one.

The bowel was separated from the abdominal wall down to the peritoneum, which was easily found on account of the black silk sutures, which were all removed. When the abdominal cavity was opened, the fistulous tract was cut off flush with the bowel and the opening closed with fine catgut. The colon was very much thinner than at the first operation, and the bowel had a more normal appearance. The abdominal wound was closed in the usual manner and the wound healed per primam.

LUPUS HEALED WITH ROENTGEN RAYS.

REPORT OF CASE.

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CHICAGO.

The patient, a married woman aged 38, was referred to me May 8, 1900, by Dr. H. B. Favill, with a diagnosis of lupus and for treatment with Roentgen rays. The condition at that time is shown in the accompanying photograph, Fig. 1, which I took when I first saw her. The extent of the disease on the left side of the face and the neck is indicated in the photograph. It also extended over on the right side of the chin and up on the right cheek beyond the angle of the mouth. This entire area was covered with lupus ulcers and unhealthy scars. The ulcers were the typical flabby, soft, indolent ulcers of lupus covered with reddish-brown crusts. The scars were thick, red, band-like and very disfiguring. The scars were most marked under the chin and they were sufficiently rigid to materially interfere with motion. At many points in the scars there were recurrent ulcers. Typical "apple-jelly" tubercles of lupus were easily demonstrable in any part of the diseased area. The point of greatest activity of the lupus was an area with a diameter of perhaps two inches around the left angle of the mouth. The ulcers involved the mucous membrane of the lips at this point, but no lesions were found within the buccal cavity. There was no evidence of tubercular involvement of the deeper structures. There were no deep sinuses and no tubercular glands. The case was, in short, a lupus and not a scrofuloderma.

The disease began, the patient thinks, about four

years ago in an innocent-looking ulcer the size of a pea on the neck, and gradually spread from that point. The disease, however, was so benign in appearance that little attention was given it and no physician saw it. It is probable that it had existed some time before it attracted notice. The case had had no treatment before I saw it except the application of salves, which had had no influence on its course. It had steadily progressed from bad to worse, ulcers healing at times or new ones appearing, but more tissue constantly becoming affected.

At the time the patient appeared for treatment her general condition was considerably run down, but without evidence of other disease than the lupus. There was no indication of tubercular involvement of the lungs. She had had the usual diseases of childhood, but has had no serious illness except an attack of appendicitis about five years ago. She has never, within her

a piece of tissue taken from the border of an active ulcer. These sections show the structure of tuberculous tissue. Tubercle bacilli were found in this tissue by me, and independently in other sections by Dr. Roehr, of the Columbus Laboratory. I was fortunate in having the case seen by Dr. H. G. Anthony, professor of dermatology in the Chicago Polyclinic, when it first came to me; he agreed in the diagnosis of lupus.

The treatment which the patient has had in my hands has consisted of exposures to X-rays after the method of Schiff and Freund, of Vienna. While the lesions were freely ulcerating, the surface was covered with boric-acid vaselin, and in the morning before the treat-



memory, had an eruption except the lupus. As a young baby she is said to have had an eruption of short duration after vaccination, which was probably an impetigo. Her father died at 69, of bladder trouble. Her mother is living, aged 60, but has been blind for thirty years and has always been "scrofulous." She has a brother aged 26 and a sister aged 32, both in good health. A brother aged 23 has a chronic cough. Several brothers and sisters died in childhood.

As to the diagnosis, the presence of the pathognomonic tubercles, the indolent ulcers with soft, reddish borders, the thick band-like scars showing recurrent tubercles and ulcers, the slow course and painless character of the disease are all characteristic of lupus and serve to differentiate it from syphilis or carcinoma. That the disease is not blastomycetic dermatitis, which sometimes so closely resembles lupus clinically, is shown by the absence of blastomycetes. I have sections made from

ment by X-rays the ulcers were lightly cleaned with cotton sponges wrung out of a weak bichlorid solution. The ulcers, however, were never washed with bichlorid solution, and the case has had no other local treatment. The patient has had no internal treatment of any kind until within the last month, and then only a pill of reduced iron, arsenious acid and strychnin, t. i. d.

Treatment was begun by exposure to X-rays on May 8, and was continued daily, except Sundays, until May 26. By May 24 many of the lesions were cleaning up and beginning to heal. May 26 the exposed surfaces showed some reaction from the effects of the rays; the lupus tubercles were brighter in appearance and the borders of the ulcers redder. Treatment was discontinued until June 4, by which time the reaction had almost disappeared. The treatment was continued from June 4 until June 21, daily, as before, when considerable dermatitis developed. This dermatitis was confined

to the diseased tissue and did not involve the surrounding healthy skin which had been exposed to the rays. At this time the ulcers were healing rapidly. The treatment was discontinued until July 2, when reaction had entirely disappeared and almost all of the ulcers were healed. From July 2 till August 10 the treatments were continued, not daily, but with a few intermissions of three or four days as the condition of the face indicated. During this time there was gradual improvement in the condition, the remaining ulcers healing, tubercles being absorbed, and the entire surface becoming covered with healthy sears.

By the latter part of July the left side of the face showed few traces of the disease. The diseased area on the right side, however, which from the manner of making the exposures had received less of the effects of the rays than the left, still showed lupus nodules and open ulcers. Accordingly, additional exposures were begun directly over this area on July 30 and continued daily in a maximum amount until August 10. Under these extra exposures the lesions immediately began to improve and by August 10 had entirely healed. This observation, which is but confirmatory of similar observations made by Schiff and by Jones, leaves little room for doubt as to the positive effect of the rays.

On August 10 treatment was discontinued, because of my going away. At that time the only evidence of lupus that I could find was at the angle of the mouth, where there was still a focus of disease. On September 13 the patient returned: there was then no evidence of disease at any point except at the angle of the mouth, where the tubercles persisted. Treatment was resumed with exposures over the left angle of the mouth. September 20 the tubercles on the upper lip were breaking down and an elliptical ulcer the size of a little-finger nail had developed, which within the next few days began to heal. On October 2 some erythema over the exposed area had developed and treatment was given up until October 8. By October 8 the last lesion had disappeared. From October 8 to date the patient has had daily exposures on the left side of the chin and on the neck under the chin. These exposures have been continued for two reasons: 1, the old keloid-like sears had shown under the exposures great improvement in flexibility, softness and color, and it was desired to carry this effect as far as possible; 2, to destroy any concealed lesions still present. Since October 8-I have not been able to find any evidence of disease.

The technique of the treatment which I have used is that of Schiff and Freund. It consists of repeated exposures to a weak light of definite strength. The light is produced by a secondary current generated in an induction coil of 30 cm. spark-length, which in turn is energized by a very weak primary current. The primary current which I have used is that recommended by Freund, namely, a current of 12 volts and 1½ amperes interrupted from 800 to 1000 times per minute. The exposures are continued from five to fifteen minutes, and the distance of the tube from the surface varied from 15 to 5 cm. Adjacent surfaces are protected by lead masks. The object to be obtained by the exposures is, of course, to get the required effects of the rays without overstepping the bounds of safety.

The case is presented as one healed by exposures to Roentgen rays. The results of the treatment are indicated in photograph, Fig. 2, taken November 10. It is at once admitted that whether it is a complete cure or not can only be determined by the lapse of time. There remain now, excepting the sears, no evidences of the

disease; and even should more or less recurrence of the lupus take place, I believe the results may still be called extraordinary. Attention is called to the character of the scars. The only thick ones left are those which were in existence before the treatment began, and they have become less prominent, much softer and more pliable. The scars which have taken the place of the ulcers present when treatment began are soft, thin, flexible and white, and are as healthy-looking as they could possibly be. At the beginning the sears on the neck interfered very considerably with motion; now they interfere scarcely at all.

Certainly none of the usual methods of treatment by surgical means could produce such a result. The only other method of treatment which is comparable, as regards the cosmetic results, is Finsen's treatment by ultra-violet light, and his results are probably the same as those attained by Roentgen rays. In celerity of treatment Finsen's method does not compare with that by X-rays. Finsen's patients have about an hour's exposure daily for each 1.5 centimeter square of disease, and accordingly a cure is a matter of one or two years. In order to fortify the effects of the light, moreover, Finsen resorts to pyrogallic acid, curetting and other local adjuvants to treatment. The effects of the X-rays is sufficient without these aids.

This method of treating lupus has been in use in some German and Austrian clinics for three years. Most of the work has been done by Schiff and Freund, of Vienna, and by Kummell, of Hamburg. Single, or a few, cases of lupus cured by this method have been reported by various men in Europe. My case is, as far as I know, the third reported in the United States. P. M. Jones,¹ of San Francisco, reported a lupus cured by Roentgen rays, and another showing improvement under treatment. The second case was reported in THE JOURNAL, November 10, by Dr. J. T. Knox, of Cincinnati.

103 State Street.

TUBERCULOSIS OF THE TESTICLE.

WITH SPECIAL CONSIDERATION OF ITS CONSERVATIVE TREATMENT.

JOHN B. MURPHY, M.D.
CHICAGO.

(Concluded from p. 1411.)

CASE 6.—Mr. G. L., aged 37 years; occupation, carpenter. Admitted to Alexian Brothers' Hospital Sept. 21, 1897.

Present Illness: About one year ago patient began to cough and lose flesh. Since then he has coughed continuously, expectoration being at times quite profuse, and occasionally bloody. Loss of flesh has been marked. For some time past he has had afternoon fever, night sweats, loss of appetite and diarrhea. Three years ago he developed an empyema, which was opened and drained by Dr. Murphy. The empyema sinus is still discharging pus. Four months ago patient noticed a small nodule in the right testicle at its posterior and lower portion. This has gradually increased in size, but has caused no pain or other symptoms referable to it. Complaints of increased frequency of urination.

Previous History: No points of interest except those given above.

Examination of patient shows physical signs of the conditions recorded in the history. The nodule in the globus minor is about the size of a hickory-nut. The testicle proper is apparently not involved.

Operation Sept. 23, 1897. Operator, Dr. J. B. Murphy, assisted by Dr. Moran. Incision through the serotal coverings down to the epididymis. Epididymis picked up with forceps

and dissected from testicle proper, beginning below and passing upward, the spermatic vessels being left intact. Cord ligated high up and its lumen cauterized with 95 per cent. carbolic acid. External wound closed after first replacing testicle in serotum. Small gauze drain left in lower angle of wound for twenty-four hours. Convalescence after operation was uneventful, and patient was discharged from the hospital cured, so far as his testicular trouble was concerned, Nov. 15, 1897.

This patient later developed a tuberculosis of the spine, and died from a general miliary infection some months after the operation. No recurrence of symptoms referable to the genito-urinary organs.

CASE 7.—Mr. W. C.; nativity, Ireland. Age, 38 years; married; occupation, laborer. Admitted to Cook County Hospital Oct. 6, 1897.

Present Illness: About seven months ago patient first noticed swelling in the left side of the serotum, which swelling had appeared quite suddenly and attained a somewhat larger size than at present in the course of a few days. Its appearance was accompanied by sharp, shooting pains. The swelling remained stationary for five or six weeks, when it partially subsided. The pains decreased with the reduction in size of the testicle. About five weeks before admission to hospital a similar swelling developed in the right side of the serotum, this running a course resembling the above. He now complains of some pain in the right testicle.

Previous History: Denies syphilis and gonorrhoea. Has two children, oldest 15 and youngest 2 years of age. Family history entirely negative as regards tuberculosis.

Examination: General nourishment good. Serotum presents on the right side an ovoid mass, about 3 by 6 cm. in size, situated posterior to the body of the testicle, which is apparently uninvolved. This ovoid mass is composed of several hard nodules. The spermatic cord is negative. On the left side the epididymis answers to the same description as on the right, but here the tunica vaginalis is distended with fluid. Rectal examination shows the prostate and vesiculae seminales to be normal. Left spermatic cord normal.

Operation Oct. 29, 1897. Operator, Dr. J. B. Murphy, assisted by Drs. Simpson and Morf. Incision into serotal sac on each side down to the tunica vaginalis. Hydrocele on right side evacuated. Epididymis on both sides now removed by dissecting each from its testicle proper, carefully avoiding the spermatic arteries and veins. Testes replaced in serotum, hemorrhage controlled and external wound closed with silk-worm gut sutures; gauze drainage in each lower angle. Patient was discharged cured Nov. 12, 1897.

Unfortunately we have been unable to locate the patient since his discharge from the hospital, so can not report as to final outcome of the operation.

CASE 8.—Mr. W. L. M., aged 35 years; occupation, clerk. Admitted to Mercy Hospital, July 18, 1898.

Present illness began about one month ago with sudden painful swelling of the right testicle, the pain being quite severe and aggravated by patient being on his feet. He has had almost constant headache since the onset. Appetite is good; has no night sweats or fever. Since onset of trouble he has lost considerably in weight; bowels are constipated. Patient complains of frequent urination, it being necessary for him to get up several times every night to void urine.

Previous History: At the age of 13 years he had enlarged cervical glands, which disappeared under treatment. He has also had "scarlet fever" and "cystitis." No specific history.

Family History: One aunt died of military tuberculosis.

Examination of patient negative, except as regards sexual glands. On posterior surface of the right testicle there is a hard nodular mass, slightly tender to pressure. The testicle proper is apparently normal. A small amount of fluid is present in the cavity of the tunica vaginalis; cord not involved.

Uranalysis on Admission: Quantity in twenty-four hours, 1200 c.c.; specific gravity, 1.011; reaction, acid; color, yellow, cloudy. No albumin, no sugar. Microscopic examination, small amount of pus, no casts.

Operation, June 20, 1898. Operator, Dr. J. B. Murphy, assisted by Drs. Bick and Daly. Incision on right side of scrotum down to epididymis and into sac of tunica vaginalis. This incision was extended upward to the external inguinal ring. The nodular epididymis was dissected from the testicle proper, beginning below and passing upward, leaving the testicle and spermatic vessels intact. The vas was ligated and amputated high up, and the lumen of the stump cauterized with a red-hot needle. A few catgut sutures were introduced into the tunica albuginea to check oozing, and the testicle proper then replaced in the serotum. The fascia was sutured over the cord with buried catgut and the skin wound closed by means of a subcutaneous suture of fine catgut. Colloidin dressing.

The patient made a perfect recovery and was discharged cured Aug. 6, 1898. Urinalysis on the day of discharge from hospital showed the following: Slightly cloudy; reaction, acid; specific gravity, 1.012; no albumin; no sugar. Microscopic examination, very small amount of pus.

(For ultimate result see under Case No. 9.)

CASE 9.—Mr. W. L. M., aged 35 years. (See Case No. 8.) Admitted to Mercy Hospital Sept. 30, 1898.

Present Illness: Last July, about two months ago, patient underwent an operation for the removal of the right epididymis. Shortly after operation left testicle became swollen, slightly tender and painful, and this condition has persisted, gradually becoming more severe, until the present time. He still complains of frequent urination.

Examination shows nodular swelling of the left epididymis, adherent to the surrounding structures, very hard and slightly tender to compression. There is no sign of recurrence of trouble on the right side. Chest and abdomen negative.

Uranalysis, Oct. 1, 1898, yellow, slightly cloudy, reaction acid, specific gravity 1.015, no albumin, no sugar. Microscopic examination, small quantity of pus; no casts.

Operation Oct. 1, 1898. Operator, Dr. J. B. Murphy, assisted by Drs. Rogers, Baucus and Daly. Incision one and a half inches long parallel to raphe, near the bottom of the serotum; small amount of fluid escaped. Testicle drawn out and epididymis dissected off, leaving the vessels passing to the testicle proper intact; vas ligated, amputated and lumen cauterized. Testicle returned to serotum and skin wound closed by means of a buried suture of silk-worm gut. Small iodoform gauze drain left in lower angle of wound. Uneventful convalescence after operation. Patient discharged as cured Oct. 15, 1898.

Uranalysis, Oct. 3, 1898, quantity in twenty-four hours, 1250 c.c., pale yellow, slightly turbid, reaction neutral; specific gravity, 1.012; no albumin, no sugar.

Microscopic examination: Numbers of epithelial cells and a very few pus cells.

Examination of patient Nov. 9, 1899. General health excellent. No recurrence of tubercular trouble in either testicle, both being apparently normal. No atrophy has taken place. Patient now has no vesical irritation.

Examination March 25, 1900. Patient feels perfectly well; has gained fifteen pounds since last operation, now weighing 145. The sexual desire is the same as before the onset of the disease, and the sensation attending intercourse is unchanged. The seminal emission is less than normal, and patient now has no nocturnal emissions. The vesical irritation has entirely disappeared.

CASE 10.—Mr. S. R. A., aged 47 years; married. Admitted to Mercy Hospital Sept. 30, 1898.

Present Illness: Several months ago patient first noticed a small nodule, slightly painful and tender to pressure, on palmar aspect of right index finger. This steadily enlarged and some swelling developed along the entire length of the finger, extending into the palm. Several weeks after swelling was first noticed patient received a slight traumatism to the left testicle. Almost immediately afterward testicle became swollen and the epididymis gradually developed the hard nodular condition which is now present. Testicle is only slightly painful and tender under compression. Patient complains of some increased frequency in urination, and the

urine is cloudy. He has no cough and the general health is good. No tuberculosis in family.

Examination of the Patient: Large stature; well nourished; heart, lungs and abdomen are negative. Index finger of right hand swollen along its entire palmar aspect, the swelling extending into the palm. It is only slightly tender to pressure, the skin over it is not reddened, and along the course of the tendon several small nodules can be felt. Function is much impaired. Left epididymis is thickened, hard, nodular and adherent to the surrounding tissues. The spermatic cord is apparently not involved.

Uranalysis, Oct. 1, 1898. Quantity in twenty-four hours, 1200 c.c.; reaction acid, specific gravity, 1014; color, yellow; cloudy, trace of albumin, no sugar. A few granular casts and pus cells were found under the microscope.

Operation Oct. 1, 1898. Operator, Dr. J. B. Murphy, assisted by Drs. Rogers and Daly.

1. Finger. Esmarch on wrist. Incision on palmar surface of finger along its entire length down to tendon; numerous rice bodies escaped. Fungus granulations dissected out, hemorrhage controlled and wound closed with buried silkworm gut suture. Colloid dressing.

2. Testicle. Incision one and a half inches long near the bottom of the scrotum on the left side, into the cavity of the tunica vaginalis; small amount of hydrocele fluid escaped; testicle drawn out and diseased epididymis dissected from it, the dissection beginning below and proceeding upward. The spermatic artery and veins were left intact; the vas ligated and amputated high up and its lumen cauterized with 95 per cent. carbolic acid. One or two fine catgut sutures were used to draw together the edges of the abraded surface, left by the removal of the globus major. Testicle now returned into the scrotum and the wound closed by means of buried catgut suture, a small gauze drain being left in the lower angle of the wound.

Uninterrupted convalescence followed the operation, and patient was discharged cured Oct. 10, 1898.

(See Case No. 11 for result.)

Case 11.—Mr. S. R. A. (see Case No. 10), aged 49 years. Admitted to Mercy Hospital Feb. 13, 1900.

Present Illness: Since Oct. 1898, when patient underwent operation for the removal of the left epididymis, his health has been good. Five or six months ago some soreness developed in right epididymis, and a small hard nodule became palpable. There has been no pain in the testicle except on pressure. He complains of frequent urination, the act being accompanied by some pain at the base of the bladder. General health at present is good.

Family history and previous history given under Case No. 10.

Examination of the Patient: Nourishment good; lungs, heart and abdomen negative. Cicatrix on palmar aspect of index finger of right hand present; no recurrence of trouble here. Left epididymis absent, and the wound left by former epididymectomy now scarcely noticeable. No atrophy of left testicle and no sign of recurrence of tubercular trouble. The right epididymis is hard, nodular and slightly tender to pressure, the process being confined quite closely to the globus major. The vas is apparently uninvolved. The right seminal vesicle is slightly thickened, while the left is apparently normal.

Uranalysis Feb. 17, 1900. Color, light yellow, slightly cloudy; acid reaction; specific gravity, 1015; urea, 1.5; albumin, trace; no sugar.

Microscopic examination: A few hyaline and granular casts found. Pus cells numerous. Tubercle bacilli found in the centrifuged specimen.

Operation Feb. 14, 1900. Operator, Dr. J. B. Murphy, assisted by Drs. Lemke and Eggert. Incision two inches long into cavity of tunica vaginalis over nodular epididymis, just to the right of it. Testicle brought out of wound; tunica vaginalis incised at upper border of testes, and dissected from epididymis laterally. Epididymis now dissected from the testicle proper, leaving the nutrient vessels of the latter intact; vas clamped as high as possible, amputated and lumen cauterized

with 95 per cent. carbolic acid. Abraded surface left by removal of the epididymis now covered by flaps of tunica vaginalis and testicle returned into the scrotum. Small gauze drain introduced into lower angle and the external wound closed with silkworm gut sutures. The day after the operation irritability of the bladder had almost entirely subsided, and has not since returned. Convalescence was uneventful, and patient left hospital March 3, 1900.

Several later examinations of the urine show a small amount of albumin to persist, with a few hyaline and granular casts. In the centrifuged specimen pus cells are still found, though in smaller numbers than before operation. Tubercle bacilli have also been demonstrated on several occasions since the last operation.

Examination of patient June 20, 1900: General health excellent; has gained fourteen pounds since the last operation; appetite is good. There are no signs of recurrence of the tubercular trouble in either testicle. Vesical irritability not now present, although occasionally he is obliged to urinate somewhat more frequently than normal. No pain on urination and no blood passed. Rectal examination shows in each seminal vesicle a small, very hard nodule, which is only slightly tender to pressure. The foci in the seminal vesicles have evidently become encapsulated, as there are now no tubercle bacilli present in the urine. We believe that the seminal vesicles were the source of the bacilli which persisted so long after the last operation.

CASE 12.—Mr. P. McC., aged 30 years; married; occupation moulder. Admitted to Alexian Brothers Hospital March 11, 1900.

Present Illness: Patient has a double hydrocele, each side being as large as a goose egg. Scrotum has gradually increased in size since November, 1899. Patient complains of pain in lumbar region and scrotum; also of great weakness.

Previous History: Diseases of childhood; specific urethritis five years ago. Initial lesion of syphilis ten years ago. Inguinal adenitis in 1894. Operation for hernia in 1899.

Family History: Negative as regards tuberculosis.

Examination of Patient: Heart and lungs negative; cicatrices of hernial operation in both inguinal regions.

Genitalia: Scrotum very much enlarged, due to double hydrocele. Testicles situated below and behind the fluid sacs. Both testicles are apparently somewhat enlarged, and epididymi enlarged and nodular, especially in the region of the globus major.

Uranalysis: The urine contains some pus, and the centrifuged specimen shows tubercle bacilli.

Operation March 12, 1900. Operator, Dr. J. B. Murphy, assisted by Drs. Lee and Hess. Two incisions, one on each side of the median line of scrotum. Hydroceles exposed, sacs opened and fluid evacuated. Testicles drawn out and inspected; both epididymi nodular and thickened, the tubercular deposits extending for a short distance on to the tunica albuginea of the testicle proper. Both hydrocele sacs dissected out and removed; both epididymi and adjacent tunica albuginea removed by dissecting from the testicle proper, beginning below and passing upward, leaving the vessels of the testicle proper intact. Cords isolated, and the vas on each side clamped and ligated high up. Lumina cauterized with 95 per cent. carbolic acid. Cut edges of tunica albuginea approximated and sutured. A small gauze drain inserted at the lower angle of each scrotal incision and external wounds closed.

Microscopic examination of epididymi showed large amount of old fibrous connective tissue, with a few scattered tubercles containing giant cells.

Convalescence uneventful, and patient discharged from the hospital March 15, 1900.

We have been unable to trace this patient since his discharge from the hospital, so can not report on his present condition.

CASE 13.—Mr. J. M., aged 37 years; German; married. Admitted to Alexian Brothers' Hospital, April 1, 1900.

Present illness dates from two months ago, when patient was taken sick with high fever, pains all over the body and

other symptoms of an acute infectious disease. He had no cough or any localizing symptoms at first, but two days after the onset the left testicle suddenly became swollen, and he experienced some pain in the left inguinal region. Testicle continued to enlarge for a number of days, but was not tender, and was the seat of no pain. He did not complain of frequent urination, and never passed blood in the urine. The bowels have been constipated, and he has some pain in the rectum during defecation.

Previous History: Patient states that twelve years ago he "strained himself," and soon after had some swelling and pain in the right testicle. The symptoms subsided after a few days, but a nodule remained in the upper and posterior portion. This nodule enlarged slowly and two years ago a surgeon incised the swelling and allowed "water" to escape. No tissue was removed at that time, and the nodule is still present. One year ago patient suffered from very frequent and painful urinations, and on two occasions passed some blood in the urine. At that time he had fever, and during the six months that the trouble persisted lost twenty or twenty-five pounds in weight. He had no symptoms directly referable to the testicles at that time. After about six months the symptoms disappeared and he was in good health until the onset of the present trouble, two months ago. He denies absolutely ever having had any venereal disease. No history of injury. He is married and the father of a number of children.

Family history presents no points of interest. No tuberculosis in any of the members so far as can be ascertained.

Examination of Patient: Medium stature; nourishment poor; temperature, 98.6 F.

Heart and lungs negative. Abdomen, some slight diffuse tenderness. The edge of the liver is palpable three-quarters of an inch below the costal arch. Kidneys are not palpable. There is quite marked tenderness in the right lower quadrant of the abdomen.

Genitalia: In right epididymis there is a hard, round and slightly tender nodule in the globus major. There are defrens passes somewhat more anteriorly than normal, and the testicle is rotated so that the epididymis lies to the inner side rather than posteriorly. In the left epididymis there are numerous hard nodules massed together. The cord is thickened and tender at its lower portion.

Rectal Examination: Both seminal vesicles are enlarged, the right soft, the left nodular and tender. Urine, yellow, turbid, reaction acid. Trace of albumin. The microscope reveals pus cells and a few red cells. No tubercle bacilli found.

Operation April 12, 1900. Operator, Dr. J. B. Murphy. Incision over the left epididymis and cord, epididymis dissected from testicle proper, leaving the spermatic vessels intact. The cord was dissected from the surrounding tissues up to the internal ring, where it was ligated, amputated, and the lumen cauterized with 95 per cent. carbolic acid. Testicle proper replaced in serotum, and wound closed with subcutaneous suture, leaving a small gauze drain in the lower angle. Right epididymis not operated upon, as the process had evidently been arrested by encapsulation. Convalescence was uneventful, and the patient discharged about ten days after operation.

Since discharge from hospital, pain in the left groin has persisted. Left testicle is tender, as is also the stump of the amputated cord. Occasionally he is obliged to pass the urine oftener than normal, but has passed no blood. Complaints of some pain in the left ilio-lumbar region, which is aggravated by stooping forward. Defecation is still painful. He states that his weight is the same as before operation. Has no chills, fever or sweats. Has some burning pain in the urethra during urination. There is a small discharging sinus in the cicatrix on the left side of the serotum, and the tissues posterior to the testicle and at the stump of the cord present some inflammatory infiltration. Both seminal vesicles are in the same condition as they were when patient was admitted to the hospital. Heart, lungs and abdomen negative.

In a letter written August 25, 1900, patient states that he is at work and feeling better, but still has considerable pain in the left side and back. It was not possible for him to come to the city for examination.

I desire to express my appreciation of the valuable services rendered by Dr. J. M. Neff in the preparation of this paper.

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A YOUTHFUL DECEIVER.

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The matron of one of our benevolent institutions, situated in the northern part of the state called my attention recently to what she regarded as a remarkable case.

A child of 10, some two years ago, contracted purulent ophthalmia, which destroyed the sight of the left eye, compelling enucleation. An artificial eye was fitted, which has been worn with comfort. Since July last, the matron tells me, there has been forming under the upper and lower lids of the right eye, three or four times a day, large lumps of a mucopurulent character, which would be discharged spontaneously, or on lifting the lids. Sometimes two lumps would be discharged at the same time. They could be seen moving and thus excited further interest in the case. Since July 1, the child has been under constant observation, making daily trips to the oculist.

When I separated the lids, a large lumpy deposit naturally excited my curiosity. On examination, the deposit was found to be fibrous bands of lint picked from the cloth given to the child to dry the eye. This would be rolled into a small ball and inserted under the lids, as stated above. When it became thoroughly saturated from discharge from the lids it would slip about, and for want of a careful examination, the child was enabled to practice this deception for a long time.

The child confessed that she did this to excite sympathy, to escape work, and to enjoy the drive into the city to consult the physician. She is now free from further inflammation of the lids.

This case is interesting in that a child so young could conceive and practice such deception, and that a foreign body could be worn in the eye without causing great pain and more destructive inflammation, and lastly as an evidence of degeneracy.

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TEMPORARY RIGHT-SIDED COLOSTOMY IN CHRONIC DISEASES OF THE COLON.

On page 1475 of this issue of THE JOURNAL, is an article on "Colostomy for the Cure of Amebic Dysentery," which again forcibly illustrates the value of physiologic rest in the treatment of a diseased organ. Amebic dysentery is a serious disease. Harris, in an excellent article¹ on the subject, says that out of 78 cases reported in this country there have been 30 deaths, and that after it becomes chronic the chances of recovery, even with the best treatment, are always bad.

In view of such an unfavorable prognosis under medical treatment, temporary colostomy, as practiced by Barbat for Sullivan with such excellent results, is certainly to be commended in suitable cases. The formation of an artificial anus at the ileocecal valve in amebic dysentery was suggested some years ago by Corson,¹ but it is not shown that he ever put his suggestion into practice. His object was to permit the application of peroxid of hydrogen to the entire colon. The same procedure had already been proposed in the treatment of chronic dysentery, and Ballance² reports a case of dysentery in which he produced an artificial anus by severing the ileum close to the ileocecal valve and bringing both ends of the bowel to the surface. His intention was to wash out the colon, but his patient died from hypostatic pneumonia one week later.

Goodlee³ also reports a case of chronic dysentery in a young lady on whom he performed a left colostomy for the purpose of preventing the passage of the intestinal contents over the inflamed rectal surfaces. Marked improvement followed the operation, but unfortunately the patient died a short time thereafter from a phlebitis, which, it is said, bore no relation to the dysentery. It is not stated that these cases were due to the ameba coli, but it is quite possible that Goodlee's was due thereto, as the disease was contracted in India and was complicated by an abscess of the liver which was operated on, the patient recovering after the operation.

Right-sided colostomy has been performed for other chronic diseases of the colon with the result of curing what had otherwise proved to be intractable conditions. Keith⁴ opened the right colon in a case of chronic membranous colitis with complete success, as the symp-

ptoms were at once relieved. The artificial opening was closed eight months later and the cure continues up to the time of reporting the case.

W. Hale White and C. H. Golding-Bird⁵ report a case of right-sided colostomy for membranous colitis in a woman 30 years of age who had been afflicted for ten years. The colon was flushed simply with warm water. No antiseptics were employed, as it was feared they might irritate the bowel, and besides improvement was so rapid they were not deemed necessary. Two months later the artificial opening was closed. The patient did well for about two months, when she died rather suddenly from acute peritonitis, supposed to have been due to the rupture of an ovarian or tubal abscess.

Macpherson Lawrie⁶ reports a case of membranous colitis of ten years' standing in which he performed right inguinal colostomy with prompt recovery. The artificial anus was closed seven months later and the cure continued. Franke⁷ also reports a case of colica mucosa cured by right-sided colostomy. J. Schwab⁸ mentions Sklifasowski's case of multiple polypi of the colon in a man 51 years of age, who had suffered for seven years with diarrhea and colic and had become greatly emaciated and reduced in strength. Rapid improvement followed colostomy and in two months he was able to resume his business.

In all of these cases, with the exception of Goodlee's, the bowel was opened on the right side. In his case the sigmoid was chosen but found to be too low, as the disease extended higher up. Although right-sided colostomy will permit more thorough flushing of the colon and a direct application of the medicaments to its surface, the chief factor in bringing about recovery in these cases is undoubtedly the physiologic rest given the diseased bowel, as, in all cases, marked and rapid improvement was noted to follow at once the diversion of the intestinal contents.

The favorable results which followed this method of treatment in the above-mentioned cases indicate that temporary right-sided colostomy might oftener be employed to advantage in many of the chronic and intractable diseases of the large bowel.

SO-CALLED CHRONIC PROGRESSIVE CHOREA.

The time seems ripe for a thorough study and a careful differentiation of the numerous varieties of irregular, involuntary, incoördinate movement, to several of which the designation chorea has been applied. It would appear best, for purposes of demarcation, to restrict the use of this term to the disorder described by Sydenham, and commonly known as chorea minor, in order to distinguish it from other disorders simulating it. This affection may be considered an acute, infectious, self-limited disease, while at least some of those improperly grouped with it are dependent on

1. Amebic Dysentery, *Am. Jour. Med. Sci.*, 1898, cv, 381.

2. *Trans. Clin. Soc., London*, 1896, xlix.

3. *The Lancet*, London, 1895, i, 639.

4. *Brit. Med. Jour.*, Nov. 5, 1898.

5. *Groezgebiet f. Med. u. Chir.*, Bd. 1, H. 3.

6. *Beiträge zur Klin. Chir.*, 1897, Bd. xviii, s. 353.

organic lesions. One of the best defined of the latter is the disorder that has been designated Huntington's, or hereditary, or chronic progressive, chorea, among the peculiarities of which are its hereditary character, its development late in life, its progressiveness of course, its complication by dementia, and the presence of degenerative changes in the brain. It is probable, however, that some of the cases that have been described as being of this nature represent other and wholly different organic disorders of the brain.

A certain similarity, both clinically and pathologically, between chronic progressive chorea and parietic dementia has been suggested. The former disorder is considered essentially hereditary, not appearing in the descendants of those free from it. It usually sets in insidiously, after the age of 35, and it is equally common in the two sexes. The movements may appear at first in the face and be attended with difficulty in articulation, and spread to the arms and legs; or they may be general from the beginning. The dementia may be contemporaneous with the twitching, or precede or follow it, although occasionally no symptoms of mental aberration appear. The disease is chronic in course, lasting from ten to twenty years, and death commonly results from exhaustion. Various lesions have been found post-mortem, namely, meningitis, hematoma, neoplasm, hyperplastic change in the vessels, in the cellular elements, and in the connective tissue of the nervous system, atrophy of cerebral convolutions, degeneration of cortical neurons and reduction in their number and connections, dilated lymph-spaces, cysts, general muscular degeneration, etc., all of which were noted in a case recently reported by Good, in which the post-mortem anatomic findings are elaborately described. The disease is clearly one with profound degenerative changes and its relations and analogies are far from being as yet satisfactorily elucidated.

An interesting contribution to the subject of chronic progressive chorea has recently been made by Kattwinkel,¹ who details the results of a histologic study of the brain of a case occurring in a man 61 years old. Macroscopically the cerebral cortex presented slight atrophy, the gyri being reduced in size and the sulci enlarged, as compared with those of a normal brain. On microscopic examination the atrophy was found to be dependent on degeneration and disappearance of the supratentorial layer of fibers and the radiating fibers, especially in the motor area. In addition, an infiltration of leucocytes was found in the region of the large pyramidal cells and in the layer of polymorphous cells. These cells lay in dilated pericellular lymph-spaces and they are surrounded in varying number, often up to eight, a single ganglion-cell, which they compressed. Further, the adventitia of the blood-vessels was thickened by strands of connective tissue surrounding the lumen of the vessels, especially in a concentric manner. The changes described do not coincide entirely with

those that have been recorded by other observers, but they are indicative of the organic basis of the disease, the lesions being situated especially in the cortex and the subcortical tissues. These alterations have been attributed to abnormal distribution of the neuroglia and also to disseminated miliary cortical and subcortical encephalitis, originating from disease of the blood-vessels. In the case reported the conditions are ascribed to infiltration of the pericellular lymph-spaces by leucocytes, giving rise to compression of the ganglion-cells, followed secondarily by atrophy of the cortex. The origin of the disorder is referred to the vascular disease demonstrable in all parts of the brain. It can be readily conceived that such infiltration by leucocytes might give rise to irritation of the motor cells and fibers. Further, the secondary atrophy of the cerebral cortex, especially of the frontal lobe, would readily explain the mental disturbances.

THE SCIENTIFIC BASIS OF ORGANOTHERAPY.

It is possible that even in the remote past there have been glimmerings of an empirical application of the principles of organotherapy, but although these principles are still far from established on a permanent basis, it is only since Brown-Séguard began the use of testicular extract and suggested its mode of action that we have come to employ glandular preparations with any degree of precision in the treatment of various morbid states. Then followed the brilliant observations with regard to the relation between disease or surgical removal of the thyroid gland, on the one hand, and cretinism, myxedema, and the cachexia strumipriva on the other hand, and their successful control by means of transplantation or administration of preparations of the gland obtained from the lower animals. The results from the use of adrenal preparations in the treatment of Addison's disease have been scarcely as striking, although those preparations have shown themselves possessed of profound physiologic activity. While destruction of the pancreas is sometimes attended with diabetes, the disorder does not yield to the administration of pancreatic preparations; and acromegaly, so often associated with disease of the hypophysis, does not respond to the administration of preparations of this organ, perhaps because the condition is already one of hypertrophy and over-action, in the same way as, and for the same reason that, exophthalmic goiter is aggravated by the administration of thyroid extract. Further, there is, as yet, no evidence justifying the employment of extracts of kidneys, liver, heart, spleen, brain, and spinal cord, in the treatment of disorders of these various organs.

What the future of organotherapy shall be it is impossible to predict, but if the therapeutic principle on which this method of treatment is based had to its credit nothing more than the successful management of cretinism and myxedema, there would be ample justification for its continued application. Some of the

¹ Deutsches Archiv f. Klin. Med., B. lxxviii, H. 1 u. 2, p. 23.

cytologic problems connected with this subject have recently been discussed in a most forceful and philo-sophic manner by David Hanseemann,¹ in an address delivered before the Association of German Naturalists and Physicians. As he points out, the therapeutic employment of glandular structures is based on the assumption that specific substances supplying some need of the body are produced in different organs. It may be accepted that every organ is necessary in the healthy body, though perhaps in varying degree. Each takes something from the circulation—and some are provided with excretory ducts—and each adds something to the circulation. This latter we have grown accustomed to designate an internal secretion, in contradistinction from the former, which may take the form of an external secretion.

Although the cellular elements of the blood are supplied essentially by the spleen, the lymph-glands and the bone-marrow, the plasma is the composite product of the metabolic energy of all the cells of the body. Consequently, any alteration in the functional activity of any organ must result in changes in the constitution of the blood, and this in turn will influence the activities of the remaining organs. The intensity and the rapidity of the resulting effects will vary with the size and importance of the organ in question. No tissue, therefore, can suffer without injury to all others and to the entire body. Each possesses a specific and important function with relation to all of the others. This peculiarity is due to a like quality of the cells by which, in turn, it is derived from the parent-cells. Organotherapy consists in supplying artificially substances by means of which the activity of diseased or absent organs can be replaced, particularly with reference to internal secretion. There is, however, no sufficient reason for believing that a gland from one animal will have the same chemical constitution or the same physiologic action as the like gland from all other animals, and it is in this connection especially that important studies need yet to be made.

EPIBRONCHIAL PRESSURE POUCHES OF THE ESOPHAGUS.

Since the classical work of Zenker and Ziemssen, dividing the esophageal diverticula according to their origin into traction and pressure diverticula, this subject has received contributions of only minor significance; these have taken the form of contentions as to the structure of the pouches or concerning the influence of pressure on the enlargement of pouches already formed by traction, or have been reports of single cases of peculiar nature or origin. These investigators located pouches, originating solely by pressure from within, at the beginning of the esophagus, or at its junction with the pharynx; it often happens that a part of the pharyngeal wall forms part of the pouch. In this region such pressure pouches form in the median line of the posterior wall or slightly to one side, and

often attain considerable size. Such diverticula, formed either by pressure from within, have rarely been observed in other parts of the canal: Brosch¹ was able to find mention of only two, and one of these—that reported by Chavasse—began four inches below the arytenoid cartilage and was large enough to contain 680 c.c.

In the examination of 300 bodies, Brosch found two diverticula that have a special interest, since they are both considered to be pressure diverticula and are intrathoracic. In both instances the diverticula projected into a region named by Brosch the *cavum broncho-aorticum*. This region, only present on the left side, is formed between the left bronchus and arch of the aorta. As the latter arching to the left and backward crosses the esophagus to lie on its left side, there is a narrow space left between it and the bronchus below, which crosses the esophagus to reach the lung. This interval is obliquely directed to the left and downward; it is bounded above and externally by the aortic arch, below and internally by the left bronchus, in front is the ductus arteriosus, and behind the left lateral wall of the esophagus for a short distance faces forward in the interval. It is obvious that a large bolus of food passing downward comes, at this level, to a place where there is less resistance in the anterolateral wall of the esophagus; the vertebrae behind are firm, likewise the aortic arch above and the bronchus below; hence the esophagus may bulge into this *cavum broncho-aorticum*.

Of the two diverticula found in this region the larger one was the size of a walnut; the wall of the pouch consisted of the mucous coat; from its appearance it could be reasonably assumed that a hernia of the mucous coat had taken place through the outer muscular coats. There were no adhesions to the surrounding structures nor were there any cicatricial lymph-glands or indurative processes of the adjacent tissues that might have initiated the process by traction.

SURE CURE FOR CONSUMPTION.

Medical matters are always of interest to the laity and never more than at the present time when the public generally may be said to be on the *qui vive* as regards everything relating to sanitation and disease. This fact has its advantages, and there is little doubt that human life has been materially prolonged by popular education in the essentials of healthy living. Once in a while, however, popular medical instruction has its disadvantages, and may even materially abbreviate human life if followed. For example, the newspapers have recently been printing an account of a new consumption cure announced by a Vienna professor; the prescription contains .1 gram—1½ grain—of arsenous acid, with three times as much cinna-mic acid, to be taken in about a teaspoonful of cognac and water after meals. Not having seen the original European authority we can not say what the actually recommended dose was, but the one printed would very likely put an end

¹ Berlin Klin. Woch., 1900, Nos. 11 and 12.

¹ Virchow's Archiv, 1880, clxii, p. 22.

to consumption and every other ailment of the patient, including "life's fitful fever," also. This is only one instance of inaccurate newspaper medicine, which however is not always so dangerous as in this particular case. Mistakes will happen even in medical journals, but their readers can recognize them as such; while they are almost the rule in newspaper medical literature and the average layman will accept them as gospel truth. The moral of the whole thing is for newspapers, if they wish to publish medical facts and do it accurately, to have a competent medical editor who will see that what goes out is approximately near the truth. There will probably be no serious result from the publication of this prescription, because the ordinary druggist would refuse to fill it.

POSTPONED PAN-AMERICAN MEDICAL CONGRESS.

A telegram received as we go to press announces the postponement of the International Medical Congress, which was to have been held at Havana, Cuba, December 26-28. The postponement is on account of the prevalence of yellow fever in and around Havana. While the disease is not understood to be spreading, or to be more prevalent than it was, at the same time the committee considered it advisable to make the postponement. The meeting will be held February 5. It is to be hoped that the postponement will make it possible for the profession of the United States to make a better showing than otherwise would have been possible.

THE FUNCTION OF THE PROSTATE.

Physiologists have differed much as to the function of the prostate. The question is reviewed carefully in Walker's recent study of the anatomy and physiology of the prostate gland.¹ It has been known for some time that the movement of the spermatozoa is markedly stimulated by the secretion of the accessory sexual glands. All anatomists state that in the testis the spermatozoa are immotile; in ejaculated semen they are all in lively motion. Artificial addition of prostatic fluid to semen taken directly from the testis induced lively motility of the organisms, continuing for twenty-one hours—Steinbach. In order to throw more light on this subject, Walker instituted a series of experiments on dogs, from the results of which it may be concluded that the immediate production of motility of spermatozoa is due to the thinning of the testicular secretion with the prostatic fluid; substances in this fluid, acting either as stimulants or as food, keep up a continued movement; unless a homogenous mixture is made of the two fluids, thick portions remain in which there is no movement. The testicular and prostatic fluids must be mixed, otherwise the organisms remain motionless; and the mixture must be homogenous; as the semen is a thick tenacious fluid, more or less mechanical means are required in order to produce a proper incorporation. Walker proceeds to show the existence of a most beautiful anatomic arrangement for this purpose: the ejaculatory ducts empty on the crest of the caput gallinaeum; the prostatic ducts converge toward the openings of the ejaculatory ducts. As the semen is poured out thirty to forty streams of prostatic fluid are sent into it. In this way

a homogenous mixture of the testicular secretion and the prostatic fluid is produced and the best conditions for establishing motility of the spermatozoa secured.

THE PHYSICIAN-DRUGGIST.

The Cincinnati daily press report an instance of a physician applying for membership in the Academy of Medicine who was finally advised to withdraw his name for fear of unpleasant discussion and of possible refusal. The sole reason given was that the applicant owned and conducted a drug store. There is a feeling that it is not proper for a physician to conduct a drug store, as it affords too great opportunity for interference with the prescriptions and practice of other physicians. This feeling appears to be particularly strong in Cincinnati. The newspapers were, however, in error when they stated that the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION contains a clause preventing physicians who conduct drug stores from becoming members of local societies in affiliation with the ASSOCIATION. The point is nowhere raised in the Code of Ethics. While a physician who is also a pharmacist rarely has a large practice, yet his competitors naturally feel that it is unfair of him to expect to fill their prescriptions at the same time that he is practicing medicine in his store. Few, therefore, send prescriptions to such a store. Of course, each society has a right to decide on the qualifications of its members, but in general there seems to be no adequate reason for refusing membership to a physician-pharmacist as such.

VOODOOISM, NORTH AND SOUTH.

In Mississippi it is said a society has recently been organized, the object of which is the suppression of voodooism and voodoo doctors. Voodooism is a sort of African "Christian Science," modified by the special theologic predilections of the race. With the savage African who originated the voodoo cult followed by some of his descendants in this country, the supernatural powers are not beneficent, and, together with those that have most influence with them, are to be placated if possible, hence the voodoo superstition. It is the belief of the negro that disease can be caused by the prayer and incantations of the voodoo doctors, who, like the C. S. D.'s, thrive on the faith of their fellows. There is no excessive difference between the two; it is only in the point of view; the practice is not specially different. The Mississippi voodoo is not, so far as known, charged with the atrocity in his ritual of infant sacrifice after the manner of his coworkers in Hayti, or as it is done through neglect by his more northern co-operators, and in that respect may be considered more respectable than either, but they come together in many points. It is said that the original African cult is spreading in the south and involves not only the blacks by many of the whites, who live in daily fear of voodoo incantations. The recent suicide of a white man, induced by this dread, has called renewed attention to the society and its objects. The civil authorities, who have been indifferent heretofore, are to be invoked, and it will be interesting to note the progress of the reform. If the movement could only extend northward and in-

1. Bull. Johns Hopkins Hospital, 1900, xi, 242-256.

cite the vigorous action of the law against passive child-murder by northern voodooists, of whatever designation, it would be a good thing.

THE PROPOSED "TRUSTEE SYSTEM" IN THE NEW YORK CITY HOSPITALS.

The physicians of New York, especially those interested in Bellevue Hospital, are discussing the proposed change of administration of that institution under the new city charter revision bill. It is proposed to change the system of management of that group of the city hospitals that lie on Manhattan Island, by removing them from the supervision of the Department of Charities and Corrections and vesting their care in a board of trustees. The seven trustees of the city hospitals will be appointed by the mayor, who, according to the charter, must consult the presidents of various philanthropic boards and institutions in the city, in preparing the list of candidates, although he may appoint some not mentioned by his advisers. This change in method of management is avowedly to remove the hospitals from the evils of practical politics, and to place them under a distinctive form of government. To this end the terms of the new charter require that the trustees shall receive no salary for their services, nor shall they hold any political office with emolument, nor be interested directly or indirectly in any contract affecting the hospital. This is in nowise a reflection on the present administration of the Department of Charities and Corrections, for the present commissioner has achieved more for the good and the reputation of the hospitals, especially for Bellevue, than was ever before done, but his efforts, and the efforts of the medical staff have been in spite of the management, and not as the result of it. One of the chief evils of the present system is the change of control and management of the city hospitals with each change in the city's administration. This, has made the possibility of scientific advance depend on the character of the commissioner. It has placed the medical staff in the unsatisfactory position of doing the best they could under the circumstances, instead of giving them the advantage of achieving the best that could be attained. The truth of this position is enforced by the example of Boston and Cincinnati, in each of which cities the city hospital was incorporated by act of legislature between thirty-five and forty years ago, to be maintained as an institution by itself, independent of all other institutions, charitable or otherwise. The contrast between the peaceable, disinterested, efficient management of these hospitals, which are in every respect as desirable places for the sick as private hospitals, and the civic management of the public hospitals of Philadelphia, New York, San Francisco, St. Louis and Chicago, with their shifting administrations and party politics, shows decidedly the benefit of the trustee system.

Acute Hydrocephalus Cured by Antisyphilitic Treatment.—Neumann recently exhibited at Berlin a babe seventeen months old, apparently normal in growth and intelligence. A year before, the child had been affected with acute hydrocephalus, the skull measuring 47 cm. in circumference, the forehead and anterior fontanelle of exaggerated size. Inherited syphilis was suspected and 25 cgm. of potassium iodid were ordered daily with mercurial inunctions, resulting in a cure.

Medical News.

ALABAMA.

DR. THOMAS W. AYRES, Anniston, has accepted a hospital appointment from the foreign mission board of the Southern Baptist Convention, and has been assigned to Hwang Hien, North China.

BILLS have been introduced into the State Senate and House of Representatives asking an appropriation of \$25,000 to relieve the insane hospital at Tuscaloosa from its present overcrowded condition. At present 1500 patients are crowded into a space intended for 1000, and halls and reception-rooms have to be used for patients.

ST. VINCENT'S HOSPITAL, Birmingham, which has just been completed at a cost of \$200,000, opened for the reception of patients on Thanksgiving Day. The hospital has a capacity of 200.

A BILL forbidding the reckless and indiscriminate sale of deadly drugs, and especially directed against cocaine, will be introduced in the legislature at the instance of the physicians of Birmingham.

CONNECTICUT.

DR. WILLIAM W. HORTON, New Haven, who was sued by a patient claiming that he had administered to her powerful drugs, as a result of which her hair and teeth fell out and her complexion was ruined, has won the suit, the costs to be recovered from the plaintiff.

A JOINT COMMITTEE of health officers and of the State Funeral Directors' Association met at New Haven, November 17, and formulated a bill to be submitted to the general assembly providing that physicians return death certificates within thirty-six hours after death, and that the physician shall certify on the death certificate to the cause of death and duration of the disease only. At present the doctor must swear to the age of the person and to the family history.

DELAWARE.

THROUGH the bequest of Elzy Wade, of Wilmington, who died a few days ago, \$1000 will be given to the Delaware Hospital for the Insane. For a number of years Wade had been employed at that institution as night watchman.

DR. JOHN PALMER, JR., Wilmington, was re-elected supreme medical examiner of the Knights of the Golden Eagle at its annual meeting at Youngstown, Ohio.

DR. PETER W. TOMLINSON, Wilmington, has been elected president of the state medical examining board, to succeed Dr. Irving S. Vallandigham, Middletown, resigned.

DR. ALEXANDER LOWBER, secretary of the State Board of Health, has been notified that the second prize of a silver medal has been awarded the board of health for its exhibit of photographs of specimens at the Paris Exposition.

GEORGIA.

THE OSTEOPATHY bill was killed in the Georgia Senate by a vote of 19 to 18, November 18.

MACON CITY HOSPITAL is about to build an annex for colored patients, to cost \$5000.

THE REPORT of the Georgia State Sanatorium shows that the increase of the insane in the state was four-fold greater than the increase in population. There are now 2495 patients in the sanatorium. During the year 49.75 per cent. of the patients suffering from acute insanity were discharged apparently cured.

ILLINOIS.

STERLING is to have a new hospital to cost \$10,000. Plans are now being prepared under the direction of P. T. Van Horne and Dr. John F. Koefer. Contributions to the amount of \$3900 toward the building fund have been received.

A STATE SANATORIUM FOR CONSUMPTIVES, state provision for the cure of epileptics, enlargement of the powers of the health authorities in enforcing penalties against those who refuse to take proper precautions to prevent the spread of contagious diseases, and provision for boards of health in counties not under township organization, are the chief recommendations in the forthcoming annual report of the State Board of Health.

Chicago.

THE CORONER-ELECT has named Dr. P. Johannes as coroner's physician.

DR. THOMAS A. WOODRUFF has been appointed professor of ophthalmology at the Post-Graduate Medical School.

DR. CHRISTIAN FENGER has given up his office-hours at his residence and has taken an office in the Reliance building.

DR. WILLIAM A. FISHER transferred to the Chicago Eye, Ear, Nose and Throat College on November 30 the property which

he recently bought at Washington and Franklin streets, which, after remodeling, will be the new abode of this post-graduate institution.

THE HEALTH COMMISSIONER estimates that he will need an appropriation of \$281,374 for 1901, an increase of \$47,724 over that required for 1900. This will provide for three additional meat inspectors, a statistician, a director of disinfection, an assistant reorderer of births, a chief of antitoxin staff and a record clerk, and for the enlargement of the public baths.

JOHN H. RANDALL, arrested in connection with the Metropolitan Medical College case, has entered a plea of "nolle contendere," which probably means that he will testify against his fellow defendants when the case is brought to trial.

DR. M. N. REGENT has been sentenced to penitentiary under the indeterminate sentence law; in addition he has been fined \$1000. He was convicted of swindling the Knights and Ladies of Security out of \$2000 by passing off a cadaver as a deceased beneficiary.

DR. HENRY B. STEHMAN, to whose persistent work and skilled and tactful management the Presbyterian Hospital owes most of its success, has been compelled by continued ill-health to resign as superintendent of the institution, to take effect before Jan. 1, 1901.

THE TERMS under which the College of Physicians and Surgeons becomes the property of the University of Illinois have recently been made public. The university is to set aside a certain amount of the profits of the college and therewith form a fund which in twenty to thirty years will be sufficient to complete the purchase without the assumption of any financial liability.

DR. FLIPP KREISSL, who was sued for malpractice a few days ago with damages of \$25,000, has filed a counter-suit, alleging that his feelings and professional reputation have been injured by the public statements that his treatment had failed to cure the patient, and claiming \$50,000 damages.

INDIANA.

THE STATE FACTORY INSPECTOR, in his report, states that the fire protection at, and means of escape from, the Central Hospital for the Insane, Indianapolis, are very inadequate, and makes recommendations that fire walls be built and the bars on windows and doors be so arranged that they can be unlocked simultaneously.

DR. CORYDON RICHMOND, Kokomo, celebrated his 92d birthday, November 22. He was the first to practice medicine in the Miami Reserve, and settled in Kokomo in 1844. Although blind for ten years, he retains his interest in matters medical and in the State Medical Society, of which he has been a member for seventy years.

THE STATE BOARD OF HEALTH reports that there are more than 6000 physicians in Indiana, and in Marion county 602 are licensed. Of these 463 are regular practitioners, 53 are eclectics, 34 homeopaths, 38 physio-medicals, 1 hygeia-therapeutic and 13 unclassified.

KANSAS.

DR. W. B. SWAN, secretary of the State Board of Health, is preparing a bill against quacks and persons holding diplomas from fake medical colleges. It will be submitted to the legislative committees of the different medical societies in the state, and will bear the stamp of approval of the reputable physicians in the state before it is presented to the legislature. It will provide for the examination of physicians and their registration. All physicians now in the state will be required to register, and all except those holding diplomas from reputable colleges will be required to take an examination. Provision probably will be made to exempt physicians who have practiced twenty years or more in the State but hold no diplomas. Legislation along these lines has been desired by reputable members of the medical profession for years, and several attempts have been made to secure the passage of acts governing the matter. The bill will have the support of all schools, and every effort will be made to secure its passage.

KENTUCKY.

DR. EDWARD M. WILEY, Lexington, formerly superintendent of the Eastern Kentucky Asylum for the Insane, has been appointed a member of the board of pension examiners, made vacant by the resignation of Dr. Waller O. Bullock.

DRS. JAMES E. NEELY, James C. Catrick, and Thomas H. Kinnaird, Lexington, are defendants in a suit for \$10,000 brought by S. C. Hickerson, who claims that a broken leg was not properly set by the defendants.

MICHIGAN.

THE Upper Peninsula of Michigan seems to be saturated with smallpox. Secretary Baker, of the State Board of Health,

found nearly fifty cases in a dozen or more places in that region, the largest number of which were at Marquette.

DR. HEMAN SPALDING, who was called to Marquette to pass on a case of suspected smallpox, November 21, pronounced the case probably one of modified variola, and commended the city health department for its promptness in taking precautionary measures and quarantining the case.

DURING THE YEAR ended June 30, 1900 patients were admitted to the University Hospital at Ann Arbor, nearly 91 per cent. of whom were residents of Michigan. In the eye and ear clinic 889 cases were treated and in the pathological laboratory 621 specimens were examined and 340 cases passed on by the staff.

MINNESOTA.

DR. LEONARD F. CLAYDON, Mazeppa, returned from a six-months course of study in Europe on November 22.

THE MINNESOTA LEGISLATURE will be asked to make provision for a state sanatorium for consumptives.

ON NOVEMBER 30, the secretary of the State Board of Health reported that there were more than 300 cases of smallpox in Winona. If the disease increases quarantine will be established at St. Paul against Winona.

THE NEW PORTION of the City Hospital, Minneapolis, was opened to receive patients a few days ago. About forty patients were transferred to the wards on the ground floor of the new building.

THE HEALTH DEPARTMENT of Minneapolis announces that 208 cases of diphtheria were reported during the first twenty days of November, with 17 deaths.

THE HOSPITAL at Walker, used by the soldiers at the time of the Leech Lake Indian outbreak, has been reopened by the Walker Sanitarium and Hospital Association for the care of the lumbermen of Northern Minnesota.

MISSOURI.

DR. EDWARD C. L. RICHTER, St. Louis, physician at the House of Refuge, who contracted smallpox while in attendance on a case of the disease, is rapidly recovering and the quarantine will be raised in a short time.

THE CITY HOSPITAL, St. Louis, is said to be so cramped for funds that no money is available even for the purchase of gauze for bandages and dressing materials, and the requisitions for these necessary articles have not been filled by the city comptroller for this reason.

DR. CHESTER A. TYGART, city physician of St. Joseph, states that he has discovered in the last few weeks three unreported cases of scarlet fever. He intends to take action against the physicians who fail to make reports of contagious diseases.

NEBRASKA.

THE CITY COUNCIL OF OMAHA has appropriated \$1000 to be used by the health commission in the prevention and care of smallpox and other contagious diseases.

"CUBAN ITCH" is prevalent in Grand Island, Scott's Bluff, Minatare, Bayard, and other neighboring towns, and the State Board of Health has been asked to investigate the disease, which is thought to be modified smallpox.

FOUR TOWNS in western Nebraska, on the line of the Northwestern road, are reported to be under quarantine on account of smallpox. One of these—Valentine—has been so for some time, but only within the last few days has the quarantine been extended to the mails. Near Scott's Bluffs work on a large irrigation ditch has been suspended on account of the outbreak of variola in a surveying camp, which now has several cases. Here, as in other places, the diagnosis of smallpox is questioned by some physicians, and efforts were made to have the affection designated "Cuban itch" and to raise the quarantine. Readers of THE JOURNAL will remember that only about a year ago a similar outbreak of variola was reported in Topeka, Kas., which was diagnosed "Cuban itch." Through laxity of the authorities, and against the advice of many of the city's physicians, official quarantine was instituted only after the disease had spread extensively.

NEW YORK.

THE HEALTH OFFICER of Rome reports 8 deaths and 25 births during October. Of measles, 25 cases; of typhoid fever, 3 cases, and of diphtheria one case were reported.

THE SYRACUSE ACADEMY OF MEDICINE plans to have a staff of twelve physicians appointed for the hospital at the county house. Six of the staff are to be members of the Academy of Medicine, three from other towns in the county and three are to be homeopaths.

Buffalo.

DRS. ROSWELL PARK and Charles Cary are guests of Mr.

Frank Goodyear on a trip through the South and Mexico in his private car.

NEW FREE public bath-house No. 2 was recently opened. It is situated on the east side of the city in a region densely populated by foreigners.

THE EMERGENCY HOSPITAL now in course of construction is to be 142 ft. by 60 ft. and three stories high. There will be three operating rooms for minor surgery or preliminary examinations. On the third floor is the operating amphitheater. Another feature of the building is a roof-garden, reached by an elevator to be used as a solarium by the patients. The cost of the structure is to be \$60,000.

THE DEPARTMENT OF HEALTH has recently made a series of tests as to the percentage of good air in the rooms of the public schools, some of which have been recently constructed and are supposed to have good ventilating systems. The result shows the air inspired by the pupils to be deficient in purity and the health commissioner has called attention to the fact that in the future the plans for ventilation-construction in all public buildings should be submitted to his department for examination and approval. Because of the defects in ventilation in the newly-constructed school No. 16, the city refuses to pay, and a lawsuit is imminent, the contractors, in defense, claiming that their agreement does not specify whether the air be good or bad.

New York City.

THE WILL of R. G. Dun bequeaths \$5000 each to the Presbyterian Hospital, St. Luke's Hospital, Mount Sinai Hospital and New York Institution for the Instruction of the Deaf and Dumb.

WHILE Dr. Otto Schultze, pathologist at Cornell University Medical College, was holding an autopsy before the class, on a woman who was supposed to have died of typhoid fever, he suddenly discovered that she had been the victim of a criminal abortion. The class was dismissed and the coroner summoned. Investigation showed that the woman had at first been a ward helper in Bellevue Hospital, and had subsequently been admitted as a patient with a diagnosis of malaria. From October 27 till November 22 she was treated in the hospital for typhoid fever, and the house physician said that up to the time of her death he did not know that any operation had been performed on her.

A GENTLEMENLY appearing person, describing himself as Dr. William A. Ferguson, and as a graduate of Dublin University, has been arrested on the charge of defrauding physicians. His arrest was brought about by Drs. William M. Polk and George W. Jarman, upon whom he had called, soliciting financial aid, alleging that he was in distress because of the Galveston flood. The police say he bears a striking resemblance to Franklin J. Moses, at one time governor of South Carolina, but since known in many states as a fraud and confidence man. Dr. A. R. Shands, of Washington, D. C., is positive that this man is the one wanted in his city on a similar charge, and he is held pending extradition proceedings.

SO MUCH INDIGNATION has been aroused over the long delay in taking possession of the new building for Gouverneur Hospital that the grand jury has taken up the matter. The foreman, Mr. John P. Faure, recently commissioner of charities, took an active interest in the investigation, and asked some pointed questions of the commissioners appearing before them. The delay is apparently the result of obstinacy on the part of one of the commissioners, coupled with a lack of supervision of the work done by the contractors. When it is recalled that the building has cost \$200,000, and that \$89,000 have been appropriated for the fittings and supplies, there should not be much difficulty in getting the building ready for occupancy.

SAMPLES OF CITY WATER have been taken from various places and submitted to the chemists of the board of health for analysis. A preliminary report on these has been made public, which sets forth that there is no evidence of contamination of the water with pathogenic germs. It takes twenty-four hours for the water to travel from Croton Lake to the aqueduct station in West 135th street, and during this time nearly one-fourth of the suspended organic matter subsides. The bad color and taste of the water at present are owing to the abnormally low level of the water in the storage reservoirs. The grand jury summoned experts before it, who were all heartily in favor of the installation of a system for filtering all the city water.

A DEATH from Christian Science treatment has occurred in an exclusive and fashionable section of Brooklyn. The healers are Mrs. Parmelia J. Leonard, and her son, F. H. Leonard, who

live in a beautiful home at 160 Montague street. Mr. A. C. Hubbell, at the request of his wife, who was suffering from appendicitis, called in Mr. F. H. Leonard, and after waiting in dreadful suspense for five hours for word or sound from the sick-room, he entered, to find his wife tossing about the bed in agony while the "healer" lay in an easy chair half asleep. For this valuable service he rendered a bill for \$3, and this bill will be used as evidence against Leonard, who now denies that he attended Mrs. Hubbell. Mr. Hubbell has instructed his lawyers to proceed against the Leonards, criminally, if possible, as he intends to hold them responsible for his wife's death.

THE ANNUAL REPORT of the Children's Aid Society shows that 38,232 children have been aided in the past year. The daily average attendance at the industrial schools has been 7063, and it is interesting to note that the society has hit upon the practical plan of bringing crippled children in an omnibus to and from three of these schools. Homeless children to the number of 5163 have sought and found shelter during the year, and 1594 persons have been sent away from the city. The Emigration Department has placed 22,121 children in families, and points with pride to the fact that, so far as known, only 60 have been arrested or sent to reform schools. Nearly 14,000 sick infants and their mothers were given outings at the seashore during the past summer. Schools have been established for incorrigible truant, and by the employment of expert teachers who are able to interest these children in manual training, many of these boys, have been broken of the habit of vagrancy, and have been able to secure regular employment. The total expenditures for the year were \$382,536.78.

IN THE LAST few days the board of health has had on its hands an outbreak of smallpox, which is said to be larger than any since 1892. Up to the present, 37 cases have been reported, and as a colored man wandered through the city during the whole time he was suffering with smallpox, without consulting a physician or without the nature of his malady having been detected, it is expected that a number of other cases will necessarily develop in distant parts of the city. Nearly all of the cases have developed among colored people in a densely populated district in West 68th and 69th streets. The first cases were apparently in the kindergarten of the Rivers Association, a school having a swimming-bath attached. This school and a public school in the same neighborhood are most in danger of becoming infected. The health department is carrying out its usual practice, i. e., children from the infected houses are not allowed to go to school, and these houses are visited daily by one of the department physicians for several weeks, while the vaccinators are busily at work vaccinating all within a distance of nine blocks in all directions. On December 4 the isolation hospital on North Brother Island had 40 cases of smallpox; one new case had been reported from the "All Nations Block" on West 69th street, and two deaths occurred.

NEW JERSEY.

A RESOLUTION has been adopted in Camden that policemen of that city who find a case of contagious disease in which no physician is in attendance shall notify the board of health.

THE PERTH-AMBOY HOSPITAL plans have been accepted, and work will be commenced very soon. The building will cost \$15,000, of which \$7,000 is already available for immediate use.

THE CAMDEN COUNTY INSANE ASYLUM, Blackwood, has been remodeled and enlarged. The total amount earned during the year by the patients was \$1856, thus reducing the expense per week to \$2.27 per capita.

DOCTOR against doctor and regular against homeopath expresses the situation in the majority contest in Plainfield. Both the republican and democratic candidates are physicians, but of different schools.

BURLINGTON proposes to open a memorial hospital commemorative of the late Dr. Franklin Gauntt, who for half a century did such faithful work in that town. The scheme is to buy by popular subscription the Gauntt house and remodel and equip it as a hospital.

THE STATE HOSPITAL FOR THE INSANE, near Trenton, has treated 1435 patients during the last year. There are now 117 patients at the hospital, 84 have been discharged as recovered, 30 as improved, and 8 as unimproved, while 104 have died and 91 have been removed to other institutions. The chief causes for the insanity were general ill-health in 29 cases and alcoholism in 24.

A COMMITTEE has been appointed by the Middlesex County Medical Society to investigate the deficiencies in the state

lunacy laws, with the object of securing such amendments as may be necessary to preclude the possibility of sane people being committed to the state insane hospitals.

OHIO.

THE LATE Dr. David P. Chamberlin, Toledo, left an estate appraised at \$8659.19.

ALL OSTEOPATHS in the state have been notified to present themselves for examination at Columbus, December 10.

OF THE 104 deaths which occurred in Cleveland during the week ended November 24, 4 were due to diphtheria. There were 59 new cases of diphtheria, 22 of smallpox and 25 of scarlet fever reported for the week.

SUPERINTENDENT OF HEALTH, Dr. William D. Deuschle, has asked the law department to take action against Dr. Byron E. Baker, Milford Center, who is charged with taking a scarlet-fever patient out of quarantine in violation of the orders of the superintendent.

SIX PHYSICIANS in Cleveland vaccinated 412 persons at the workhouse in three hours. A case of smallpox developed in the workhouse, and immediate measures—fumigation, etc.—were taken by the health authorities for the protection of the other inmates.

DURING October there were 486 deaths and 550 births in Cincinnati. The death-rate per mille was 9.71 per annum. There were 325 cases of infectious diseases reported, of which 93 were consumption, with 7 deaths, and 49 of diphtheria, with 36 deaths. No cases of smallpox were reported.

PENNSYLVANIA.

AT A MEETING of the Parnassus, New Kensington and Arnold Physicians' Association, New Kensington, November 19, it was decided that each member should be compelled to withdraw his professional card from the local papers.

STATE QUARANTINE OFFICER Dr. Henry D. Heller, Philadelphia, and Dr. J. L. Forwood, Chester, have paid a visit to the Governor at Harrisburg relative to securing a tugboat, and better barracks for the quarantine station.

OWING to the development of a case of scarlet fever at the Pennsylvania Military College at Chester, the institution has been ordered closed for several weeks. The patient has been isolated and there is little fear of the further spread of the disease.

STATE INSPECTOR IRONS made an examination of a herd of very fine cattle on the Redhurst farm near Erie and ascertained that, although the milk of these animals had been sold at a higher price on account of the excellence of the breed of cattle, 95 of the animals were suffering from tuberculosis and he ordered them to be destroyed. The sum of \$1300 was paid by the state for the animals.

Philadelphia.

THE NEW HOSPITAL attached to the Home for Aged and Infirm Colored Persons will be opened in about a month. A feature of the new building will be a diet kitchen.

PRESIDENT H. B. HUEY, of the Board of Education, has submitted a report of the school medical inspectors to the sub-committee of City Council, in which it is stated that during eight months there were 5876 cases of illness, of which 3446 were contagious. He has asked for an annual appropriation of \$25,000 to pay for the service of the school inspectors.

TWO DISINFECTING BARGES, which have been reconstructed from schooners by builders of this city, are now on their way to Cuba. One will be placed at Matanzas and the other at Cienfuegos. They are in tow of the American steamer *Orion*. One is 122 feet long and 30.6 broad, and the other is 129.9 feet long and 31.2 feet broad. A fumigating barge is now being built here which will be placed at Ship Island, Miss.

AT THE last meeting of the committee on medical inspection of the Public Education Association a resolution was adopted recommending that the sum of \$500 be allowed each medical inspector for eight months' work. A similar resolution was recently adopted by the County Medical Society, and it will be considered by the College of Physicians during the next few days.

THE "COURSE IN HYPNOTISM" advertised by the American College of Sciences, which has its offices at 416-420 Walnut street, has been condemned by the members of the faculty of many different colleges, including representatives of the University of Pennsylvania, Philadelphia Polyclinic, Princeton, Yale, University of Michigan, Dartmouth, Harvard, Columbia, and the University of California. The names of representatives of these institutions had been used by this "college" as giving an implied endorsement to the course. Some of the men connected with the universities above cited are said to have consulted lawyers in regard to restraining the "College of Sciences" from using articles previously written by them and published in the

work entitled "Hypnotism and Hypnotic Suggestion." The name of the concern is not in the city directory.

SOUTH DAKOTA.

THE NEW HOSPITAL, which is being erected in Sioux Falls, at a cost of \$10,000, will be ready to receive patients some time this month.

SOUTH DAKOTA is reported to have had a death-rate for last year of only 8.22 per 1000. Consumption caused only 0.63 deaths per 1000.

THE DEATH-RATE among the Sisseton and Wahpeton Indians in South Dakota is alarming. It is reported that 56 out of 1900 Indians died last year, an annual mortality of 29.5 per 1000. Of the deaths 90 per cent. are said to be from tuberculosis.

THE SIOUX FALLS HOSPITAL has transferred its patients into the commodious new hospital building erected for it by R. F. Brown and Dr. Stephen Olney. At the meeting for re-organization of the Board of Directors, Dr. Arne Zeltitz, who has been physician-in-charge since the hospital was opened, in 1894, resigned, and Dr. Stephen Olney was elected to the position.

SMALLPOX IN SOUTH DAKOTA.

On election day, a case of smallpox was found in Lead, S. D., the patient having recently come from Valentine, Neb. The patient and his wife were at once isolated, as were also five other persons who had visited him the preceding night. The city council promptly authorized the city health officer to erect and equip a pest-house outside the city, where the patient and two of those exposed, who have since been attacked by the disease, are being cared for. As compared with Lead's action, which has doubtless resulted in confining her cases to the few mentioned, reference may be made to the lack of precautions in the neighboring city of Deadwood, three miles distant. The latter now has ten cases—five new ones during the past week—with practically no quarantine restrictions, and the city health officer has resigned, on account of failure of the county to authorize him to carry out necessary health measures. Besides Deadwood's lay press daily denies the existence of smallpox in Lead and surrounding towns, calling it an "eruptive fever," "Cuban itch," etc., but remaining silent concerning her own cases, which have exposed so many as to necessitate closing certain of the Deadwood schools, as a precautionary measure. A stone-quarry southwest of Lead, but operated by a Deadwood company, has long been in quarantine, and while the number of cases there has not been given out, two deaths have been reported. It is said that a Deadwood family recently visited near the quarry, remaining over night, and on returning to Deadwood, so stated to a physician, who advised them to say nothing about it, but the matter became public and their children were excluded from the school, and later the school closed. It is not known that they introduced the disease into Deadwood. Terry, another mining town near Lead, furnished a case the past week, the patient also recently from Nebraska. He, too has been isolated and every precaution is being taken to prevent a spread of the disease in Terry.—Later advices states that only 3 cases are at the quarry, and that Deadwood has 19.

TENNESSEE.

DR. JAMES C. BUTLER, Mountain City, who was seriously injured a short time ago in a runaway accident, has recovered and resumed practice.

THE CITY COUNCIL of Nashville has taken up and passed the bill which it rejected a few weeks ago, and which prohibits sale of cocaine except on the prescription of a physician.

NASHVILLE'S MORTALITY for October was 149, 83 white and 66 colored. The births for the month were 148, 108 white and 40 colored, 72 boys and 76 girls. Of contagious diseases 132 cases were reported with 30 deaths.

THE HEALTH OFFICER of Columbia has been ordered to vaccinate all persons not satisfactorily vaccinated within a year, to isolate all cases of smallpox, or varioloid, provide immune nurses for same and maintain strict quarantine.

TEXAS.

DR. GEORGE LARENDON, Houston, has been re-appointed county physician of Harris County.

DR. THOMAS H. STALLCUP, Jefferson, was attacked by unknown persons while in his stable and seriously injured.

GOVERNOR SAYERS will, it is said, favor the establishment of a state board of health and of a state home for indigent consumptives.

VIRGINIA.

DR. THOMAS MILLER, Fineastle, was thrown from his buggy—November 21, and severely cut and bruised.

THE ADDITION to the Central State Hospital in Dinwiddie county is now ready for occupancy. It is 185 feet long, contains 30 cells and several dormitories and has cost about \$22,000.

DR. JOHN F. WINN, professor of obstetrics at the University College of Medicine, Richmond, has appointed Drs. Charles P. White and Cheving, resident physicians at the Virginia Hospital, as his assistants.

THE MEDICAL SOCIETY OF VIRGINIA has recommended to the governor the names of physicians to compose the State Board of Health. Commissions will accordingly be issued to Drs. Paulus A. Irving and Landon B. Edwards, Richmond; Dr. Rawley W. Martin, Lynchburg; Dr. Lewis E. Harvie, Danville; Dr. Vernon G. Culpeper, Portsmouth; Dr. John T. Graham, Wytheville, and Dr. John H. Neff, Harrisonburg. The new board will serve for four years, beginning Jan. 1, 1901.

WISCONSIN.

DR. PETER H. JOBSE has returned from Cape Nome to his practice in Milwaukee.

DR. FRED. W. A. BROWN, Oshkosh, has been elected county physician of Winnebago county.

OSHKOSH SCHOOLS have been closed by the authorities on account of the prevalence of diphtheria and typhoid fever.

AN ADDITION to St. Luke's Hospital, Racine, is to be built, to cost \$7500, and of this amount a citizen of Racine has agreed to furnish \$1500.

SMALLPOX has appeared in La Crosse and many have been exposed. The State Board of Health is taking all precautions to prevent the spread of the disease.

COUNTY PHYSICIANS were elected by the Racine County board as follows: Western district, Dr. George E. Newell, Burlington; eastern district, Dr. Julian R. Sime, Racine, and middle district, Dr. William C. Hanson, North Cape.

UNDER THE NEW LAW health commissioners are compelled to certify every birth and death recorded in their respective offices and for each certification they receive 15 cents. In Milwaukee last year, the fees to Health Commissioner Schulz from this source amounted to \$1834.50.

GENERAL.

POSTPONEMENT OF THE THIRD PAN-AMERICAN MEDICAL CONGRESS.

The Committee of the Third Pan-American Medical Congress met in special session on the 4th inst., at the Marine-Hospital Bureau in Washington, and, after consultation with Surgeon-General Wyman, decided, on account of the present health conditions in Havana, to postpone the congress until February 5, next. Dr. Juan Santos Fernandez, of Havana, president of the congress, advised the postponement by cable. This delay, it is hoped, will increase the attendance and extend the work of the congress. Signed: Drs. A. Van der Veer, C. A. L. Reed, H. L. E. Johnson, Ramon Guitéras.

MAJOR JOHN VAN R. HOFF, U.S.A., chief surgeon of the Department of the Lakes, was relieved from duty in Chicago, November 30, and assigned to Washington.

ASST.-SURGEON L. L. LUMSDEN, at Angel's Island, Cal., reports to the Marine-Hospital Service that bad health conditions exist among the Chinese workers in the Alaska salmon canning industry. Last spring nearly 3000 Chinese, recruited from the poorest element, were shipped to the Alaskan country, and several deaths occurred, the nature of which is unknown, as no physician accompanied them. They are often worked eighteen hours a day, and live in barracks in utter disregard of cleanliness and sanitation.

HAVANA UNDER THE AMERICAN REGIME.

The deaths in Havana for October, 1900, numbered 507, and for the same month of last year, 497. These are the lowest figures for that month during the decade of 1891-1900. In 1896 the October deaths were 1212; in 1897, 2026, and in 1898, 2491. Major Gargas, chief sanitary officer, in his report for November, shows that 444 deaths occurred in the city from all causes, this being the lowest number for the same month during the last ten years. There were under treatment, on December 3, 37 yellow fever patients, 4 of whom are Americans.

MANILA UNDER AMERICAN RULE.

Advices from Manila state that never before has the city been so free from dangerous and epidemic diseases. But one case of plague had been reported in several weeks, and only one case of smallpox appeared in almost four months. It is now without doubt the cleanest and healthiest city in the far East, and more than ever deserves the title of "Pearl of the Orient." The credit for this sanitary condition is due to

the president of the board of health, Surgeon Guy L. Edie, and his corps of assistants, Drs. Lynch, Calvert, Gilchrist and Le Hardy. Visitors to Manila are agreeably surprised at the cleanliness of what was once a filthy and unseparably unhealthy place.

CANADA.

MONTREAL'S HYGIENIC COMMITTEE has published a statement of the expenditure in connection with the last outbreak of smallpox in that city. There were twenty-three cases of smallpox in all and the total cost amounted to \$11,675.59.

THE ONTARIO BOARD OF HEALTH has forwarded the plans for a new contagious-disease hospital to be erected at the Capital. Along with them went up an order from the lieutenant-governor authorizing the city council of Ottawa to build the institution and to expropriate any land necessary for that purpose.

NEGOTIATIONS are still in progress with regard to the amalgamation of Toronto and Trinity Universities as well as the two medical colleges. The premier of the province has recently called two meetings of representatives of the respective faculties to try to come to some definite arrangement, but so far nothing of a tangible nature has resulted.

SMALLPOX has again broken out at Nanaimo, B.C., and so far thirteen cases have been reported. The trains and boats are being inspected and all persons leaving have to be vaccinated. Forty-nine persons are quarantined on Gabriola Island, where there is one case. During the past 18 months, smallpox appeared in the Province of Ontario at twenty-five distinct points, but in each and every case it was met promptly and efficiently and thoroughly stamped out.

TORONTO ORTHOPEDIC HOSPITAL.

The medical report shows that the number of patients remaining from the previous year was 16; number admitted during the year ending Sept. 30, 205; total 221. The number discharged during the year was 198; number of deaths, 1; number remaining, 22. Collective days' stay at the hospital was 5582 and the average day's stay per patient was 25.25. Of the patients themselves, 128 were males and 93 females, and of these 114 were under and 107 over 14 years of age. The number of surgical operations performed during the year was 194. In the out-door department, there were 51 consultations. The hospital register showed that of all of the 221 patients, 51 resided in the city of Toronto, and the remainder came from 93 different towns, cities and villages of the United States and Canada.

THE HEALTH OF MONTREAL.

Scarlet fever, this time of a severe type, has again broken out in the City of Montreal, and to such an alarming extent that the Hygienic Committee is feeling somewhat uneasy. The scarlet fever wing of the Civic Hospital is filled with these patients and no more can be accommodated. There are forty-two inmates already. The cause is ascribed to the lax manner of reporting the cases and also to the want of care in patients going out too soon after an attack. The Hygienic Committee will now give special attention to the reporting of cases of infectious diseases. Trouble also has arisen with the inspection of the schools. The Catholic School Board will not permit the health officer to inspect these schools, nor will permission be granted to vaccinate unvaccinated pupils. On the other hand the Protestant school boards have sent special requests for inspection. Dr. Laberge has decided to make a test case in the courts of the action of the Catholic school boards to see whether or not they can prevent the officers of the health department entering, inspecting and vaccinating such pupils as require this operation. The health officer is determined that the by-law relating to infectious diseases shall be enforced.

PROGRESS IN TORONTO HEALTH INSPECTION.

An evidence of the care exercised in the protection of the health of the citizens of Toronto is seen in the statistics from the plumbing department under the control of the health department. The year of this department ends on October 31. During the past year there have been 7507 applications for plumbing inspection and for the previous year, 7566. The inspections made number 10,641 and 10,343 for the year before. There is an apparent increase in desire on the part of the public to have house-plumbing and house-drainage inspected. These figures appear more interesting when compared with the work done in 1897. In that year 4791 inspections were made, not quite half the number of this year. The department of public health states that the character of the plumbing in the city is greatly improving; and the people are becoming alive to

the importance of protecting themselves from disease generated through inefficient house-drainage and house-plumbing.

FOREIGN.

THE late Dr. Apostoli, of Paris, bequeathed \$4000 to the Academie de Médecine to found a prize for works on electrotherapies.

DURING the last seven years previous to his death, Professor Albert, of Vienna, published five volumes of translations from Bohemian poetry, in a historical series from the earliest to the latest times, with critical commentaries.

PROF. O. LASSAR, of Berlin, has started an international subscription for the purpose of presenting a marble portrait bust to the famous Norwegian leprologist, Prof. Armauer Hansen, of Bergen, on the occasion of his 60th birthday, July 29, next year.

ACCORDING to the *Derm. Ztg.*, the leper asylum in Iceland has proved a great blessing to the community during its two years of existence. The inmates average sixty-one. One of the patient, a boy, has been cured—at least it is so stated.

THE FRENCH authorities have offered to pay the Norwegian missionaries in Madagascar 40 francs for each leper received in the mission leper-asylum, and also to enlarge and improve the asylum.

THE SAXON government has decreed that physicians must officially report cases of tuberculosis in the cachectic stage if the patient changes his residence or becomes dangerous for his environment, either in a private residence, hotel or boarding-house.

SPAIN has now rendered the notification of infectious diseases compulsory for the physician. He has to report all cases that have fallen under his observation to the medical inspector of the district, and the latter informs the local authorities, who then take the necessary steps to prevent the spread of the disease.

SINCE the Moscow prize was awarded to Ramon y Cajal by the International Medical Congress Spain has been heaping honors on her distinguished son, appropriating funds to enlarge his laboratory and conferring a pension on him. The latest is the decoration with the grand cross of the Order of Isabel la Católica.

AMONG the deaths abroad we note that of Dr. S. Kristeller, whose name is familiar from his method of external expression of the fetus. The death of Dr. W. Basler occurred in Bavaria. His articles on "Cereals Among the Ancients," "Massage in Antiquity," etc., published in *Janus*, have attracted much attention. Although only 62 years of age, he had resigned his practice to his son in order to devote himself exclusively to historical medical research.

THE PARIS authorities have had placards posted warning the people that smallpox is assuming an epidemic form and urging vaccination and revaccination. Since the exposition has been at its height there have been 100 deaths from smallpox, while during the five previous months there were only 15, and only 4 during the entire year of 1899. There were 14 deaths during the week ending November 3, according to the *Sem. Méd.*

THE ITALIAN railroads have given orders to have all their occupied buildings protected by wire mosquito-netting, and the shelters for the workmen on the marshes are to be similarly protected. The Society for the Study of Malaria is to petition parliament for funds to generalize the application of prophylactic measures among the poor, as the tests this summer have been considered conclusive in regard to the danger of infection from mosquitoes.

A FRENCH female doctor, Mlle. Krykows, of Neuilly, has won a suit against a patient who claimed that her care of a plegmon had not been correct and hence refused to pay her bill. Brouardel testified as the expert in the case, that the operation and care had been *secundum artem* and had been successful. Mlle. Krykows at once added to her original bill a claim for damages to her professional reputation and the court decided in her favor, allowing her the original bill and ten dollars damages, as reported in the *Jour. de Méd. de Paris* of November 18.

THE RECENT German Congress of Physicians and Naturalists at Aix-la-Chapelle paid great honor to Virchow, and it was recalled that when the congress met at the same place fifty-three years ago, he read a paper on "Parenchymatous Inflammation." Professor Harless of Bonn presided and listened to the essay of the young Berlin privat-docent with consternation, finally interrupting him and putting the question to vote whether the assembly wished to hear any more of the paper as it was evident that the speaker knew nothing of his sub-

ject. The vote however was in favor of Virchow and he was allowed to continue.

PROFESSOR VAN ERMENGEM has returned from Glasgow, where he was sent by the Belgian government to study the plague. He reports that the effects of antiplague serum which he observed were extremely encouraging. In two cases at least the curative influence was marked. The fact that its efficacy was not more apparent was due to the tentative and inadequate manner in which it was administered by some of the physicians. He proclaims his convictions that the usual prophylactic measures for infectious diseases, supplemented by serotherapy, executed by an enlightened authority thoroughly prepared, armed with sufficient powers and with trained personnel, will effectively control and stamp out an outbreak of the plague, even in apparently unfavorable surroundings.

SYPHILIS IN ASIA MINOR.

Syphilis has increased to such an extent in some portions of Asia Minor that according to official reports 80 per cent. of the population are its victims, and it has seriously affected the ability to furnish the military drafts demanded by the Turkish government. Three-fifths of the young men are found unfit for service from this cause. The provinces in which syphilis is so prevalent are given as Castamoni, Bartin, Erzingian, Angora, Ismidt (Nicomedia) and Adana, the last named being only very recently added to the list. The introduction of the disease is credited to the Russian occupation of Constantinople in 1830, when a force of 30,000 men was landed on the Asiatic side of the Bosphorus. It spreads rapidly through the Moslem population, owing to their objections to medical examinations.

THE DRINKING WATER OF PARIS.

The drinking water of Paris has been under suspicion and it appears justly, for at a recent meeting of the Council of Hygiene it was developed that the Charonne reservoir has been constantly supplying unwholesome water for the past four months. Water taken from one of the filthiest portions of the Seine near Ivry is passed through gravel filters, which merely strain, and mixed at the Montmoutant reservoir with the wholesome waters of the Dhuys. When the typhoid fever reached its maximum recently the engineers shut off the Ivry supply and the mortality rapidly diminished from 18 deaths per week to about 7. The revelations have caused considerable stir in the Council of Hygiene and steps are being taken to improve matters in the future.

LONDON LETTER.

OPENING OF LABORATORIES AT KING'S COLLEGE BY LORD LISTER.

New laboratories have been opened at King's College, London, which form part of a comprehensive scheme of extension and improvement in the accommodation of the college and place its facilities for practical teaching in a foremost position in this country. The biological, architectural, anatomical, and mechanical departments have all considerably benefited by the new works. In the presence of a distinguished audience, including the lord mayor, Sir Joseph Fayrer, Prof. Clifford Albutt, Sir W. Broadbent and Baron Hayashi (the Japanese minister), Lord Lister, formally opened the new laboratories. He said the occasion marked an event of great importance in the higher education of the metropolis. Lectures were not now thought to be sufficient for the student; practical instruction was imperative. The laboratories which King's College now provided for the practical teaching of physiology were second to none in the country. The dissecting room had been almost doubled; a fine anatomical museum had been provided. The bacteriological laboratory had the very important addition made to it of a research room. The means of checking the Glasgow plague and removing the scare from London were entirely due to the kind of researches which were carried out in bacteriological laboratories.

THE SCANDAL AT THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTICS.

The unseemly controversy on this subject still continues to be hotly carried on in the columns of the *Times*. For some time the medical staff have complained of grave defects in administration—insufficient food for the patients and scarcity of nurses. They requested the board to allot them two seats on their body, pointing out that such representation would be conducive to the interests of the hospital and a preventive of the evils mentioned. This very modest request the board refused. As a result the staff have appealed to the public through the columns of the *Times*, and asked for inquiry.

To this the board replied by instituting an inquiry themselves, and by means of a committee of their own members passing judgment on themselves. Obviously this was not regarded as satisfactory, and they now find themselves compelled to consent to an inquiry by an independent body. When the reputation of the eminent men who form the staff is considered—Gowers, Jackson, Ferrier, Horsley, Buzzard, Bastian and Semon—probably the most brilliant staff that ever adorned a hospital, the conclusion is inevitable that the evils must be grave which have driven them to the verge of resignation. The secretary-director of the hospital, who seems to be the main cause of the trouble, has had the discourtesy and vulgarity to use as an argument that the staff did not contribute largely in money to the support of the hospital. A letter has just been published in the *Times* supporting the very reasonable demand of the staff, signed by the senior physician and surgeon of every hospital in London.

MR. TREVES' BOOK ON THE WAR.

The distinguished surgeon, Mr. Frederick Treves, consultant to the army in South Africa, has just brought out a highly successful book, entitled "The Tale of a Field Hospital." Mr. Treves has always been known as a surgeon of distinct literary power, and this book only confirms his reputation. With graphic pen he brings home to the reader the horrors of war and the patient, pathetic heroism of the British soldier. For example, an orderly was bringing some water to a wounded man lying on the ground. He was shot through the abdomen and could hardly speak, owing to the dryness of his mouth, but he said: "Take it to my pal first; he is worse hit than me." This generous lad died next day, but his friend recovered. An instance of pluck that deserves notice was that of a soldier who was brought in from Spion Kop. He had been lying on the hill all night and had not had his clothes off for six days. He was struck in the face by a fragment of shell, that carried away his right eye and upper jaw, leaving a hideous cavity at the bottom of which his tongue was exposed. He was unable to speak, but as soon as he was settled in a tent he made signs that he wanted to write. After going through the form of wetting his pencil at what once had been his mouth, he simply wrote: "Did we win?" After a battle Mr. Treves describes the return of "the dreary ambulances, each one with a load of suffering, misery and death." "There were the very khaki-clad soldiers who had not so long ago left London spick and span, amid a hurricane of cheers, and now they were coming back to the camp silent and listless, and scarcely recognizable as men. They were burnt a brown-red by the sun; their faces were covered with dust and sweat, and in many cases blistered with heat; their hands were begrimed; some were without tunics, and their shirts were stiff with blood. All seemed dazed, weary and depressed. In this dismal scene there was one feature which can never be forgotten—the heroism with which the soldier met his ill-luck. Some were disposed to curse and a few to be jocular, but there was no whining or fear, and they were grateful for what was done for them." Of the nurses, he says: "These ill-housed women seemed oblivious to fatigue and hunger and to any need of sleep, and brought to the wounded and the dying that comfort men are unable to bestow."

THE INCREASE OF POPULATION OF THE UNITED KINGDOM.

The return issued by the registrar-general, of the births, marriages and deaths in the United Kingdom, is interesting. The population in the middle of the present year amounted to more than 40,000,000, of which 32,000,000 inhabited England and Wales, Scotland and Ireland having each a population of 4,000,000. In spite of the large amount of emigration, there is a steady increase of population. In the three months ending last September, 290,000 births and 166,000 deaths were registered. The annual birth-rate is 28 per 1000, and the death rate 16. Emigration carries off a large part of the increase. During the past quarter 60,000 people left our shores. Of these, 38,000 were English, 12,000 were Irish and 10,000 Scotch. The marriage-rate for the quarter was 16 per 1000. The death-rate is much heavier among men than women—the proportion being 117 to 100. The mortality of infants under

1 year is very heavy, 188 per 1000 born. No less than 5000 persons died from different forms of violence.

MOSQUITO THEORY OF MALARIA.

The experiments of Drs. Sambon and Low, of the London School of Tropical Medicine, have been completely successful and they have returned home in good health. It may be remembered that in order to prove the mosquito theory of malaria they volunteered to live for some months in a specially constructed mosquito-proof hut in the worst part of the fever-stricken Campagna. The requisite arrangements were carried out by the British Colonial Office. At first they were laughed at by the sceptical peasantry, who said that the "Ingesi" were healthy because they had no work to do. The doctors then went out and toiled as day laborers, getting soaked with swamp water and broiled in the sun. Then the conjecture was: "It is because the ground is not broken up about the hut." They dug up the reeking soil. Finally it was said: "You do not drink ordinary water." At considerable risk of other maladies they did so. But when the mission returned a crowd surrounded them and begged to be protected or cured; incredulity was at an end. As a result of the success of the expedition Professor Grassi has undertaken to banish malaria from Italy. He proposes, with the assistance of the government, to isolate all fever patients and to protect all dwellings in malarial districts with mosquito-proof netting. He will have a population of 2,500,000 and a district of 20,000 square miles to deal with, so that his task is no light one.

Correspondence.

Grooved Director for Vaginal Hysterectomy.

TROY, N. Y., Nov. 24, 1900.

To the Editor: It is with pleasure that I acknowledge priority for the director for vaginal hysterectomy in favor of Dr. Joseph Eastman on the statements in the letter to THE JOURNAL of November 24, p. 1359. It is only another illustration of the fact that similar ideas and needs often bring identical results. That my oversight of Dr. Eastman's previous publication is at least pardonable is shown by the fact that the "director" was exhibited at three medical meetings in large cities in the state of New York, and privately to several gynecologists of more than national reputation, and in no instance was a hint of previous knowledge given.

Having no desire for mere priority, I cheerfully give way to Dr. Eastman, whom I hold in high esteem for his personal worth and professional work.

E. D. FERGUSON, M.D.

Correction.

BOSTON, MASS., Dec. 3, 1900.

To the Editor:—In the abstract department in your issue of December 1, on page 1432, you say that in delirium tremens I recommend "the gradual withdrawal of alcohol and nourishment." As I have earnestly insisted upon the great value of nutrition in this disease, the statement that I advise the "gradual withdrawal of nourishment"—presumably to the point of total abstinence—is startling, to say the least. Whether the error is typographical or a slip of the pen is not clear, but, doubtless, what you meant to say was that I prescribe nourishment, accompanied by the gradual withdrawal of alcohol.

CHAS. J. DOUGLAS, M.D.

[The unfortunate omission of a comma after the word "alcohol" is the cause of the ambiguous reading to which our correspondent objects.—Ed.]

Marriages.

LOUIS MEYER, M.D., to Miss Blanche Lowenstein, both of Baltimore, November 20.

CHARLES A. HUGHES, M.D., Washington, D. C., to Miss Helen Bishop, of Dover, Del., November 28.

CORNELIUS C. ABBOTT, M.D., to Miss May C. Deters, both of Cincinnati, Ohio, November 28.

F. R. YARBROUGH, M.D., Victoria, Ala., to Miss Clara Dexter, of Montgomery, Ala., November 19.

JAMES W. ALLEN, M.D., Enoree, S. C., to Miss Cecilia Menke, of Charleston, S. C., November 27.

J. CLINTON POWERS, M.D., Hampton, Ia., to Mrs. Emma Haas, of Minneapolis, Minn., November 21.

MONROE G. REYNOLDS, M.D., mayor of Alco, Ill., to Miss Ella Graham, at Phillips, Wis., November 19.

HARVEY CLAY HEALD, M.D., Millard, Neb., to Miss Alberta Powell, of South Ottumwa, Ia., November 20.

CHARLES W. DOUGHTIE, M.D., Norfolk, Va., to Miss Florence Moore Willis, of Richmond, Va., November 21.

CHARLES NORTON, M.D., U. S. A., San Francisco, Cal., to Miss Bessie Spencer, Louisville, Ky., November 21.

ROBERT W. GIBBS, M.D., Columbia, S. C., to Miss Ethel Dole Andrews, of Kenosha, Wis., November 30, at Lombard, Ill.

Deaths and Obituaries.

RUFUS P. LINCOLN, M.D., Harvard, 1868, at his home in New York City, November 27, a few days after an operation for appendicitis, aged 59. He was an alumnus of Amherst College, class of 1862, and subsequently became well known as a lung and throat specialist in his residential city. He was a member of the AMERICAN MEDICAL ASSOCIATION, the American Laryngological Association, the American Climatological Association, and other scientific organizations.

ABNER SPICER WAENER, M.D., Dartmouth Medical College, 1848, who had practiced for more than half a century in Wethersfield, Conn., and had served as surgeon of the Sixteenth Connecticut Infantry in the Civil War, and later as physician to the Connecticut State Prison, at Wethersfield, November 22, aged 82.

EZRA H. BALLARD, M.D., University of Michigan, 1868, at Esterville, Iowa, November 9, aged 60. He was for eight years superintendent of schools, for five years treasurer of Emmet County, and had practiced in Esterville continuously since 1879.

GEORGE H. BRIGHT, M.D., Jefferson Medical College, 1858, an assistant-surgeon in the confederate service and a resident and practitioner of Richmond, Va., since 1867, November 20, at his home, after an illness of two months, aged 64.

CHRISTOPHER F. HARTER, M.D., Ohio Medical College, Cincinnati, 1858, suddenly from heart disease while making a professional call near his home, Akron, Ind., November 20, aged 66.

ALBERT L. A. TOBOLDT, M.D., University of Pennsylvania, 1873, and for several years professor of materia medica in his alma mater, from uremia at Philadelphia, November 23, aged 48.

W. W. ANDERSON, M.D., a venerable and popular physician of Farmville, Va., November 23, as the result of injuries received in a runaway accident a few days before, aged 84.

JOHN S. HOLSTEIN, M.D., Tulane University, New Orleans, of Steffy Island, La., at the home of his sister in Florence, La., from pernicious malarial fever, November 19, aged 28.

JESSE W. BROCK, M.D., University of Maryland, 1855, who served through the Civil War as surgeon of the Sixty-sixth Ohio Volunteers, at Leavenworth, Kas., November 26.

JAMES J. JOHNSON, M.D., University of Louisville, 1885, of Bedford, Ind., at the home of his sister in Martinsville, Ind., from Bright's disease, November 18, aged 38.

GEORGE S. GOCHENOUR, M.D., Baltimore Medical College, 1889, of Moorefield, W. Va., by an accidental gunshot wound while hunting at Wardensville, November 22.

T. B. COX, M.D., Louisville Medical College, 1891, of learned, Miss., by an accidental gunshot wound while hunting on the Sunflower river, November 17.

THEODORE J. YOUNG, M.D., University of Pennsylvania, 1868, at his home, Titusville, Pa., after an illness of nearly two years, November 22, aged 69.

GEORGE F. MAX KRIEGER, M.D., University of Freiburg, Germany, 1877, at his home, Seattle, Wash., November 18, from dropsy, aged 47.

WILLIAM F. CARSON, M.D., Starling Medical College, Columbus, O., 1880, from apoplexy, at his home in Huntington, Ind., November 26, aged 47.

ALVIN B. PETERS, M.D., University of Nashville, 1889, of Moultrie, Miss., from consumption, at Whiten Springs, Fla., November 13.

WILLIAM W. STEVENSON, M.D., University of Maryland, 1880, from meningitis, at St. Mary's Infirmary, Cairo, Ill., November 20, aged 48.

RANDOLPH N. HOWARD, M.D., Jefferson Medical College, 1879, suddenly from heart disease, November 22, at Carrington, N. D.

GEORGE S. McCOMB, M.D., University of Pennsylvania, 1892, at Williamstown, Pa., November 17, after a short illness, aged 36.

WILLIAM J. WILSON, M.D., Geneva Medical College, 1841, at his home, West Chicago, Ill., November 20, aged 83.

J. H. STIMSON, M.D., after an illness of several months, at his home, in Croton, O., November 23, aged 74.

C. FRANK TWISS, M.D., New York University, at his home in Cleveland, Ohio, November 23, aged 48.

Association News.

The following is a list of new members for November:

- ALABAMA.**
Jones, T. W., Newtonville.
- ARKANSAS.**
Mason, S. A., Hattiesville.
Vinsonhaber, Frank, Little Rock.
- CALIFORNIA.**
Taylor, T. P., Geyserville.
- COLORADO.**
Burke, Marion, Colorado Springs.
Libby, Geo. F., Colorado Springs.
- CONNECTICUT.**
Granniss, John H., Saybrook.
Spencer, Wm. D., Saybrook.
- DISTRICT OF COLUMBIA.**
Manning, Wm. P., Washington.
- FLORIDA.**
Miller, Jas. F., Inverness.
Airth, H. F., Live Oak.
Durkee, Jas. H., Jacksonville.
Colson, J. H., Waldo.
Wills, John C., Starke.
Berry, Ned C., Starke.
Leffingwell, John B., Praidentown.
- GEORGIA.**
Crozler, John R., Cedar Springs.
Holland, M. M., Statesboro.
Hamm, John H., LaFayette.
Oliver, Alfred S., Elberton.
Smith, W. Monroe, Atlanta.
- HAWAIIAN ISLANDS.**
Rhodes, E. C., Wahiawa, Oahu.
Sloggett, Henry C., Honolulu.
Garvin, C. L., Honolulu.
Goodhue, Ed., Honolulu, Kauai.
- IOWA.**
Bender, H. W., Cedar Rapids.
Deemer, Geo. W., Muscatine.
Gabringer, J. M., Olds.
Harriman, O. B., Hampton.
Lander, Wm., LeRoy.
Nelson, Herbert H., Russell.
Port, F. W., Olin.
- INDIAN TERRITORY.**
Hensley, Jasper W., Choska.
- INDIANA.**
Reagan, Ross M., Monon.
Schilling, Carl, Ft. Wayne.
- ILLINOIS.**
Eiss, Daniel, Chicago.
Halstead, A. E., Chicago.
Theston, Louis, Chicago.
Wheeler, A. M., Chicago.
Barnes, Lynn M., Deatur.
Collins, Clifford T., Peoria.
Hendrick, S. O., Henry.
Jones, Wm. S., Redmon.
- KENTUCKY.**
Baltzer, L. P., Louisville.
Clement, Wm. R., Princeton.
Gwyn, Matthew K., Louisville.
Thomas, George A., Bardwell.
- LOUISIANA.**
Ayo, J. J., Rowle.
Bryant, Henry, East Point.
- Gulledge, Robert H., Horse Shoe.
Johnson, Jesse R., Buras.
Joseph, Horatio S., Melville.
Morgan, L. E., Baton Rouge.
Randolph, Robert L., Alexandria.
Vance, Norwood K., Baton Rouge.
Irwin, Emmett L., Clinton.
Gelzi, Paul, New Orleans.
Landfried, Chas. J., New Orleans.
- MAINE.**
Millet, Adelbert, Searsmont.
Northcott, Edwin M., Portland.
Tibbets, Geo. B., Ovington.
Wilson, Chas. A., East Hiram.
- MARYLAND.**
Johnston, Samuel, Baltimore.
Bond, S. B., Baltimore.
Whitridge, Andrew H., Baltimore.
Nordmann, F. R., Baltimore.
Stevenson, H. Burton, Rider.
Potter, Chas. Henry, Baltimore.
Brown, Thomas R., Baltimore.
Mellus, Edward L., Baltimore.
Hawkins, Arthur, Mount Savage.
Shank, Abraham, Clear Spring.
Steeves, J. W., Hollands Island.
West, Levin, Brunswick.
- MASSACHUSETTS.**
Burrill, Benj. H., Boston.
Cabot, Hugh I., Boston.
Doughue, Francis D., Boston.
Gallison, Henry H., Cambridge.
Chenery, Wm. E., Boston.
Councilman, W. F., Boston.
Durgin, Samuel H., Boston.
Musc, Joseph E., Boston.
Brooks, Lawton S., Springfield.
Gray, G. H., Lynn.
Brown, J. P., Taunton.
Curley, C. P., Provincetown.
- MICHIGAN.**
Cardwell, J. F., Durand.
Church, Starr King, Marshall.
Craig, John M., Battle Creek.
Spitzley, Wm. Albert, Ann Arbor.
- MINNESOTA.**
Hammes, E. W., Hampton.
McCord, Eugene W., St. Paul.
Hilbert, Pierre A., Melrose.
Rollins, Frederick H., St. Charles.
- MISSOURI.**
Rooney, Abby, Fox, St. Louis.
Hiller, Frank B., Kahoka.
Gillmer, E. E., Adrian.
Redmon, S. H., Tipton.
Sulzbacher, B. L., Kansas City.
Twyman, G. T., Independence.
McNeill, Geo. E., Scudall.
Campbell, O. Beverly, St. Joseph.
- NEBRASKA.**
Barr, E. E., Whitman.
Grant, Thomas, North Bend.
- NEW HAMPSHIRE.**
Johnson, Hiram L., Franconia.
Leet, Jas. A., Eastfield.
Priority, Ira B., Keene.
Varick, Wm. R., Concord.

NEVADA.

Thoma, G. H., Reno.

NEW JERSEY.

Geddes, Isabel M., Newark.

NEW YORK.

Barnes, Edwin, Pleasant Plains.

Brookell, A. H., Oneonta.

Cutler, Arthur W., Oneonta.

Comstock, Francis E., Wellsville.

Greene, Clark W., Binghamton.

Smith, Frederick A., Troy.

Blasucci, Ernest S. L., New York.

Bridcker, Walter M., New York.

Goldwater, A. L., New York.

Quackenbush, John D., New York.

Etc. Robt., Portageville.

Reuna, J. Julius, New York.

McIntyre, Wm. H., New York.

Arnold, Glover C., New York.

Perry, L. E., New York.

Leasor, A. Monae, New York.

OHIO.

Green, Howard L., Toledo.

Porter Wm. D., Cincinnati.

OKLAHOMA.

Settle, Jas. A., Yukon.

PENNSYLVANIA.

Brown, J. J., Bloomsburg.

Clementson, W. A., Braddock.

Fischer, A. S., Johnstown.

Meisenhelder, Edmund W., York.

Robrer, Geo. R., Lancaster.

Van Horne, C. E., Pittsburg.

West, Wm. H., Harrisburg.

RHODE ISLAND.

Wims, D. P., Providence.

SOUTH CAROLINA.

Massey, Jos. E., Rock Hill.

TENNESSEE.

Fox, C. P., Greeneville.

Mince, Jas. L., Memphis.

McKinnie, P. H., Hickory Valley.

TEXAS.

Bell, Jas. H., San Antonio.

Blair, Henry A., San Antonio.

Duggan, Malone, Eagle Pass.

Hurt, John H., Jr., Big Springs.

Clark, Isaac E., Schulenburg.

Suttle, J. Newton, Corsicana.

Kimbrough, Walter G., Krum.

Logan, Jesse H., Goldthwaite.

Mason, J. Mel., Floresville.

Maxwell, Corwin L., Forestburg.

Moss, Robt. E., San Antonio.

Norris, Frank O., Eagle Lake.

Phillips, Calvin B., Cuero.

Watters, Egbert A., Crowley.

VIRGINIA.

Barksdale, Geo. Edw., Richmond.

Chaffin, W. W., Pulaski.

Fairfax, H. Reginald, Roanoke.

Padely, Geo. B., Falls Church.

Hazen, Chas. M., Bon Air.

Turman, A. E., Lassiter.

Winston, B. L., Hanover C. H.

VERMONT.

Colby, Bern. D., Bristol.

Dyer, O. G., Brandon.

Woodhull, J. B., N. Bennington.

WASHINGTON.

Spencer, James H., Tacoma.

WEST VIRGINIA.

Hannah, Alexander, Sardis.

Hoffman, O. H., Thomas.

Powell, R. H., Grafton.

Rupert, Leancy B., Nuttallburg.

Wilson, W. C. R., Mannington.

Whistler, Horace C., Smithfield.

WISCONSIN.

Gasser, Herman, Platteville.

Hebard, Chas., Mondovi.

Larsen, Lauritz A., Colfax.

McDermott, C. L., Neenah.

Streck, Stephen S., Milwaukee.

Willard, Lee M., Wausau.

portion of any work, on medicine an adequate consideration of treatment is, except in works more than one volume, rarely attempted. The work under consideration aims to supply this defect and it is, therefore, a supplement to other works on medicine. It deals entirely with the treatment of diseases and of symptoms, and in general this is done clearly and fully. The amount of space devoted to the different diseases, or classes of diseases, seems to be judiciously arranged, for instance, two chapters are given to the treatment of tuberculosis and about the same amount of space to the specific infectious diseases. This may seem a disproportion until we reflect that in regard to the first the average practitioner is anxious for help, whereas he is familiar with all the most approved methods of the treatment of the specific infectious diseases.

We can commend the book as up to date and a valuable addition to the busy man's library.

NETTLESHIP ON THE EYE. New Edition. Diseases of the Eye, by Edward Nettleship, F.R.C.S., Ophthalmic Surgeon at St. Thomas' Hospital, London; Surgeon to the Royal London Ophthalmic Hospital, Etc. New (6th) American from the Sixth English Edition, Thoroughly Revised by William Campbell Posey, M.D. With a Supplement on the Detection of Color Blindness, by William Thomson, M.D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia. Just Ready. In One 12mo Volume of 562 Pages, with 192 Illustrations. Selections from Snellen's Test-Types and Formulae, and 5 Colored Plates. Cloth, \$2.25, net. Philadelphia and New York; Lea Brothers & Co.

This well-known work, which has passed through the press six times in England, and as many in this country, requires words neither of introduction nor of commendation to our readers. The present edition has been revised and adapted to meet the wants of American students and practitioners. A supplement considers the practical examination of railway employees for color-perception, visual acuteness and hearing. Then follows an appendix with a selection of therapeutic formulae usually employed by American ophthalmologists. The book also gives what is required of candidates of the American public services, and closes with the method used in examining school children in some of our large cities. Many new illustrations have been inserted in this edition.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the Kindred Branches, with their Pronunciation, Derivation, and Definition, Including Much Collateral Information of an Encyclopedic Character. By W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician in the University of Pennsylvania Hospital. Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Diplococci, Micrococci, Streptococci, Ptomaines and Leukomains, Weights and Measures; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc. With Numerous Illustrations and 24 Colored Plates. Leather, Pp. 770. Price, \$4.50. Plain, \$5.00. Index. Philadelphia and London: W. B. Saunders & Co. 1900.

The author states that it has been his aim to produce in a volume of convenient size, an up-to-date medical dictionary, sufficiently full for the varied requirements of all classes of medical men. In this he has succeeded; he has given us a word-book which is neither so unwieldy as to be too large for handy, every-day use, nor so condensed but that it can be relied on for every occasion. It contains all medical terms required by all classes of medical men and medical students, and yet it is so compact that it is as convenient in size as the ordinary abridged dictionary. While it is not encyclopedic in character, it contains a large amount of descriptive matter, together with many important tables. It is profusely and excellently illustrated. The colored illustrations are especially fine; the plates showing the arteries and veins, and those showing the transverse section of the spinal cord, are particularly worthy of notice, as are the half-tone plates on the anomalies of the placenta. The book is printed on thin Bible paper, and is bound in flexible cover, the former adding to its compactness, the latter to its convenience in handling.

Book Notices.

SYSTEM OF DISEASES OF THE EYE. By American, British, Dutch, French, German, and Spanish Authors. Edited by Wm. F. Norris, A.M., M.D., and Charles A. Oliver, A. M., M.D., of Philadelphia. Vol. iv: Motor Apparatus, Cornea, Lens, Refraction, Medical Ophthalmology. With 51 Full-page Plates and 211 Text Illustrations. Svo. Cloth. Pp. 950. Price, \$5.00. Philadelphia and London: J. B. Lippincott Co. 1899.

This volume, itself large, completes a work which, comparatively, is truly monumental—comparatively, because one would not think so much information could be gathered together concerning so small an organ. It is worthy of note, too, that such accumulated knowledge approaches very nearly the exact, for with his instruments of precision the deductions of the ophthalmologist are, to a certain extent, mathematical.

The American contributors to this volume are Drs. Norris, Oliver, Standish and De Schweinitz; among the foreign collaborators are Landolt of Paris, Suel of Liège, Haab of Zurich, Swanzy, of Dublin, and Jonathan Hutchinson, of London. The plates representing microscopic appearances are certainly instructive, particularly those illustrating pathologic conditions of the cornea and lens.

The volume is devoted largely to the consideration of general disturbances and their local effect on the eye, for instance, the influence of diseases of the circulatory and nervous systems, of the secretory and excretory organs, of that of the infectious diseases, etc. Hence, the work is valuable to the general practitioner as well as to the specialist. The "System" stands facile princeps among works of its kind in the English language.

TEXT-BOOK OF THE MEDICAL TREATMENT OF DISEASES AND SYMPTOMS. For Use of Students and Practitioners of Medicine. By Nestor Tierard, M.D., F.R.C.P., Professor of Principles of Medicine, King's College, London. Adapted to the U. S. Pharmacopoeia by E. Quin Thornton, M.D., of Jefferson Medical College, Philadelphia. Octavo. Pp. 624. Cloth. \$4.00 net. Philadelphia and New York: Lea Brothers & Co.

This book is not an ordinary work on medicine, but occupies a field which has been largely neglected. Since symptoms, etiology, diagnosis, etc., must of necessity occupy a large pro-

Miscellany.

Malaria Serotherapy.—Fifty patients with malaria were treated early in 1899 with serum from horses with the "Sterbe," a local epizootic, and the malarial infection was promptly cured. None of the patients have since contracted the infection, while many of their neighbors were affected during the rainy season. These results were attained by Dr. Kuhn, a German staff physician at Groot Fontein, in German Southwest Africa. Other experiences have confirmed the curative and preventive value of this serotherapy and Dr. Kuhn is now on his way home to present the authorities with his official report. A preliminary communication in the *Deu. Med. Woch.* of November 1 is confirmed by private advices as to the remarkable results attained in the hospitals with the serum. It transforms a chronic, relapsing malarial infection into an acute affection which runs its course in two to six weeks, with complete recovery and subsequent immunity.

German Burlesque.—The annual burlesque number of the *Muenchener Medicinische Wochenschrift* has been received and is full of fun. The "Bakers' Congress" is an amusing tragedy-comedy, dealing with the lodge question and the creation of a Tribunal of Honor for Bakers. The department-store advertisement offers medical attendance at different prices. The "lodge physicians" in the basement "imported still alive at great expense from Berlin. They will work for lower prices than are possible in any other trade, only to be secured by the extreme indigence of these gentlemen, who are not coolies, but diplomaed physicians." Professor Swindel, of Mississippi College, reports the wonderful cures of neurasthenia obtained with his serow "quietrix," which, inserted between the atlas and epistropheus, temporarily suspends the function of the cerebrum. Another communication announces the discovery of the prescribing center. Excitation of the centripetal fibers for bronchitis, for instance, invariably induces a purely reflex act; the hand writes "syr. ipecac." For organic and non-organic nervous affections, the reflex response is always: "Mixture nervina," etc. Prescribing, the writer proves, is a purely subcortical reflex action, with which the gray cortical substance has nothing to do. The report of the Medical Congress for 2001 is mainly devoted to discussion of means "to relieve the members of the profession from the overwhelming number of patients with which they are now burdened, owing to the fabulous incomes of the physicians in the colonies, which have attracted so many colleagues to foreign lands. The remedy is only to be found in reducing the standard of admission to the medical schools and shortening the course. As the curriculum now consists merely of the application of water and the administration of organs for affections in corresponding organs, we need no longer be hampered by the traditions of our ancestors. Three months at a female seminary is ample preparation for the study of medicine, or the ability to read the daily paper aloud correctly." In the "Points for Construction of a Thesis" it is advised to "always commence with Hippocrates, to describe the symptoms and food of the patient to the minutest details and fill pages on pages, to avoid original ideas, and to copy the bibliography from the latest medical journal at hand. Never condense; add as many pictures as possible, if only of the espidior or test-tubes used, and present all the old exploded theories." The "inhalator" is a new apparatus advertised, a large funnel in which a vacuum is created at the door of the office building. The passers-by are sucked into this funnel and landed in the waiting-room with some traumatism requiring immediate attention.

MARINE HOSPITAL NOTES.

ASST. SURGEON L. P. H. BAHRENSBERG, who was on duty in Liverpool during the prevalence of plague in Glasgow, has returned to New York, where he is stationed as assistant to the medical inspector of immigrants.

ON THE REQUEST of Governor Atkinson of West Virginia, Assistant-Surgeon W. C. Billings, who successfully manæged an epidemic of smallpox in Charlestown, W. Va., last summer, has been detailed to confer with Dr. Flowers, of the State Board of Health, at Clarksburg, W. Va., with reference to measures

necessary to suppress an epidemic of smallpox now existing in that place and the surrounding county.

ASST. SURGEONS Dunlop Moore, B. H. Earle, and B. J. Lloyd returned on November 28 from Dutch Harbor and Nome, Alaska, where they have been on duty during the past season, and have been assigned to duty respectively at Port Townsend quarantine, Astoria quarantine and San Francisco quarantine.

ALUM AND BACTERIAL GROWTH.

At the request of a committee of the Medical Society of the District of Columbia, of which Dr. Samuel C. Busey is chairman, the surgeon-general of the Marine-Hospital Service has directed that the hygienic laboratory of that service shall investigate the subject of the possible inhibitive effect of alum on the growth of bacteria in water, to which it may have been added as a preliminary step in purification by filtration. The experiments have been commenced, and will form the subject of observation for a period of thirty days, the alum being used in quantities varying from 3 to 6 grains per gallon, the amounts usually employed in such preliminary purification or sedimentation.

Societies.

Seaboard Medical Association of Virginia and North Carolina, Weldon, N. C., Dec. 13.

Roentgen Society of the United States, New York City, Dec. 13-14.

Western Surgical and Gynecological Association, Minneapolis, Minn., Dec. 27-28.

Pan-American Medical Congress, Havana, Cuba, Feb. 5, 1901.

THE HOLYOKE (Mass.) PHYSICIAN'S CLUB met on November 21, completed its organization and elected Dr. Carl A. Allen, president; Dr. Daniel F. Donoghue, vice-president; Dr. John J. McCabe, secretary, and Dr. J. Clark Hubbard, treasurer.

THE REDWOOD COUNTY (Minn.) MEDICAL SOCIETY held its first meeting at Sanborn, November 13, and elected Dr. George W. Boot, Sanborn, president; Dr. Giles R. Pease, Redwood Falls, vice-president; and Dr. R. H. Ray, Walnut Grove, secretary and treasurer.

THE PENOBSCOT COUNTY (Maine) MEDICAL ASSOCIATION held its annual meeting and election of officers at Bangor, November 20, with the following result: Dr. Atwell W. Sweet, president; Dr. Walter L. Hunt, vice-president; and Dr. Bertram L. Bryant, secretary, all of Bangor.

THE INTER-COUNTY (Wis.) MEDICAL SOCIETY, at its annual meeting held in Eau Claire, November 20, elected Dr. William B. Lyman, Mendota, president; Drs. Frank W. Epley, New Richmond, and Charles H. Elkinton, Eleva, vice-presidents, and Dr. Joseph J. Selbach, Eau Claire, secretary and treasurer.

THE TRI-STATE MEDICAL ASSOCIATION of the Carolinas and Virginia will meet on February 26, 1901, at 10 o'clock a. m., at the Jefferson Hotel, Richmond, Va. All Fellows desiring to read papers communicate with the secretary, Dr. J. N. Upshur, 210 W. Grace street, Richmond, Va., giving title, not later than January 15, 1901.

THE DES MOINES COUNTY (Iowa) MEDICAL SOCIETY, which has been inactive for several years, reorganized at its twenty-seventh annual meeting held at Burlington, November 21, and the following officers were elected: Dr. Nathaniel M. McKitterick, president; Dr. William W. Milligan, vice-president, and Dr. George Kinney, secretary and treasurer, all of Burlington.

THE MASON COUNTY (Ky.) MEDICAL SOCIETY held its regular meeting at May's Lick, November 27. Dr. A. N. Ellis, Maysville, reported some interesting clinical experiences; Dr. Amos G. Browning, Maysville, presented a paper on "Perineal Abscesses"; Dr. Cook, Wedonia, submitted a report on typhoid fever; Dr. Edwin Matthews discussed the relation of dentistry to general medicine, and Dr. Thomas E. Pickett, Maysville, read a sketch of Dr. Daniel Drake, founder of the Medical College of Ohio and author of "The Diseases of the Mississippi Valley" which was especially appropriate, as the meeting was held at the place which a century ago young Drake left to study medicine with Dr. Goforth, of Cincinnati.

THE BURLINGTON (Vt.) CLINICAL SOCIETY held its annual meeting, November 30, and after an address by Dr. Samuel E. Maynard, the retiring president, elected the following officers: Dr. Marshall C. Twitchell, president; Dr. Frederick E. Clark, vice-president; Dr. C. K. Johnson, secretary and treasurer; Drs. Maurice J. Wilste, Bingham H. Stone and Hoyt R. Wilder, executive committee, and Drs. Donly C. Hawley and Samuel E. Maynard, special committee on program. The secretary of the Vermont State Medical Society, Dr. Donly C. Hawley was asked to explain in detail the reorganization scheme on foot in that society. At the close of his remarks, the following resolution was adopted by a unanimous vote, "Resolved, That the Burlington Clinical Society is in hearty sympathy with the re-organization plan of the Vermont State Medical Society."

THE NEW YORK STATE CHARITIES AND CORRECTION CONFERENCE.—At the meeting held in Albany on November 20, 21, and 22, Governor Roosevelt, in delivering the address of welcome, said that as the conference would discuss subjects pertaining to penology, he desired to say that the greatest blot on American civilization is lynch-law, and it flourishes most rankly in states where there is a constant miscarriage of justice. Lynch law is one form of mob violence, and should be put down at all hazards. William Pryor Letchworth, president of the conference, said that the sum expended by the state, municipalities, and counties for charitable purposes, and for reformatories and prisons, including that for buildings, during the year ended September 30, 1899, was \$9,768,515. Adding to this the \$18,517,782 expended by private charitable organizations, the total was raised to \$28,286,297. J. Graham Phelps Stokes, in discussing the University Settlement work in New York, said that it was often asserted that the three chief causes of poverty are lack of employment, vice and crime, but he felt sure that there was an underlying predisposing cause in the vast majority of cases—an undeveloped or defective personality. He thought that no efforts to reduce the world's poverty would prove successful unless they included means for reaching and developing the characters of those in poverty or on its verge. The report of the Committee on the Institutional Care of Destitute Adults gave the following as essentials to success: Competent officials, good buildings—those in which proper attention is given to fresh air, sunlight and general sanitation; proper discipline, including suitable employment, and thorough classification. The report of the Committee on Mentally Defective, presented by Dr. William P. Sprattling, of the Craig Colony for Epileptics, contained the following recommendations: To prevent insanity, epilepsy, imbecility, idioy, and feeble-mindedness as far as possible by making it impossible for them to marry; to build less expensive structures in which defective and dependent state charges shall live; to maintain at less cost the cases that are chronic and incurable, and at greater cost, to stimulate recovery, those who probably can be cured; and to give to those who ought to have it, an education that they may use, either in the institution that cares for them, that the cost of their maintenance may be lessened, or in the outer world when they leave the institution. In the discussion on Criminology, Thomas Sturgiss, New York City, chairman of the board of managers of Elmira Reformatory, read a communication on "The Treatment of the Criminal." The following conditions were considered as essential to the adoption of a true system of treatment in all penal institutions: Centralization of prisons of all kinds; taking of all prisoners out of reach of political influence; proper classification and distribution of all criminals; specializing of such institutions; such classification to be made by the head of the institution to which the prisoner is first sent; adoption of the principle that reformation and not punishment is the end sought by imprisonment, and proper application of the parole system and a constant fostering of the element of hope. The following officers were elected: Robert W. De Forest, president; T. Guilford Smith, and Simon W. Rosedale, Albany, and Thomas M. Mulry, New York, vice-presidents; Robert W. Heberder, Albany, secretary; Dr. Lee K. Frankel, New York, Miss Lucy C. Watson, Utica, and Mrs. August Falkes, Syracuse, assistant secretaries, and Frank Tucker, New York, treasurer.

THE WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.—The next annual meeting of this association, of which Dr. O. B. Campbell, Kansas City, is president and Dr. George H. Simmons, Chicago, secretary, will be held at Minneapolis, Minn., December 27 and 28. An invitation is extended to the surgeons and gynecologists of the Great West to attend this meeting and take part in its deliberations. The meetings are held during the holidays, thus enabling those to attend who

belong to the teaching faculties of medical colleges without interfering with their college duties. The following is the preliminary program:

- Anesthesia Through Cocainization of the Spinal Cord; Its Use and Limitation. Dr. J. B. MURPHY, Chicago.
 Adenoma of the Tongue. Dr. J. E. SUMMERS, JR., Omaha, Neb.
 Removal of Superior Maxilla. Dr. ALEXANDER H. FERGUSON, Chicago.
 Two Rare Tumors: (1) A Calcareous Testis Fibroma, and (2) a Fibro-Myoma of the Urethra and Anterior Vagina. Dr. J. CLARENCE WENSTER, Chicago.
 Post-Operative Fistula. Dr. H. G. WETHEBILL, Denver, Colo.
 Insanity in Women Associated with Pelvic Disease. Dr. J. R. HOLLOWHUSH, Rock Island, Ill.
 Demonstration of Gynecological Operations by Means of Casts. Dr. W. O. HENRY, Omaha, Neb.
 The Choice of Operation for Stone in the Bladder. Dr. J. CLARENCE WENSTER, Chicago.
 Traumatic Injuries of the Ureter. Dr. E. B. DAVIS, Omaha, Neb.
 Hypospadias. Dr. J. W. MACDONALD, Minneapolis, Minn.
 The Operative Management of Retro-Peritoneal Abscess. Dr. C. H. MATO, Rochester, Minn.
 Pelvic Injuries. Dr. G. G. COTTAM, Rock Rapids, Iowa.
 The Pathology of Fractures. Dr. R. HARVEY REED, Rock Springs, Wyo.
 Operative Management of Tubercular Hip Joint Disease (A Critique). Dr. LEWIS SCHOLLER, Des Moines, Iowa.
 A Further Report of a Case of Cerebral Cyst. Dr. A. F. JONAS, Omaha, Neb.
 Anatomical and Surgical Observations on Appendicidal Abscess. Dr. VAN BUREN KNOTT, Sioux City, Iowa.
 Topical Applications in Gynecological Practice; Their Use and Abuse. Dr. A. C. BERNANZI, St. Louis, Mo.
 Two Cases of Appendicitis of Unusual Course. Dr. J. W. ANDREWS, Mankato, Minn.
 A Consideration of the Different Operative Procedures in the Treatment of Retro-Displacements of the Uterus. Dr. HERMAN E. PEARSE, Kansas City, Mo.
 Dr. O. B. CAMPBELL, St. Joseph, Mo.

SYMPOSIUM ON FRACTURES.

- a. Some Observations on Compound Fractures. Dr. J. P. LORD, Omaha, Neb.
 b. Ambulatory Treatment of Fractures. Dr. D. S. FAIRCHILD, Clinton, Iowa.
 c. The Treatment of Skull Fractures. Dr. FRED. RUSTIN, Omaha, Neb.
 d. What Material Improvement in the Treatment of Fractures has Resulted from the Use of the X-Ray? Dr. J. E. DUNN, Minneapolis, Minn.
 Dr. C. E. RUTH, Keokuk, Iowa.

SYMPOSIUM ON THE SURGICAL INFECTIONS OF THE KIDNEYS AND THE CYSTOURETHROSES.

- a. Etiology and Pathology. Dr. M. L. HARRIS, Chicago.
 b. Symptomatology and Diagnosis. Dr. W. H. ALLPORT, Chicago.
 c. Treatment. Dr. L. L. McARTHUR, Chicago.

SYMPOSIUM ON SURGICAL TUBERCULOSIS.

- Tuberculosis of Fascia. J. CLARK STEWART, Minneapolis, Minn.
 Tuberculosis of Tubes, Ovaries and Peritoneum. Dr. ROLLIN E. CUTTS, Minneapolis, Minn.
 Tuberculosis of Bones and Joints. Dr. DE. KNUTE HOGSH, Minneapolis, Minn.
 Treatment of Tuberculosis of Bones and Joints. Dr. JAMES E. MOORE, Minneapolis, Minn.

Chicago Physicians' Club.

November 26, 1900.

DR. HAROLD N. MOYER in the chair.

THE PHYSICIAN AS A WRITER OF MEDICAL LITERATURE.

DR. HAROLD N. MOYER spoke of the great carelessness exhibited in medical writings. To-day medical literature is sadly in need of men who are competent to take the vast number of accumulated, and, in some cases, isolated, facts, shape them, co-ordinate them, and put them into the proper place where they belong. The services of such men are indispensable to the medical profession and to medical science.

SHOULD THE PHYSICIAN WRITE?

DR. G. FRANK LYDSTON discussed this subject. Persistent writing enables the physician to acquire a knowledge of medicine and of surgery which can not be obtained in any other manner. Many works show breadth of culture and depth of thought. According to his experience, only 25 per cent. of all medical students express themselves in good English. As models of literary style he mentioned the writings of Van Buren and Fothergill.

COMMON FAULTS OF THE WRITINGS OF MEDICAL AUTHORS.

DR. GEORGE H. SIMMONS said that most physicians write too long papers. Papers ought to be short, for two reasons, 1, because the readers desire them so, and 2, because editors would be able to present their readers with a greater variety of topics, which is impossible when two-thirds of the space in a medical journal is taken up by a long article. A long article is read by but few of the readers. Probably three-fourths of all papers published are prepared for reading before medical

societies. They are prepared hurriedly, and the subjects are not well thought out. Because such a paper sounds well when read is no reason why it would read well when printed. When one prepares a paper with the idea of placing it before thousands in its printed form he should use more care in its preparation than when it is written for the purpose of reading before a possible dozen or two in a society. Too many papers bristle with unnecessary details. Examples were given. Some writers were not able to stick to their text. Meaningless titles were dwelt on, and many examples given. The title should suggest the contents of an article. Faults in bibliographic references were pointed out; also faults in case reporting. The style which some practitioners adopt in reporting cases is to be deprecated. Several examples of involved and verbose styles were given. He urged the liberal use of central and side head-lines to guide the reader. The reckless confusion and mixing of tenses should be avoided.

HOW TO WRITE WELL.

DR. GEORGE F. BUTLER discussed this subject. A prerequisite to writing well is to think well. To cultivate a logical sequence of ideas and train the mind to precise methods of coordination and lucidity of reasoning is a hard task, yet on this systematic basis of correct ratiocination is founded the higher power of appropriate expression. As a general principle, save in cases of superior talent, the less of self injected into literary productions, the more acceptable the results. Style should be marked by the suppression of that arrant egotism which mars the works of not a few able writers and detracts from the strength and charm of their performance. Association with great minds, through diligent perusal of their works will be found in newspaper leaders of signal merit, fully equal in style to the best magazine literature, and, from the necessity of condensation, presenting admirable examples of concise, logical reasoning combined with discriminating observation of the leading events of the day.

MEDICAL WRITERS FROM THE STANDPOINT OF THE READER.

DR. HENRY F. LEWIS said the busy practitioner can only read a few medical journals, and these should be the best. Articles that appeal to the casual medical reader are scattered far and wide through medical journals. The medical writer speaks too frequently with an authority that is not his own. There is too much compilation, and not enough of the author's own observations and experience given. Too much space is devoted to what this and that man has said regarding a certain subject. Lengthy quotations of the works of others are unnecessary, because they can be found in the literature by those who are sufficiently interested to look them up. Articles are not sufficiently concise. Greater condensation is necessary. The average writer consumes too much time and space with prefatory observations, or long, windy introductions. Brevity, without vagueness, is desired. Long and involved sentences are fatal to clearness, and should be studiously avoided. Subjects should be well divided; there should be a liberal use of central and side head-lines to suggest to the reader what an article contains. He favors appending titles after the author's name, as, for instance, "Professor of the Principles of Surgery in the Squedunk Medical College," etc., but not to the extent to which it is carried by some authors. Abstracts of papers should be made by the authors themselves rather than by editors, if possible, as they can bring out the salient points more clearly. Abstracting is frequently done in a haphazard manner by many medical journals. This should be intrusted to experts in particular lines of work.

DR. HUGH T. PATRICK said that some of the very best textbooks extant on general medicine are nothing but compilations. The men who can select the good from the bad in medical literature, pick it out, and present it to the medical profession in a simple, concise, readable form are as much to be praised as are those men who discover and promulgate something new. Physicians should not write for editors, but for the readers.

DR. SNYDACKER said that every author should give a concise, terse summary of his deductions or conclusions at the end of an article.

DR. J. HOMER COULTER said that authors in preparing papers, either to be read before medical societies or for publica-

tion, should not only consider the class of readers which they intend shall read their papers, but should exercise as much care in their preparation as they would in examining and treating patients. The medical writer should compress his thoughts into the fewest possible words.

Cleveland Medical Society.

Regular Meeting, October 12, 1900.

President Dr. Henry S. Upson, in the chair.

The Committee on Necrology reported resolutions upon the death of Dr. Ralph J. Wenner, which were unanimously adopted.

UTERUS SEPTUS WITH A VAGINAL SEPTUM.

DR. FRANK E. BUNTS said his patient had been married at 22, and had a miscarriage eight months afterward. Six weeks later she was found to be in the fifth month of pregnancy and was delivered of a living child at term. Even then a diagnosis of uterus septus was not made. Later she found she had a double vagina and uterus, and thought she could tell from which side she menstruated. By digital examination no abnormality was found, but inspection showed a septum with the smaller vagina on the right and a cervix in each. She was anxious to have a child, but feared a miscarriage. An operation was agreed on and the method employed is new, so far as known. A long-bladed clamp was placed along the upper attachment of the septum and another along the lower. The septum was then excised, and the edges of membrane at each insertion stitched with running catgut suture before removing the clamps. The operation was absolutely bloodless. A laceration of the right cervix indicated that the term pregnancy had occurred on that side, and the left ovary was removed in the hope of preventing conception on that side of the uterus. Unfortunately the patient has not been seen since her prompt recovery from the operations.

DR. JOHN H. BELT had attended this case some time previously in confinement, and had not discovered the anomaly.

DR. HUNTER ROBB said that he had once examined a similar case without finding the anomaly. Only on the occasion of a later examination he accidentally found it. In this case the dividing membrane was quite thick, and there was a cervix in each compartment. A subsequent operation for ovarian disease disclosed the fact that the body of the uterus was not divided.

DR. WILLIAM H. HUMISTON said that he had examined the case reported by Dr. Bunts without finding the condition, and thought that it was a very easy mistake to make unless an anesthetic and speculum were employed.

DR. SAMUEL W. KELLEY mentioned a case which he had seen sixteen years previously, in which there had been pelvic injury from a fall. On examining for a separation of the symphysis, he found a septum in the vagina and also in the uterus. Five years later, after she had borne a child, he examined the case and found the septum had been torn, and she gave a history of having had a difficult labor.

DR. JOHN L. HESS reported a similar case in which he had discovered the anomaly by accident. In his case the septum, instead of being placed in the anterior direction, extended from one side to the other. One of the openings was not more than three-fourths of an inch in diameter, and appeared to end in a cul-de-sac.

THE PRESENT STATUS OF SUGGESTIVE THERAPEUTICS.

DR. HUBERT L. SPENCE traced the evolution of the "hypnotism" of Braid to the psychotherapy of to-day. After an experience of fifteen years he has come to regard the so-called sleep as an arbitrary and artificial phenomenon, and seldom necessary for therapeutic purposes. For the same reason all physical agencies, as revolving mirrors and objects for securing fixation of gaze, are generally superfluous. The conditions tending to mental inertia, as quietude, limitation of movement, and muscular relaxation, favor suggestibility. Post hypnotic or deferred suggestions can be made operative without preceding hypnosis. In some hysteric and neurasthenic cases with marked disintegration of personality, deep hypnosis is

needed. In this state hysteric anesthesia and other defects can be removed, and the restitution of function thus achieved may be carried over into the waking state. All hysteric and markedly nervous patients should be approached with caution. An explanation of the nature and mode of treatment gains confidence and dispels apprehension. In no instance has the speaker observed unpleasant consequences following this treatment. While functional affections, and especially the psychoneuroses, are generally amenable to suggestion, direct or otherwise, many organic diseases, or rather their nervous accompaniments may be thus greatly benefited. Obviously it behooves the physician in all cases to carefully differentiate these conditions, and, though employing psychotherapy, by no means to neglect the many other remedial measures that judgment demands.

DR. HAMILTON BIGGAR, Jr., presented specimens removed from a dermoid cyst. The tumor contained a large bunch of hair and a number of teeth, which were pretty well developed. He showed another specimen of calcification of the corpus luteum. The shell was hard and brown, and composed of lime salts, while the interior cavity was filled with a dark brown fluid.

THYROIDECTOMY WITHOUT ANESTHESIA.

DR. GEORGE W. CRILE reported an operation on a case of goiter in which the tumor interfered with breathing. It was a large one and had caused several attacks of cyanosis. Because of the exhaustion of the patient through the extraordinary effort at breathing, it seemed impossible to administer an anesthetic. He had therefore preferred to make the operation under cocaine anesthesia, and had asked the patient who had been sitting up on account of the difficult breathing, to lie down for the injection of the cocaine, when respiration practically ceased from pressure of the tumor. As the patient at once became thoroughly unconscious, he operated without an anesthetic, removing the goiter in the median line, and then commenced artificial respiration at once. The patient recovered after having been unconscious sufficiently long for the completion of the operation, of which she had no knowledge whatever.

Cincinnati Academy of Medicine.

Regular Meeting.

President C. L. Bonfield, in the chair.

FETAL MONSTROSITY.

DR. E. GUSTAVE ZINKE presented a specimen of fetal monstrosity. In January of this year he had been consulted by a young married woman, 23 years of age, suffering with obstructive dysmenorrhea. Under his advice, the cervical canal was dilated. She conceived soon afterward, the date of her last menstruation being March 23. Pregnancy at first was uneventful beyond a little gastric distress. On examination at about the sixth month he had found the abdomen as large as that at term, and was able to diagnose a large amount of amniotic fluid. Fetal movements were readily palpated, but though the child was in the first position, the fetal heart-sounds could not be detected. He then informed the husband of the possibility of multiple pregnancy or of monstrosity, but requested that this knowledge be kept from the wife. At about six and a half months abortion took place, the rupture of the membranes being accompanied by the escape of an enormous amount of amniotic fluid, the abdomen then assuming a size commensurate with the length of the pregnancy. The vertex was rapidly delivered, but as the face began to present, progress was arrested, and on examination a large mass could be felt apparently in connection with the child's face. When delivery was accomplished this mass was found to be united to the child by a pedicle attached to the junction of the hard and soft palate, and continuing well outside the mouth. In weight it was about two pounds. Examination showed it to be in all probability a second fetus that had undergone destruction.

LIMITATIONS OF THE X-RAY.

DR. N. P. DANBRIDGE thought that the other side of the question of X-ray diagnosis—those cases in which failure has

been recorded—should be discussed. He himself had several weeks previously operated on a man at the Cincinnati Hospital who had been shot in the back in the region of the spine of the left scapula. An X-ray photograph taken antero-posteriorly revealed the bullet very well, and though the foreign body was causing no trouble it was thought best on account of the ease with which its apparent position had been located, to attempt its removal. Though a large crucial incision was made and exploration continued down to the thorax, every portion of the neighboring tissue being carefully palpated with the finger, even the scapula being lifted up in the search, the bullet could not be found. He also narrated many other instances of failure in the experience of others, one notable example where a collar button had slipped down a man's back and unfortunately stopping at the lumbar region, gave a photograph of apparent renal calculus; an operation was performed and nothing found, much to the discomfiture of the operator. In fracture cases, X-ray photographs are often of the greatest importance as medico-legal testimony. Taken in lateral and perpendicular planes with the same position of the limb, or in the same plane with a different position of the limb, a fairly good or very bad result might be shown; particularly was this the case in fractures of the fore-arm. He presented several pictures in illustration of this point. Another point of some importance was that provisional callus was not shown by the X-ray photograph, and that often a fracture of some weeks' duration, but all clinical symptoms doing well, would present the appearance of non-union. Within the past few weeks, he had been greatly aided by an X-ray photograph in a case of fracture of the upper part of the humerus with dislocation of the shoulder-joint. X-ray photographs were exhibited showing the normal shoulder, the dislocated shoulder and the dislocation with fracture. In the latter case he had delayed two weeks, giving time for granulation tissue to form around the fractured ends, and then through a small open incision, drawing the head of the bone into its normal position according to the operation of McBurney. He thought delay of a few weeks in operating beneficial as liable to prevent infection between the fractured ends, and consequent non-union.

DR. E. H. SHIELDS presented a patient of about 50 years of age, female, afflicted with lichen ruber of varying appearance; on some parts of the body presenting the appearance of lichen ruber planus, in others that of lichen ruber acuminatus. She was being treated with Fowler's solution in small doses.

DR. GILES MITCHELL presented a specimen of large intra-uterine fibroid, the uterus completely surrounding the tumor and increased to many times its normal size.

CARCINOMA OF THE BREAST.

DR. P. S. CONNER dealt chiefly with the symptoms of breast cancer and the unreliability of each as diagnostic, though when taken together they made a very complete picture. He reviewed the various operative procedures and narrated instances of simple removal followed by cure, while the radical operation was very often followed by recurrence, even when performed early. Therefore, he thought every case a study and law unto itself, and he had himself experienced cases in which recovery took place even when the supraclavicular glands were extensively involved, while on the other hand all were familiar with the recurrence that often speedily follows total extirpation. Yet he was a firm believer in operation even if a very slim chance existed for the patient. The removal of a foul sore was of the greatest service if nothing else is accomplished.

The paper was discussed by Drs. W. D. Haines, Ransohoff, Freidberg, Bonfield and Hall.

California Academy of Medicine.

Meeting held Oct. 23, 1909.

President Dr. D. W. Montgomery, in the chair.

DR. PHILIP KING BROWN presented some pathological specimens from dogs. The first one was a case of tuberculosis in the heart wall and pericardium of a sky terrier, six years old

and very stout. For some weeks there had been dyspnea on exertion. In the family was a child with pulmonary tuberculosis. Autopsy showed enlargement of bronchial and mediastinal glands, and tubercles studding the pericardium. The heart itself was much enlarged, and extremely irregular in outline owing to the nodular elevations scattered over the auricular and ventricular walls. Microscopical examination showed structure of tuberculosis with large areas of caseation in the center of all the large nodules.

He next presented three skulls of dogs showing a condition of osteoporosis. The symptoms in all three cases were those of chorea of exaggerated type. No etiological factor was to be obtained. The great thickness of the skull was not noticed during life. The dogs were all of different breed, a cocker, fox terrier, and pointer. All were destroyed after various kinds of treatment were tried. The thickness of the skull was greatest in the fox terrier, the section measuring from $\frac{3}{8}$ to $\frac{1}{2}$ inch in parts ordinarily less than $\frac{1}{2}$ of an inch thick. The thickened bone was so soft that the thumb nail could be pushed well into it. The thickening was chiefly in the medullary part, the plates, however, also taking a small part in the process.

DR. WILLIAM OPHULS in referring to these last specimens presented by Dr. Brown, said that he had not been able to find any signs of inflammatory processes. He thought that they belonged to those cases of osteoporosis found in some animals, but never in human beings.

DR. D. W. MONTGOMERY said that he had assisted at an autopsy where a similar condition had been found in a human being. The bones of the head were much enlarged, as also were both clavicles and a scapula. When the outer table of the skull was cut through, it came off, leaving a red, porous, spongy mass, which looked like a granular mass. The sawing was continued and the inner plate taken off. The bones microscopically had a porous condition. He had never seen anything like it in the literature.

DR. H. J. KREUTZMANN presented a patient on whom he had two months ago operated for complete prolapse and perfect inversion of the vagina, with large cystocele and rectocele. Special stress was laid on the cure of cystocele, which the Doctor considers an essential point in curing prolapse. The operation was fully described; it consisted materially in the detaching of the bladder from the vagina and from the uterus, with the idea of dislocating the bladder from its pathological abnormal position and bringing it back to its normal habitat. Care is taken not to destroy nor to remove the layer of fascia and muscle under the vaginal mucous membrane. In women past or near the menopause vaginal fixation is done. The redundant tissue of the vaginal flaps is dissected and the incision closed, the lower part of the vaginal flap being sewed directly on the uterus. If any operation has to be done on the uterus, it is done, then posterior colporrhaphy and perineorrhaphy is made. The Doctor criticised the usual operation performed for rectocele and cystocele as illogical; muscle and fascia must be laid open and directly united; a simple excision of a piece of the vaginal mucous membrane and union will not do. It is immaterial what the shape of the incision is. He bluntly separates after making a longitudinal incision for cystocele, and a crescent-shaped one for rectocele.

DR. J. F. MCCONE said that he had examined the patient and had found physiological restoration of the perineal body and the anterior vaginal wall. He had been much dissatisfied with the described operations for cystocele, and agreed with Dr. Kreutzmann that the operation ordinarily done, that of simply denuding the mucous membrane and bringing the edges together, was insufficient. The same held good in the usual operations for rectocele.

DR. DUDLEY TAIT asked Dr. Kreutzmann what advantage he finds, where it is necessary to fix the uterus, in vaginal fixation, over abdominal. It would seem to him very logical to begin the operation above, fix the uterus, and then do what is necessary in the vagina. He thought recurrences, after these operations, may come one or two years after.

DR. KREUTZMANN said of the advantage of abdominal fixation over vaginal, that he had no faith in the former opera-

tion, unless the operator allows no space to remain between the uterus and the abdominal wall. Numerous instances are on record of hernia existing between the folds of these so-called false ligaments. He had been thoroughly satisfied with vaginal fixation in these cases.

New York County Medical Association.

Stated Meeting, October 15, 1900.

THE NEED OF BETTER ORGANIZATION IN THE PROFESSION.

DR. FREDERICK HOLME WIGGIN, on retiring from the office of president, spoke briefly on this topic, which was opportune because the State Association was on the eve of considering the plan of re-organization. Dr. Wiggin said that the readiness with which such a large and active body as the New York County Medical Association had consented to become a subordinate county association of the reorganized State Association was most significant, and to his mind was positive proof that the medical profession was reaching out for better organization. An organization managed purely for selfish interests could not be expected to achieve all that is meant by the broad use of the term "success," any more than could the selfish individual. Some of the smaller counties had objected to paying their share of the expense of organization on the ground that each county should look after its own affairs. It was just this narrow and selfish policy that had already placed the profession in such a bad light before the general public. Small county associations could not be expected to afford their members the same protection against unjust suits for malpractice as would result from a well-organized State Association taking up such a cause for all of its members. Our legislators cared little for the petitions of those appearing before them in their individual capacity, but let these persons come as the representatives of an organization having a membership of several thousand, and the result would be very different. The speaker said that he had been brought in contact with many physicians throughout the state, and knew positively, assertions to the contrary notwithstanding, that they were deeply interested in such a scheme of organized defense.

DR. PARKER SYMS then took the chair, and delivered his inaugural address. The Doctor called attention to the successful work of Dr. Wiggin during the past year, to the new relation the New York County Medical Association bears to the State Medical Association, to the need of more thorough organization, and to the plan on which the State Medical Association has been organized.

A memorial address on the late Dr. Lewis Albert Sayre was given by Dr. John Shady, and one on the late Dr. Samuel Smith Purple was delivered by Dr. J. W. S. Gouley.

A LOVING CUP FOR DR. WIGGIN.

Immediately after the formal adjournment of the meeting of the Association, the audience was requested to remain seated, and then Dr. Wiggin was presented with a "loving cup" and an appropriate engrossed memorial, as a token of the high appreciation by the members, of his untiring and unselfish work for the Association while acting as its president.

Southern Surgical and Gynecological Association.

Thirteenth Annual Meeting, held in Atlanta, Ga., November 13-15, 1900.

(Concluded from p. 1426.)

RECENT TECHNICAL IMPROVEMENTS IN THE SURGERY OF THE STOMACH FOR CARCINOMA.

DR. WILLIS G. MACDONALD, Albany, N. Y., made reference to the early history of operations for the relief of this disease. The technique employed by Billroth in his first pylorotomy was the technique of operations done by most surgeons for a number of years, with very slight modifications. This earlier operation presented many technical difficulties in its performance. Any one, or a combination of symptoms, is a sufficient indication for operation: 1. A chronic gastritis which is progressive in character under proper dietetic, medicinal and

physical treatment. 2. A loss of gastric motility. 3. Progressive diminution of gastric peristalsis. 4. A diminution of free hydrochloric acid, progressive in character. 5. Emaciation of the patient under forced diet. 6. Reduction of the hemoglobin in the blood, progressive to 65 per cent. or under, and a moderate leucocytosis. The widest extirpation is demanded in carcinoma of the stomach. The author called attention to the careful investigation of Cuneo and Most with relation to the distribution of lymphatics and lymph nodes as associated with carcinoma of the stomach. In a complete pylorotomy, it is desirable to remove the lymphatics along both curvatures of the stomach as well as those lying behind the pylorus. As a rule, the duodenum is not extensively involved in pyloric carcinoma, although a few observers have found infiltration of Brunner's glands in the upper portion of the duodenum. There is little justification for the total extirpation of the stomach in the majority of cases, and the probability of cure will not be greater than surgical resection. The old rule of cutting 1 cm. beyond all evidences of carcinomatous infiltration is not wide enough. Personally, the author feels that the line of excision in the stomach should be at least 3 cm. from the border of the last palpable infiltration, and in the duodenum at least 2 cm. from the most dependent portion of the growth. The immediate mortality for the operation of pylorotomy is an interesting study. Ewald condemned the operation because of its great mortality, 73 per cent., and until 1888 the mortality was somewhere in the neighborhood of 60 per cent. The mortality of Billroth was 45 per cent., of Mikulicz 30 per cent., of Kronlein 25 per cent., of Maydl 16 per cent., and of Koerber 8.7 per cent. Mayo Robson, in a study of 572 cases, collected from various sources, finds an average mortality of 30.4 per cent. Guinard found that in 148 cases of pylorotomy with end-to-end anastomosis, deaths were 56, or 37.8 per cent., and in 64 cases of pylorotomy with subsequent lateral anastomosis, there were 10 deaths, or 15.6 per cent. This showing has been equally favorable in the experience of others.

MENSTRUAL CONDITION OF THE AVERAGE GIRL IN AVERAGE HEALTH.

DR. GEORGE J. ENGELMANN, Boston, presented an interesting statistical paper on this subject, and the facts presented by him were culled from the records of 4873 cases from high and normal schools, colleges and department stores, girls between 15 and 26, the majority between 18 and 22, in rather better than average health, in good health, and in numbers sufficient to admit of positive deductions as to what may be termed normal or average menstruation. In brief, the menstrual period proper is intensified by the increase of all vital energies, followed by a depression which appears with the coming of the flow. Under ideal conditions and in perfect health, the physiological status is such that this epoch, preceded by a day or two of heightened activity, is marked by a moderate lassitude, mental and physical, the flow persisting for from four to five days. It is a period of heightened susceptibility that quickly records any variation from the normal; excitement or exertion, or fatigue, mental or physical, is promptly reflected by variation in the function, and in our every-day life such disturbing elements constantly occur, so that conditions actually existing vary greatly from this ideal. The average period of the average girl in average health presents very different features: Regularity in 50 per cent. of the cases only; recurrence every twenty-eight days in 30 per cent., varying most frequently from twenty-six to forty-two days, 45 per cent. being over twenty-eight days. The duration varies from two to seven days, average, 4.6; from 66 to 70 per cent. suffer more or less, the number of sufferers varying according to age and nature of occupation, between 30 and 90 per cent. Lessened ability for exertion, mental or physical, is admitted by 60 per cent. Some few are habitually incapacitated from work, and 30 per cent. occasionally.

OPERATION FOR TREATMENT OF MARKED PROLAPSE OF RECTUM IN WOMEN.

DR. J. WESLEY BOVEY, Washington, D. C., described an operation for the relief of this condition. In his case marked prolapse of the uterus was associated with hemorrhoids and

great proctidemia of the rectum in a woman to whom the uterine appendages were of little value. No simple operation would have relieved the rectal condition while the uterus was in such a state of prolapse, and vice versa. These conditions caused him to resort to the unique radical procedure which he described by narrating the case.

CARBOLIC ACID IN SURGERY.

DR. SENECA D. POWELL, New York City, said that in 1894 he first became convinced that he could control the action of carbolic acid under all circumstances. At that time he used it in its full strength of 95 per cent. in an abscess cavity on a patient suffering from suppurative appendicitis. Since then he has extended its use to all cases where he has had to fight disease due to microbial infection, and he is now prepared to assert its safety and reliability, when properly brought in contact with an infected surface. He bases his statements on the results of treatment of hundreds of cases which have come to his clinic at the Post-Graduate Hospital, New York. The essayist quoted Phelps, of New York, as saying that to him (Dr. Powell) the profession is indebted for one of the most useful discoveries ever made in surgery, namely, the antiodotal effect of alcohol in carbolic acid. The speaker has used carbolic acid for years in the treatment of infectious and bone diseases in various parts of the body. He recommends its use likewise for crabs and abscesses. During the past six years he has treated every phase of microbial disease with this agent, and as early as 1894 hip-joint cases were treated by him with pure carbolic acid and with a large glass drainage-tube. Abscesses, wherever located, can be speedily treated by the injection of, or swabbing with, pure carbolic acid. The size of the abscess or the amount of surface covered is not a factor. Only thorough drainage and complete removal of the pyogenic membrane need be considered.

EARLY EXCISION FOR DISLOCATIONS NOT REDUCIBLE BY MANIPULATION.

DR. WILLIS F. WESTMORELAND, Atlanta, reported two cases of this condition in which he had operated successfully.

PLEA FOR THE BETTER APPRECIATION OF THE LIMITATIONS OF OPERATIVE WORK.

PRESIDENT A. M. CARLEDGE, Louisville, delivered the Address, with the above title. Every surgeon must be his own arbiter in deciding questions, and the judgment he displays will depend on his professional learning and wisdom. Methods of surgical diagnosis have undergone striking modifications within the past decade and have influenced operative work. The older surgeon made his diagnosis of abdominal and pelvic lesions slowly; his skill at that time consisting largely of a delicate sense of touch, trained eye to detect asymmetry, keen ears to differentiate sounds elicited by percussion, and methodical investigation of all symptoms, both subjective and objective. The result was, his diagnosis having been made, he next carefully, and with abundant time before him, considered the advisability of operative intervention.

In reviewing the field of abdominal and pelvic surgery, it would seem that surgical limitation is most often exceeded and mortality unnecessarily increased in operations for the following diseases: General septic peritonitis, extensive carcinoma of the ovaries, uterus and intestine, and operations on the gall-passages in long-continued and profound choleric patients without adequate preparation. He protested against the too frequent practice of operating in these affections. As to laparotomy in cases of general diffuse septic peritonitis, with irrigation and drainage, reports of such cases have appeared in literature from time to time, but the mortality up to the present time of such operations in exaggerated types of the disease is so great, in his opinion, as to make it an unwarranted procedure. He is strongly impressed with the belief that the successful cases reported have been cases of beginning general peritonitis, or of wide-extending, yet circumscribed peritonitis. In closing, the author impressed the importance of carefully preparing choleric patients before subjecting them to operation, with a view of lessening mortality. Another class of cases amenable to the same course of preliminary treatment are those of inefficient renal action.

EXCISION OF THE EXTERNAL CAROTID ARTERY IN CASES OF INOPERABLE MALIGNANT DISEASES OF THE FACE.

DR. WILLIAM P. NICHOLSON, Atlanta, reported two cases in which this operation had recently been done. The first case was a sarcoma of the nose, which began apparently as a polypus about eight months before. This was removed several times, but recurred promptly after each removal. When seen a few weeks before the operation this had extended sufficiently to completely obstruct the nose and cause great pain by constant pressure. At the time of operation this had progressed in a few weeks only so that the growth pressing under the orbit had forced the right eye out of position, and there had been also an extension on the forehead on the left side. The patient suffered intense pain, which required the constant use of morphin for its relief. The right common carotid was excised on October 3, and the wound healed promptly. The enlargement on the left side of the forehead broke down, and the large abscess was opened a few days after the operation. The pus from this, or the discharge from the nose, set up a violent ophthalmia, from which the patient suffered for a week or ten days. Two weeks from the day of the first operation the carotid on the left side was removed, and very soon the symptoms improved in every respect, the patient was relieved of suffering, and the growth not only checked, but it apparently began to recede with the prospects of a material improvement in his condition.

The second case was one of inoperable sarcoma of the upper jaw of three months' duration, and of very rapid growth. In this case the interval between the operations was longer than in the first, on account of the occurrence of a severe secondary hemorrhage on the seventh day, which was due to tying the vessel too close to the bifurcation. The first operation in this case relieved the patient of all symptoms caused by the rapidly increasing pressure, and the growth apparently subsided materially. The second operation had not been performed long enough to give much idea as to how much permanent decrease there would be in the tumor.

He had performed various operations on the external carotid artery in cases of malignant diseases, having tied the vessel twenty-six times, four of these being cases of double ligation. The operation had not been accompanied by any mortality. Little could be accomplished by simply ligating even both carotids, because the circulation was re-established so rapidly that the nutrition could not be cut off with any degree of permanence. The operation of excision, as recommended by Dawbarn, seemed to be the only procedure that offered any hope, and while this would not perhaps produce much permanent effect, yet it seemed undoubtedly true that the lives of patients could be much prolonged and their sufferings greatly lessened. The operation was one of considerable magnitude, and dealt with structures of great importance anatomically, yet the results demonstrated that there was comparatively little danger in the performance of it.

ALIMENTATION FROM RENAL INSUFFICIENCY WITH OR WITHOUT DISEASE OF THE KIDNEYS.

DR. JAMES T. JELKS, Hot Springs, Ark., for years has made it a point to examine the urinary output for twenty-four hours of every patient who consults him. This has been a revelation to him, and therapeutics based thereon has enabled him to accomplish what he described as marvelous results. Abundant evidence was adduced to show that as the result of faulty elimination by the kidneys, without the presence of disease in these organs, patients may have vertigo, contracted capillaries, cold skin, especially of the extremities, so-called sick headache, which is now recognized as uric-acid headache, melancholia, palpitation of the heart, interrupted heart-beat, various forms of skin diseases, rheumatism, gout, hysteria, epilepsy, and even genuine insanity. Among the remedies used to correct this faulty elimination are squills, milk, rectal or hypodermic injections of normal saline solution, digitalis or its derivatives, sodium phosphates, sodium salicylate, Vichy water, etc. All of these were used in connection with baths, where it was possible to give them, and the patients were ordered to drink from one-half to one gallon of hot water

daily. Twenty-five cases were detailed as having been treated along the lines mentioned, with the most gratifying results.

DR. GEORGE S. BROWN, Birmingham, made a supplementary report regarding a case of litholopaxy previously presented to the Association, and a supplementary report with reference to a case of vesico-rectal fistula.

DR. JAMES A. GOGGANS, Alexander City, Ala., reported one case of strangulated femoral hernia in a woman 40 years of age; three cases of extrauterine pregnancy; one case of thoracotomy for empyema, and one case of ovarian cyst.

SOME LIFE-SAVING MEASURES IN OBSTETRIC WORK.

DR. R. R. KIME, Atlanta—Leaving out of discussion instrumental deliveries, Cesarean section, symphysiotomy, etc., the author considered as the most important life-saving measures saline infusions, medicinal remedies, serum-therapy, hydro-therapy and drainage. All of these topics were taken up and discussed in consecutive order. In cases of placenta previa and post-partum hemorrhage saline infusions or intravenous injections are of prime importance, not only to save life, but to lessen susceptibility of infection and hasten recovery.

PSEUDO-MEMBRANOUS ENTERITIS AND ITS RELATION TO ABDOMINAL SURGERY.

DR. FRANK A. GLASGOW, St. Louis, was the author of this paper. He called attention to this very common disease, and urged physicians to study the relations of it to appendicitis.

SOLID OVARIAN TUMOR.

DR. JOHN G. EARNEST, Atlanta, reported a case of solid tumor of the ovary.

HISTOGENESIS OF OVARIAN DERMIODS.

DR. W. D. HAGGARD, JR., Nashville, gave a verbal abstract of a paper on this subject.

The following papers were likewise read and discussed: "Removal of Cystic Gall-Stones," by Dr. Howard A. Kelly, of Baltimore; "Osteo-Arthritis of the Spine," by Dr. Michael Hoke, of Atlanta; "Epi- and Hypospadias, With Special Reference to the Operative Treatment," by W. F. Parham, of New Orleans.

IRREDUCIBLE INCARCERATED RETROFLEXED GRAVID UTERUS.

DR. WILLIAM A. QUINN, Henderson, Ky., read a paper with this title, and reported the following case:

Mrs. S., a white woman, had had previously four normal labors. In her first there was a complete tear of the perineum. Her periods always had been normal and regular. She had never had a miscarriage. He saw the case about the middle of July in consultation with Dr. Dunn, the attending physician, who informed him that in his opinion it was an irreducible incarcerated retroverted gravid uterus. He stated that he and his colleague, Dr. Johnson, had carefully emptied the patient's bladder, and placed her in the knee-breast position; had exhausted their skill in efforts to replace the mass, but failed to do so. They then administered an anesthetic and tried replacement of the organ, but without success. On examining the patient, Dr. Quinn found the bladder enormously distended, reaching into the abdomen to a point about two inches above the umbilicus. It was emptied with difficulty by catheter, and a large, hard, unyielding mass, which completely filled the pelvic cavity, was found. The perineum having been previously torn, the tumor pressed down low on the pelvic floor. It was with difficulty that the index finger could be introduced into the vagina or rectum, and it was no easy matter to introduce a catheter into the bladder. The os was found flattened against the pubis and as high as the length of the vagina would let it rise, and could be reached with difficulty. The acute flexure was situated just above the internal os. The rectum was pushed against the sacrum until only soft ribbon-shaped feces could escape. The mass was found to curve very slightly from the arch of the pubis toward the promontory of the sacrum, under which it fitted snug and fast. On the most careful conjoined manipulation no elasticity or fluctuation could be made out. It seemed to be as unyielding as the hardest fibroid, and gave very much the same impression as does a large myoma which forms a perfect cast of the pelvis and becomes impacted. Medicine being of no avail, a spontaneous cure out of the question, and all efforts at relief by manipula-

tion having signally failed, resort to surgical interference was had. On August 3 a median incision was made, which exposed the uterus in extreme retroflexion, the fundus bearing hard down on the perineum, the organ resembling very much a tumor with a twisted pedicle. As the uterus could not be replaced it was lifted into the abdominal cavity. The tissues, which were softened and extremely vascular, had broken down under the operator's hands. The author concluded that if he closed and let the uterus and appendages remain with all of the necrotic tissue, the infection already existing would be increased, and death would undoubtedly ensue from septic peritonitis. Extirpation promised the best result, and this was done.

On examining the specimen the uterus was found to contain a fetus, the arrest of development of which seemed to have occurred between the fifth and sixth months of fetal life. The low fever, which had been present, continued for two or three weeks and delayed what would have been an unavoidably slow recovery, but the woman returned to her home in six weeks from the time of the operation, has since been able to attend to her household duties, and to take care of her children. He was not aware at the time of the operation that abdominal section had ever been advised or practiced before in cases of irreducible incarcerated retroflexed gravid uteri. The most recent works on obstetrics contain no mention of it.

In searching the literature the author finds that celiotomy has been done in these cases by seven surgeons, and said that to Dr. Mann, of Buffalo, belongs the credit of first doing celiotomy for this obstetric complication. Brief reports of the other cases found in literature were given.

Much to the regret of the members, Dr. W. E. B. Davis resigned the secretaryship, owing to the pressure of other duties, after having served the Association ably and efficiently from its organization to the present time. A resolution was offered and unanimously adopted, thanking Dr. Davis for his efficient services, tireless efforts, and faithful devotion to the interests of the Association during a period of thirteen consecutive years.

Officers elected for 1901: President, Dr. Manning Simons, of Charleston; vice-presidents, Drs. George H. Noble, of Atlanta, and L. C. Bosher, of Richmond; secretary, Dr. W. D. Haggard, Jr., of Nashville; treasurer, Dr. F. W. McRea, of Atlanta.

Richmond, Va., was selected as the place for holding the next annual meeting; time, third Tuesday in November, 1901.

Therapeutics.

LA GRIPPE.

Influenza is a disease that varies greatly in its effects on different individuals and which produces so many symptoms in so many different organs of the body that it is indeed difficult to formulate any special lines of treatment, and, as Yeo states, when a practitioner advertises that he has given potassium bicarbonate in five hundred cases without a death, and another that he has given salicin in one thousand cases without a death, they make statements that are worse than useless, because they are misleading. He, however, places quinin as the most deserving drug in the treatment of influenza, giving it in combination with potassium citrate and ammonia in effervescence, and in small or moderate—not large—doses, frequently repeated. Mossé, in the *Lancet*, has shown that the bacillus of influenza is unable to live in an organism in which quinin circulates.

Below are given other prescriptions as suggestions in treatment of the different complications which may arise:

R. Hydrargyri chloridi mitis.....gr. iss 109
Ft. pulveres No. vi. Sig. One powder every hour until there is a good bowel movement.

H. C. Wood, in *Philadelphia Medical Journal*, advises the following in la grippe:

R. Antipyrinigr. xv 1
Pilocarpina hydrochloratisgr. ss 103
Tinct. aconitim. iiii 2
Aque destil.ssiss 48

M. Sig. One tablespoonful, immediately followed by a hot general bath, or a footbath for ten minutes; then the patient, being covered in bed, one desertspoonful in a glass of hot

toddy, repeated, if no sweating occurs, in twenty minutes. When there is pain, if morphin does not disagree with the patient, one-sixth of a grain may be added to the mixture.

Hening, in "The American Text-Book of Therapeutics," advises the following:

R. Salipyrini3i 4
Glycerini3iiiss 14
Syrupi rubi idæi3i 32
Aque destil.3iiss 48

M. Sig. Shake well, and take a tablespoonful every fifteen or thirty minutes.

Salipyrin is obtained by the interaction between antipyrin and salicylic acid—57 parts of the former to 43 parts of the latter. It is soluble in 200 parts of cold water and 20 parts of boiling water.

LINIMENT FOR PAINS IN THE BACK AND LIMBS.

R. Spts. chloroformi
Tinct. aconiti
Spts. camphoræ, aa.....5ss 16
Olei olivæ3iiss 80

M. Sig. Apply with friction to the painful parts.

FOR THE PAIN.

R. Codeinægr. iv 25
Phenacetini3i 4
Sodii bicarb.5ss 2

M. Ft. chartulæ No. xii. Sig. One powder every four hours.

R. Quinina hydrobromatisgr. xxxvi 236
Salolgr. xxx 2
Codeinægr. iv 25

M. Ft. capsulæ No. xii. Sig. One capsule every three hours.

R. Sodii salicylatis3i-ss 6
Liq. ammon. acetatis3ii 64
Aque camphoræ, q. s. ad.5vi 192

M. Sig. One tablespoonful every three hours when the first symptoms appear.

COUGH IN INFLUENZA.

R. Sodii benzoatis3i 4
Bromformid. x 66
Syr. toluanti3i 32
Syr. factuæarii3iii 96

M. Sig. One tablespoonful every three hours.—*Med. News.*

THE FEVER IN INFLUENZA.

R. Quinina salicylatisgr. xlv 31
Phenacetinigr. xxxiv 225
Camphorægr. vi 4

M. Ft. capsulæ No. xv. Sig. One every four hours.—Bacelli.

INFLUENZA WITH NAUSEA.

R. Morphina sulphatisgr. ss 103
Acidi hydrocyanici dil.m. viii 5
Spts. chloroformi3iiss 6
Aque mentha viridis, q. s. ad.3iiss 48

M. Sig. One teaspoonful every three or four hours, where there is nausea and troublesome cough, but when the bronchitis is not severe.—*Med. Progress.*

TO RELIEVE THE MUSCULAR PAIN AND CAUSE DIAPHORESIS.

R. Sodii salicylatis3i 4
Ext. nucis vomicegr. iii 20

M. Ft. capsulæ No. xii. Sig. One capsule every four hours.

FOR THE COUGH.

R. Liq. morph. hydrochloratis
Acidi hydrobromici dil., aa.....3i 4
Spts. chloroformim. iiii 2
Tinct. limonis3i 4
Syr. simplicis, q. s. ad.3iiss 48

M. Sig. One teaspoonful for the cough, and repeat in two hours if necessary.

CATARRAL PHARYNGITIS OF LA GRIPPE.

R. Morphina sulphatisgr. vi 36
Acidi carbolic
Acidi tannici, aa.....3i 4
Glycerini3i 32
Aque destil., q. s. ad.3ii 64

M. Sig. Use as a spray night and morning.—Ingals.

PULMONARY COMPLICATIONS IN LA GRIPPE.

R. Ammonii chloridi3ii 8
Apomorphina hydrochloratisgr. i 06
Mist. glycyrrhizæ comp.
Syrupi simplicis, aa.....3iiss 48

M. Sig. A dessertspoonful every two hours.—H. C. Wood.

FOR THE CORYZA.

R. Thymol		
Menthol, āā	.....gr. i	06
Liq. absoleme	.....ʒi	32

M. Sig. Use as a spray in the atomizer three times a day.

INSOMNIA IN LA GRIPPE.

R. Chloralamid	.....ʒi	4
Ft. chartula No. iv.	Sig. One at bedtime in cold water.	
R. Sulphonal	.....ʒi	4
Ft. chartula No. iv.	Sig. One powder in hot water two hours before going to bed.	

STOMATITIS OF LA GRIPPE.

R. Acidi lactici	.....gr. xxxvi	2|36
Spiritus menthe pip.	.....m. x	66
Aque destil.	.....ʒviii	256

M. Sig. Wash the mouth twice daily with this lotion.

If there is suppuration in the tonsillar crypts apply the following:

R. Acidi salicylicii	.....gr. x	66
Alcoholis, q. s. ad., to dissolve		
Glycerini	.....ʒiiss	48
Aque destil.	.....ʒiii	64

M. Sig. Use as a gargle twice daily.—*Præsse Médicale.*

INFLUENZA IN CHILDREN.

R. Sodii benzoatis		
Salol		
Acetanilidi, āā	.....gr. xxiv	1 5
Caffeina citrate	.....gr. iv	25

M. Ft. chartula No. xv. Sig. One powder every three hours to a child 6 years of age; if the pain is severe and the child is kept awake, add 1/12 grain of codein sulphate to each powder.

If a mixture is desired, give the following:

R. Sodii benzoatis		
Antipyrini		
Liq. ammon. acetatis		
Syr. seille comp., āā	.....ʒii	8
Syr. altheæ	.....ʒss	16
Aque anisi, q. s. ad.	.....ʒii	64

M. Sig. One teaspoonful every three hours to a child of 6 years. —H. B. Sheffield.

Rigidity of the Perineum.

R. Spts. etheris	.....ʒi	32
Spts. chloroformi	.....ʒii	64
Eau de cologne	.....ʒi	32

M. Sig. For external use to the perineum.—Southworth.

To Prevent Bedsores.

R. Aluminis		
Sodii chloridi, āā	.....ʒss	16
Aque		
Alcoholis, āā	.....Oi	512

M. Sig. Apply locally night and morning. —Forbes: *Maryland Med. Jour.*

To Promote Uterine Contractions.

R. Quinina sulphatis	.....gr. xi	2|66
Acidi sulphurici arom., q. s. ft. sol.		
Syrupi zingiberis	.....ʒi	32
Aque, q. s. ad.	.....ʒi	64

M. Sig. Initial dose, one tablespoonful; afterward, two teaspoonfuls every four hours. —Ringer.

Epicarin in Diseases of the Skin.

The *Medical News* speaks at some length concerning this therapeutic agent. It is a combination product of kresolin and betanaphthol, and is very soluble in alcohol or ether. It is slightly yellowish in color and non-toxic in character.

Kaposi employs it in the following combination:

R. Epicarin	.....ʒiiss	10
Spts. vini gallici	.....ʒiii	96
Spts. lavandulae	.....ʒvi	24
Glycerini	.....ʒiiss	10

M. Sig. Use as a wash two or three times daily.

In scabies it is best applied in a 10 per cent. ointment with vaselin or lanolin. For scabies, eczema squamosum and herpes tonsurans the above combination is very applicable.

Hydrogen Dioxid in Tinea Favosa.

Dr. Simonelli states, in *Merck's Report*, that he has successfully employed hydrogen dioxid in three cases of tinea favosa. The application was made by saturating compresses in dioxid of 10 to 12 per cent. strength. Epilation was required only once and the patients made a much more rapid recovery than is usual by any other method.

Quinin in Carcinoma.

Jaboulay's experience with three patients who had inoperable carcinoma and whom he treated with hypodermic injections of .5 to 1 gm. of quinin hydrochlorate daily, indicates that possibly he is correct in his assumption that the parasite of cancer may belong to the protozoa group. As reported in the *Semaine Médicale*, the recurring neoplasms were all reduced in size, the cerebral and other complications were cured, and marked relief was experienced in each case. Insomnia that had persisted for six months was completely cured in one case.

Ichthyol in Scarlet Fever.

The *Maryland Medical Journal* contains the following from the pen of A. Seibert, in *Jahrbuch f. Kinderheilkunde*:

In fifty-six cases of scarlet fever inunctions of a 5 to 10 per cent. strength of ichthyol in lanolin have been employed with the following results:

1. The edema of the skin is relieved.
2. The itching is relieved.
3. The fissures and secondary erysipelatous infections are prevented.
4. The temperature falls after a few hours, 1 or 2 degrees.
5. Restlessness and insomnia are avoided and postscarlatinal nephritis prevented.
6. The ichthyol renders the scales less infectious.

Salol in Diabetes.

A report of the value of salol in the treatment of diabetes, by Dr. Zandy, may be found in *Merck's Report*, in which he states that when his patient was seen for the first time he was passing 250 gm. of sugar daily in three or four quarts of urine. He placed the patient on the proper diet and administered alkalies, which diminished the daily output of sugar to about 40 gm., at which point it remained stationary until he commenced the administration of salol. The patient was given four daily doses of 1 gm. each for four days, at the end of which time only a trace of sugar could be found. And a discontinuance of the drug was followed by a slight increase of sugar, after which there was complete and permanent absence of sugar in the urine, despite the gradual deviation from the restricted diet. The patient was seen nine months later and the urine contained no sugar, although he had paid no attention to diet in the meantime.

Medicolegal.

Ten Thousand Dollars for a Boy's Foot.—The Court of Appeals of Kentucky holds, in the case of the Chesapeake & Ohio Railway Company vs. Davis, that, while a verdict of \$10,000 is large for the negligent injury of a boy 9 years of age, rendering the amputation of one of his feet necessary, it is not an excessive award of damages for the pain and suffering endured and the impairment of his ability to earn money by reason of the injury.

County is Not Liable for Not Establishing Hospitals.—In the case of Bell vs. the Commissioners of Johnston County, the Supreme Court of North Carolina holds that no action for damages for personal injuries will lie against county commissioners in their corporate capacity, or, in other words, against the county, for their failure to establish hospitals, under section 707 of the state code, which empowers boards of county commissioners to establish public hospitals for the county in cases of necessity.

Risk of Frostbite Assumed.—In reversing, in the case of the Yazoo City Transportation Company vs. Smith, a judgment which a deekhand obtained for a loss of three fingers from frostbite, the Supreme Court of Mississippi declares that a laborer must be presumed to have knowledge, equal if not superior to his employer's, of the effect of cold upon his feelings and person. His own temperament is better known to him than to any one else, and his own sensations sound the alarm to himself. Men are presumed to have ordinary common sense, until the contrary is shown, and the law, the court holds, does not speculate on degrees of knowledge about weather.

Seventeen Hundred Dollars too Much for Fracture.—The Supreme Court of Wisconsin says that the evidence in the case of Collins vs. the City of Janesville tending to show permanent injury was, at best, very doubtful. The injury was a simple fracture, in a girl thirteen years of age, of the fibula,

which reunited in the ordinary course and under ordinary surgical treatment, so that, in the opinion of a majority of the medical experts, there had been a complete recovery. To this, it adds that the plaintiff walked with no limp, or, at least, with one not ordinarily perceptible, and only complained of some pain in rainy weather. The jury awarded her \$2,500 damages. The trial judge demanded that \$800 be remitted therefrom, and, this being agreed to by the plaintiff, entered judgment for \$1,700. But the supreme court holds the amount still excessive, declaring that it sees nothing to justify so large a recovery.

Can Not Ask Experts What Should be Extent of Injuries.—The Supreme Court of Illinois holds, in *Hellyer vs. People*, a homicide case, where the defense was that the deceased had been killed by being struck by a railroad train, that it was error to ask physicians who had seen the bodies of persons who had been killed by being struck by moving trains whether it would be possible, in their opinion, for the death of such person to have been caused by being struck by a train of certain weight and speed without producing other external and internal injuries than those described in the case. The supreme court condemns the evidence as being negative in character, anticipating the defense, and not being competent as opinion or expert testimony. The subject of the inquiry, it goes on to say, was a matter of common observation, upon which the lay or uneducated mind is capable of forming a correct judgment. And in regard to such matters experts, it declares, are not permitted to state their conclusions. In questions of science their opinions are received, for in such questions scientific men, it says, have superior knowledge, and generally think alike. Not so in matters of common knowledge.

Expert Testimony Based on Supposed Previous Habits.—The Court of Appeals of Kentucky says that it can perceive no error in the rulings in the homicide case of *Bishop vs. Commonwealth*, where the testimony of one physician was excluded entirely, and another one was not permitted to answer a question in regard to a hypothetical case. Each was asked if he had any experience in the treatment of persons suffering from excessive smoking of cigarettes or drinking of whisky, and responded in the affirmative. But for all that appeared in the record, neither of them had ever seen an insane person. Under these circumstances, neither doctor, the court holds, qualified as an expert upon the subject of insanity. Moreover, had the medical witnesses been qualified as experts upon the subject, the court says that it thinks that the same rule should be applied to expert testimony based solely upon a supposed case of previous habits which might tend to produce mental unsoundness as is applied to the introduction of testimony showing an ancestral taint as a fact tending to produce the same result, viz., that it can not be introduced, in the absence of other independent testimony, to show that the defendant was himself insane at the time of the killing.

Dying Declarations Not Barred by Physician's Hope.—Declarations made by one actually in a dying condition, and conscious of the fact, the Supreme Court of Georgia holds, in the case of *Wheeler vs. State*, are admissible as dying declarations, notwithstanding the fact that a physician, either before or after such declarations were made, informed the declarant that there was a chance for him to recover. For example, in this case, certain alleged dying declarations were made both before and after a physician informed the declarant that there was a chance for him to recover if an operation was performed. The evidence, however, showed that the declarant stated, at the time he made the declarations, that he was going to die, and that there was no chance for him, and that he did die within less than a day thereafter, despite the surgical operation. Under these circumstances, the court thinks that the declarations were properly admitted in evidence, as being *prima facie* dying declarations; the jury being instructed to consider them as evidence in the case only in the event that they believed the declarations were made in the apprehension and immediate prospect of death, and in the article of death.

Regulation of Sale of Proprietary Medicines.—The Supreme Court of Illinois, in *Noel vs. People*, holds unconstitutional

so much of the pharmacy act of the state as restricts the sale of patent and proprietary medicines and domestic remedies by any other person than a registered pharmacist. It is unquestionably true, it says, that the state has as much right to regulate the sale of patent and proprietary medicines and domestic remedies as it has to regulate the sale of any other kinds of medicines and remedies. But such medicines and remedies are generally put up in sealed packages, in which form they can as well be sold by any person as by a registered pharmacist. True, it was contended that registered pharmacists are more likely to know the qualities of these patent medicines than other persons who are not registered pharmacists. But the court's answer to that is that registered pharmacists will be as apt as other men to sell such patent medicines as there is a public demand for, when they are relieved of all responsibility for the character of such medicines, and are not required in any way to guarantee their character or adaptability to the cures which they claim to effect. So it concludes that the public health is not protected by limiting these sales to registered pharmacists, who make no examination of what they sell, and hence holds that the monopoly conferred on them by this portion of the pharmacy act is unconstitutional. It also condemns the act in so far as it confers upon the board of pharmacy the power, in its discretion, to issue permits to persons, firms or corporations engaged in business in villages or other localities, empowering them to sell the usual domestic remedies and proprietary medicines under such restrictions as the board may deem proper. A law which thus invests any board or body of officials with a discretion which is purely arbitrary, and which may be exercised in the interest of a favored few, the court holds, is invalid. However, while the court for these reasons holds the pharmacy act to be invalid in the respects pointed out, it yet holds it to be valid, so far as it applies to persons retailing, compound or dispensing drugs, medicines or poisons where the person so retailing has at the same time, put up or prepared or compounded the drugs or medicines, so sold by him.

Foreman Not Authorized to Employ Physician.—The Court of Appeals of Kentucky holds, in the case of *Godshav vs. J. N. Struck & Co.*, that a foreman, as for example one of workmen engaged in the construction of a building, has no implied authority to employ a physician to attend an injured workman. It says that to support a contrary contention it was referred to a number of cases decided by courts of other states, which related to the employment of a surgeon by some officer of a railroad to administer to an injured employee or passenger in certain cases, by reason of special circumstances. But it points out that railroad companies occupy a peculiar position with reference to such matters, and that it is of common knowledge that they habitually and regularly employ surgeons and physicians in connection with the conduct of their roads. Then, several cases were cited where it was sought to hold manufacturing companies liable on the same principle that the emergency would authorize it. However, in each of those cases the employment of the surgeons was made by the general business manager of the company or the general superintendent of the company, and the court does not think that such a case as this one of a foreman could be brought within the rule laid down in any of these cases. Moreover, it says that it was referred to no cases where it was held to be within the duties of the manager of a factory for either an individual or corporation to employ physicians or surgeons for employees. And it declares that it is not prepared to hold as a matter of law that the employment of physicians or surgeons for injured employees come within the scope of the duties of a general manager of an ordinary manufacturing business. In other words, it seems to it that the rule which it was sought to have applied in this case is confined exclusively to railroad companies, and, generally, in cases which involve some act of negligence on the part of the company which occasioned the injury. It also makes the point that the services sued for were not confined to the immediate emergency, but lasted during a period of several months. Besides, some importance is attached to the fact that the employers sought to be charged resided all the while in the same city, and only a short distance from where the physician

being lived, and that it would have been very easy for him to have inquired as to the alleged authority of the foreman to act for them. Nor, it holds, could there be anything like ratification by them so long as they knew nothing of the alleged employment. Usually, too, the court says, an injured employee procures and pays for his own doctor, and if his employer can be made liable for his injuries he recovers this sum, with other damages. It also remarks that in this case no necessity was shown why the employers should have selected the physician to treat the injured man during the long period of his confinement as it did not appear that he lacked friends or relatives who were both willing and able to do so for him.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, November 24.

- 1 *Conveyance of Yellow Fever Infection. J. O. Cobb.
- 2 *The Occurrence of Malta Fever in Manila. Richard P. Strong and W. E. Musgrave.
- 3 History of a Case of Removal of Retro-bulbar Lymphosarcoma with Preservation of Normal Vision. Charles A. Oliver.
- 4 Traumatic Aneurysm of the Left Internal Carotid Artery: Death; Autopsy. Barton S. Booth.
- 5 A New Aseptic Ether and Chloroform Inhaler. Ernest La Place.
- 6 A New Phimosis Forceps. W. T. Baird.

Medical Record (N. Y.), November 24.

- 7 *On Apparent Tumors of the Abdomen. Max Einhorn.
- 8 *Myasthenia Gravis with Clinical Report of Case. Sanger Brown.
- 9 Notes on Typhoid Fever, with a Report of Fifteen Cases. D. E. Keeffe.
- 10 *The Value of Thermal Carbonated Saline Baths in Gynecology. S. W. Bandler.
- 11 Simple Method for Writing Prescriptions for Children. Max Hübner.
- 12 A Method for the Determination of Eye Defects in School Children, with a Report of Seventeen Hundred and Forty-seven Examinations. Louis C. Deane.

New York Medical Journal, November 24.

- 13 *Rational Physical Training for Women. (Concluded.) George A. Saxe.
- 14 *The Etiology of Eczema, with Reference to Recent Views as to its Parasitic Origin. (Concluded.) L. Duncan Bulkley.
- 15 *Post-Operative Hemorrhage. A. H. Cordier.
- 16 *Spasmodic Wry-Neck and its Treatment: Report of Two Cases with Recovery. William M. Leszysky.
- 17 *The Pathology, Diagnosis, Special Prophylaxis, and Treatment of Tuberculosis of the Middle Ear. Seymour Oppenheimer.

Medical News (N. Y.), November 24.

- 18 *Edema Bullosum Vesicæ. Frederick Bierhoff.
- 19 *The Operative Treatment of Ugly Ears. John B. Roberts.
- 20 *The Hydratic Treatment of Tuberculosis. (Concluded.) J. H. Kellogg.
- 21 Absorption, Motility and Digestive Power of the Stomach. A. E. Austin.
- 22 *The Nature Treatment of Tuberculosis. R. O. Beard.

Boston Medical and Surgical Journal, November 22.

- 23 *Diphtheria Bacilli in Healthy Throats and Noses, with Report of Cases. Francis P. Denny.
- 24 *Chronic Diffuse Interstitial Nephritis. Charles J. Enebuske.
- 25 A New Spinal Jacket. Edward A. Tracy.
- 26 *Some Observations on Renal Casts. Walter E. Tobie.

St. Louis Medical Review, November 24.

- 27 *Post-Operative Hemorrhage. A. H. Cordier.
- 28 *The Clinical Value of Purgative Waters. Edwin Rosenthal.

Cincinnati Lancet-Clinic, November 24.

- 29 *Carcinoma of the Stomach from the Standpoint of Diagnosis in our Daily Practice. Henry Ward Bettmann.
- 30 *Uterine Displacements and Deviations. Charles L. Bonifield.
- 31 Amputations in Children. James G. Graff.

American Practitioner and News (Louisville, Ky.), November 1.

- 32 An Atypical Case of Typhoid Fever with Intestinal Perforation; Operation; Recovery. B. A. Allan.
- 33 Report of Four Cases of Mastoid Abscess. M. F. Coomes.

Virginia Medical Semi-Monthly (Richmond), October 26.

- 34 Mutual Relation of the Profession and the Public. John N. Upshur.
- 35 *Renal Calculi, with Report of Cases. Stuart McGuire.
- 36 Remarks on the Pathology and Symptomatology of Intracranial Conditions Complicating Suppuration of the Middle Ear. John P. Davidson.

- 37 Papilloma of the Vocal Cords—Report of Five Cases. W. L. Bullard.
- 38 Subarachnoid Injection of Cocain Muriate for Surgical Anesthesia in Operations Below the Diaphragm. Hugh M. Taylor.

Annals of Otolaryngology and Laryngology (St. Louis), August.

- 39 *Tertiary Syphilis of Nose. Robert Levy.
- 40 *Recurring Parotitis in a Healthy Child Persisting for Ten Years. Fayette C. Ewing.
- 41 A Case of Pneumococic Periniphinitis. Edward Fridenberg.
- 42 A Tubular Sperm Saw. Sidney Yankauer.
- 43 A Peculiar Enlargement of the Turbinates. C. R. Linhart.
- 44 Contribution to the Study of Larval Tuberculosis of the Three Tonsils. F. Baup.
- 45 A Critical Review of the Literature of Mastoid Disease and Its Complications. Seymour Oppenheimer.

Iowa Medical Journal (Des Moines), November 15.

- 46 Pruritus Ani. R. D. Mason.

Colorado Medical Journal (Denver) October.

- 47 *Reminiscences of a Physiologist. Michael Foster.
- 48 The Prevention of Puerperal Septicemia. H. G. Wetherill.
- 49 *When Is Contract Practice Unethical? Will B. Davis.

American Journal of Obstetrics (N. Y.), November.

- 50 *The Education of the Lally upon Sexual Matters: When Shall They Be Taught, and to What Extent? Rufus B. Hall.
- 51 *A Contribution to the Surgical Treatment of Uterine Displacements. C. A. L. Reed.
- 52 *Notes of Four Cases of Perforated Gastric Ulcer. Henry Howitt.
- 53 *The Diagnosis of Ectopic Pregnancy Before Rupture, Based on Elevated Cases. J. F. Baldwin.
- 54 *Erroneous Objections to Bilateral Inguinal Celiotomy and Shortening of the Round Ligament via the Dilated Internal Inguinal Rings, and Its Superior Ultimate Results in Simple and Complicated Aseptic Retroversions of the Uterus. A. Goldspohn.
- 55 *Postrectal or Presacral Growths. James F. W. Ross.
- 56 Observations Respecting Malignant Disease of the Pelvic Organs. Augustus P. Clarke.
- 57 *Acute Senile Endometritis. L. H. Dunning.
- 58 *Papilloma of the Vulva. Edward J. Hill.
- 59 *Simple Methods in Pelvic Surgery. John R. Deaver.
- 60 *Tubo-Ovarian Abscess and How Best to Deal with It. Edwin Ricketts.
- 61 *Fibroma of the Ovary. L. H. Laidley.
- 62 *Hernia of Diverticulum of the Chorion. L. H. Laidley.
- 63 Jaundice Following Abdominal Section. Henry D. Ingraham.
- 64 *The Ligature and Value of Dry Sterilized Catgut. J. H. Carstens.
- 65 *Treatment of Fibroids in the Non-Pregnant Uterus. E. F. Fish.
- 66 *Some Points Regarding Surgery of the Gall-Bladder. A. Vander Veer.
- 67 Some Contraindications of Intraperitoneal Use of Normal Salt Solution After Abdominal Section. Frank F. Simpson.
- 68 Pelvic Suppurations. Joseph Price.

Bulletin of the Johns Hopkins Hospital (Baltimore), October and November.

- 69 *Private Hospitals and Their Management. Joseph Price.
- 70 *On the Etiology of Tropical Dysentery. Simon Flexner.
- 71 *A Contribution to the Study of the Anatomy and Physiology of the Prostate Gland, and a Few Observations on the Phenomenon of Ejaculation. George Walker.
- 72 A Pin Imbedded in the Rectum. Otto G. Ramsay.

Medical Mirror (St. Louis), November.

- 73 Aneurysm of the Aorta Treated by the Insertion of a Permanent Wire and Galvanism (Moore-Corradi Method). Guy L. Hunner.
- 74 *Obstetrical Paralysis, Infantile and Maternal. H. M. Thomas.
- 75 *Oxygen and Steam with the Vapors of a Special Inhalation Mixture in Pulmonary Diseases. Clement A. Penrose.

Medical Mirror (St. Louis), November.

- 76 Tuberculous Lesions from a Clinical Point of View. Edmund Owen.
- 77 Cancer of the Uterus and Its Treatment. R. Stansbury Sutton.
- 78 The Relation Between Gall Stones and Appendicitis. A. J. Osbourn.

Medical Herald (St. Joseph, Mo.), October and November.

- 79 *The Curability of Inebriety by Medical Treatment. T. D. Crothers.
- 80 Some Experiences with Gout's Lymph. T. L. Putnam.
- 81 Contusion of the Brain. J. Cameron Anderson.
- 82 The Marcy-Bassini Operation for Hernia. C. H. Wallace.
- 83 Stab-Wound of the Liver—Enormous Hemorrhage—Hypodermolysis—Recovery. Daniel Morton.

November.

- 84 How Can the Mortality of Cancer of the Uterus Be Reduced? Byron B. Davis.
- 85 Puerpura Hemorrhagica. Clinton E. Sapp.
- 86 Puerperal Eclampsia. A. E. King.

- 87 Blood Examinations and Diagnosis. B. F. Gillmor.
 88 Sarcomata of the Kidneys of Children. Arnold Jolly.
 89 A Few Suggestions on the Treatment of Chronic Diseases. W. J. Bell.
 90 A Contribution to the Therapeutics of Iron. Dr. Gilhorn.
 Canadian Journal of Medicine and Surgery (Toronto), December.

- 91 *On Prolapse of the Stomach—Gastroptosis. Alexander McPhedran.
 92 *Mental Sanitation. R. W. Bruce Smith.
 93 A Case of Congenital Ptosis, with Associated Movements of the Affected Eyelid, During the Action of Certain Muscles. James McCallum.

Medical and Surgical Monitor (Indianapolis), November 15.

- 94 Colotomy. W. H. Link.
 95 Some Medical Observations in the German Speaking Countries. J. F. Barnhill.
 96 The Rationale of Static Electricity. S. H. Monell.
 Texas Medical News (Austin), October.
 97 Some Remarks on the Use of Dry Dressings to Wounds. Alex. W. Acheson.

Pacific Medical Journal (San Francisco), November.

- 98 *Is the Subarachnoid Injection of Cocain the Preferable Anesthesia Below the Diaphragm? A. W. Morton.
 99 Relations of Rats and Pests to Man and the Plague. P. C. Remondino.
 100 Defective Metabolism in Relation to the Mucous Membranes. H. D'Arcy Power.
 Atlanta Journal-Record of Medicine, November.

- 101 Diabetes Mellitus. R. Alexander Bate.
 102 Sulphate of Magnesia a Potent Remedy. N. F. Howard.
 New Orleans Medical and Surgical Journal, November.

- 103 Alcohol as an Etiologic Factor in Disease of the Nervous System. E. M. Dunsquier.
 104 Report of a Case of Acute Phosphorus Poisoning with Demonstration of Post-mortem Findings. J. B. Guthrie.

- 105 A Note on the Medical Relief Work Done in Galveston After the Storm. Isadore Dyer.
 106 A Case of Double Intraligamentous Cyst, with Remarks. C. Jeff Miller.
 107 Complete Ablation of the Scapula. S. P. Delaup.

- 108 Salpingitis: Cystic Ovary; Adherent Omentum. J. Lee Barthe.
 Hot Springs Medical Journal, October.

- 109 *The Association of Hysteria with Organic Disease of the Nervous System. Philip Zenner.
 110 *Cancer of the Uterus and Its Treatment. R. Stansbury Sutton.

- 111 Obstructive Growths of the Pylorus, with Report of a Successful Case of Pylorotomy. J. E. Allaben.
 112 Splenic Anemia Case: Blood-Cured. T. J. Biggs.
 Southern Medical Journal (La Grange, N. C.), October.

- 113 The Hand as an Index in Disease. Edward G. Price.
 114 Treatment of Conguls. J. W. P. Smithwick.
 115 Epilepsy: Suggestion in Treatment. J. J. S. Doherty.
 116 Therapy of Tuberculosis. J. W. P. Smithwick.
 Medical Times (N. Y.), November.

- 117 Insanity in Its Relation to Crime. Chanancy Adams.
 118 Gynecologic Electro-Therapy. George Adam.
 119 The Prevention of Blindness by the Adoption of Laws Compelling Hygienic Precautions. Walter B. Johnson.
 120 The Value of Glyco-Thymoline (Kress) in the Local Treatment of Diseased Mucous Membrane. George A. Hewitt.

AMERICAN.

1. **Conveyance of Yellow Fever Infection.**—Cobb questions the deductions of Reed as to the conveyance of yellow fever by mosquitoes and gives some facts which he thinks point to the conclusion that it may be otherwise conveyed. He is prepared, he says, to believe that not only mosquitoes, but bedbugs and fleas, may convey the disease, and he has not seen any reasonable cause for the suppression of the disease in certain sections of Georgia and South Carolina, which are practically free of mosquitoes, unless it were that this insect does convey the infection; but it is discouraging, he says, to think that the mosquito is the sole conveyor of this disorder, for we can not in that case expect to confine the disease to each infected house as we have hitherto tried to. Some infected mosquitoes would undoubtedly escape to other houses, but this does not seem to have been the experience of the Marine Hospital officers, for they have succeeded in shutting up the disease in infected dwellings.

2. **Malta Fever in Manila.**—Strong and Musgrave report a case of fever which was somewhat misleading and was thought at first to be one of typhoid without intestinal lesions. The bacteriologic cultures at first were sterile, but on the

fourth day a micrococcus morphologically and culturally like micrococcus melitensis was obtained. They have since seen another fever case where these same micrococci were found and which led to death at a later date. There were also found three cases which gave marked reaction with micrococcus melitensis in high dilution. One of these cases was diagnosed malarial remittent fever though no malarial plasmodia could be found. Neither of the cases gave the Widal reaction nor were any malarial parasites present. He suggests that there are many fevers which are difficult to place nosologically, and that this discovery may, therefore, be of advantage.

7. **Apparent Abdominal Tumors.**—The class of cases here described by Einhorn are not those due to swellings caused by prolapse of the whole liver, kidneys or spleen, but are swellings found either directly in the epigastrium or in the left or right hypochondrium and which have nothing to do with a neoplasm of any kind. The author avoided also in this class what are called "phantom tumors," due to a high degree of meteorism. The cases here described varied in size from that of a hen's egg to that of a man's fist, and light percussion always elicited a dull sound. Out of 6405 patients he found only 42 cases, 8 in men and 34 in women. Four cases are reported and nearly the whole number are tabulated briefly. They are due to an enteroptosis, and great emaciation and removal of certain abdominal organs such as the uterus, or vagina are also important factors in their development. The treatment is not to be applied to the tumor itself but to the original condition. The patient's attention must be distracted from its existence or the mind assured and sufficient nourishment must be prescribed and persisted in.

8. **Myasthenia Gravis.**—Brown reports a case in which he describes the general conditions known under this name. It is usually the result of some prostrating disease, sometimes preceding the affection, and anemia is often met with in women. The onset is usually gradual, though it may be sudden. The first symptom is usually a characteristic weakness of some of the muscles supplied by the cranial nerves, but it may begin in the extremities or in any of the functionally-grouped voluntary muscles. The most prominent symptom is the profound exhaustion on comparatively light exercise. The symptoms are generally bilateral, though there may be a variation between the two sides. Among the muscles that are affected may be mentioned those of the jaw and pharynx. Alterations of speech are almost invariably present; it becomes nasal, and the words grow more and more indistinct until the patient is forced to desist, from mere exhaustion. Inability to support the head is common, and if the respiratory muscles are involved and cannot recuperate by rest, fatal results may ensue. The symptoms may almost wholly and unexpectedly remit for a short time; the muscles react normally to electricity, but speedily become exhausted. Atrophy is never present in pure cases and the skin-reflexes and muscle-jerks are not materially disturbed. The sphincters are never disturbed and there are no trophic or sensory changes. Muscular inco-ordination has never been observed. Emotional excitement, cold weather and menstruation have been known to aggravate the condition. Though in the sixty cases referred to by Campbell and Bramwell seventeen came to autopsy, in only six was anything found which could possibly account for the symptoms. The author believes that the symptoms point to a toxic agency, and to the bodies of the peripheral motor neurons as the main point of attack of the toxin but of such a nature as to produce no demonstrable changes in the organic elements involved. Dr. Buzzard, of London, has shown that there is, in this disease, a typical temporary degeneration reaction, and this implies necessary functional integrity of the muscles and, at the same time, suspension of the functional activity of their peripheral motor neurons. The diagnosis is important; it is easy when the symptoms appear in the external ocular muscles or those of the tongue and mastication, and when the peculiarities of speech are manifest, but there is an infinite amount of hysterical conditions which give trouble. When it is far enough advanced to suggest bulbar palsy or polio-encephalitis, the course, the distribution of the weakness and the presence of muscular atrophy in these later conditions are significant. Out

of sixty cases twenty-three ended fatally. The average duration of the disease is one and one-half years. Death usually occurs from asphyxia, a fact which greatly increases the gravity of any pulmonary diseases in these cases. Some patients improve, however, for a while, and others recover permanently. Many drugs have been tried, but none have been found to have specific influence over the disease. Brown would like to see nitrate of strychnin tried hypodermically in 1/16 gr. doses. All general measures calculated to maintain the health, consistent with the symptoms, should be tried. If, finally, there is failure of muscles of deglutition and the stomach-tube has to be used it should be done with caution.

10. Carbonated Saline Baths in Gynecology.—The general effect of the bath is described by Bandler, and particularly the effects of the Nauheim baths or similar ones. They bring about, according to him, the following results: 1, slowing of the pulse and respiration; 2, increased oxidation; 3, increased diuresis; 4, a saving of phosphoric acid; 5, rest and protection for the heart; 6, regulation of the circulation and subsequent strengthening of the heart through increased tonus of the entire circulatory system, and through the removal of congestions; 7, an increase in the number of red blood-cells; 8, a building up of healthy tissue; 9, increased demand for nutrition; 10, a stimulation of the entire nervous system, especially the trophic centers; 11, the removal of congestion; 12, the resorption of exudates. Their value has been proved in amenorrhea, in insufficient development of the genitalia and muscular insufficiency of the ureters with or without chlorotic symptoms. Uterine catarrh depends on the lack of elasticity of the pelvic organs, and atony of the vessels is greatly benefited. In chronic metritis the bath induces a diminution of hyperemia, removes collateral circulatory disturbances and improves the general condition. Cases of chronic metritis after repeated abortions, or during the climacterium, should not be treated with strong saline baths, but as a rule the older the affection the more energetic the treatment. Nervous persons must be given graded treatment, and in these, as in anemic cases progress must be made slowly. As the entire energy is employed in preserving the balance between nutrition and force used in the performance of most necessary body functions, the slightest degree of over-stimulation is of decided injury. He gives briefly the results of experiments with cases, and says he believes pelvic inflammation of the adnexa curable by this method. Cases quite hypertrophic are decidedly benefited, all the patients gain in weight and strength, and in several the red blood-cells were constantly increased; the appetite, strength and general well-being were improved, as no other treatment he thinks could do it. One case of oophoritis was not either locally or generally improved. It was probably one of anatomical cystic change in which no benefit to local conditions could be expected. He says in conclusion: I believe that the results obtained justify me in claiming for the carbonated saline baths a power of resorption too valuable to be underestimated, a method which at the same time benefits the general state to a decided degree, and which acts by increasing the natural and effective functions of the body, and in toning up those pelvic structures which depend so decidedly for their elasticity and blood-supply on the condition of the body generally.

13. Physical Training for Women.—In this conclusion of his article the first part of which discusses the purposes and fundamental principles of physical training for women, Saxe describes the equipment of gymnasiums, the dress to be worn during gymnastic exercises, the poise of head and body in walking, breathing exercises, with reference also to the tone production of the voice.

14. Eczema.—Bulkeley notices the factors in the etiology of eczema, such as sedentary occupation, and such as requires long standing and confinement in bad air, the factors of disease, such as exanthemata, exhausting diseases, malaria, accidents and surgical operations, and the exciting causes which he divides under two heads: internal and external. Of the former, defective nutrition appears to be among the most important though little appreciated. Excessive and defective diet is the cause of very many diseases, both where hereditary

influences are at work and also where these are lacking. Defects also of clothing, bathing and exercise, defective assimilation and excretion, auto-intoxication and neurotic conditions are also mentioned. Of the external exciting causes he enumerates the atmospheric influences of heat and cold, especially as shown in infantile eczema, barometric disturbances, which seem to have an influence, and the seasons. Amongst mechanical irritants he mentions scratching and friction of clothing, etc. Among the chemical irritants he enumerates various anilins and other dyes, lime, arsenic, various local applications used medicinally, and among the vegetable irritants he lists poison ivy, arnica, thapsia, croton-oil, capsicum and even mustard. Disordered sweating and urine in contact with the skin will also produce eczema at times, and the parasitic causes are numerous, some of which are familiar. The influence of micro-organisms proper, in the production of eczema, has been brought forward prominently by Unna, who holds that all eczema is due to microbial infection. The conclusions in regard to this question brought out in the discussion before the International Medical Congress last year, and given in the *British Journal of Dermatology*, are here reproduced.

15. Post-Operative Hemorrhage.—The conclusions of Cordier's article are as follows: 1. In diagnosing post-operative hemorrhage, the operative history will aid much. 2. The symptoms of shock and those of hemorrhage are very similar. 3. In suspected cases the cutting of a single stitch in the incision will tell. 4. The surgery must be quick and decisive in these cases. 5. In cases in which bleeding is expected the tube should be used. 6. Large quantities of normal saline solution will save many patients. This should be used both *per rectum* and by injection into the veins. 7. Strychnin, belladonna, etc., will not control bleeding from a uterine or ovarian artery any better than from any other artery. 8. The surgeon should do what his surgical conscience tells him is right. Late researches in hematology make it appear that an internal concealed hemorrhage may be demonstrated by a careful blood-count. This, it is stated, will show a decrease in the red cells and an increase in the white. Similar symptoms accompany shock from various causes, such as internal hernia, etc., none of which produce a change in the red cells. If an operation was performed for the relief of an inflammatory process, this test would lose its value in part, as there would exist at the time of operating a leucocytosis. Saline infusions apparently increase the white cells at first.

16. Spasmodic Wry-Neck and its Treatment.—Dr. W. M. Leszynsky, of New York, reports two cases with recovery. Both patients were young married women aged respectively 24 and 36 years, in whom the condition had existed for seven months. The sternomastoid, trapezius, and splenius capitis muscles were involved. The treatment that led to a successful result was daily massage of the neck muscles, passive movements of the head and neck, and systematic voluntary exercises with and without resistance. He had resorted to the subcutaneous injection of atropin in twelve cases of clonic wry-neck, and believes that while atropin may prove exceedingly beneficial, may, even curative in some cases, it is unsatisfactory in many others, and should only be utilized as an adjunct to absolute rest and general management. In his opinion, the principal therapeutic feature in every case should be the rational use of massage and the methodical education of the muscles and their co-ordinating centers. Such measures, in conjunction with rest in bed and general tonic treatment, should be thorough and persistently carried out before surgical intervention is considered. He concludes that the most important point is to treat these patients in the manner recommended, as soon as the disease is recognized. If this could be accomplished, fewer cases would advance to such a stage as to come within the legitimate field of surgery.

17.—See abstract in THE JOURNAL of November 3, p. 1172.

18. Edema Bullosum Vesicæ.—Bierhoff describes cases in which he found the bullous edema of the vesical mucosa in cases of carcinoma, catarrhal cystitis of the vesical neck and gonorrhœal disorders. The symptoms in each of the patients were those of the original condition, cystitis or urethritis, viz.,

abnormally frequent urination, with a varying degree of pain or tenesmus. He is not inclined to ascribe decided diagnostic value to this phenomenon, as it seems to accompany many different inflammatory or infiltrative processes.

19. Ugly Ears.—This paper of Roberts is intended to call the attention of the profession to the possibility of improving many auricular deformities with modern aseptic surgery. It is more worthy of attention, he thinks, because the operative treatment is free from risk and easily done, not often requiring confinement to bed or even absence from business pursuits. A lacerated or incised ear should be subjected to thorough sterilization and carefully sutured, bringing the parts together; fine silk is probably the best suturing material. After the removal of tumors or occurrence of sloughing from burns, frost-bite or injury, much artistic skill is sometimes required, and it may be well to operate on the uninjured ear to make it correspond to its fellow. If material is needed to take the place of lost tissue it should be transferred from the neck, cheek, or transplanted from the hand, abdominal wall or thigh. Some deformities or distortions can be corrected by orthopedic means, and it has been suggested to imbed plates of platinum to give rigidity to lacerated parts. Very large ears can be reduced by excision of a wedge-shaped, or by removal of a crescentic, piece from the central portion. Sutures are then employed to sew the auricles close to the skull; bandages or spring pads are to be used to prevent tearing of the scar tissue by unexpected movements during sleep. Absent ears, from a want of development, may be represented by celluloid, papier maché or platinum constructions, or repeated plastic operations may successfully make some representation of the normal ear.

22. Tuberculosis.—The chief subject of Beard's paper is the necessity of curative resorts for consumptives under natural conditions by the reservation of parks, and especially the proposed Minnesota National Park.

23. Diphtheria in Non-Diphtheric Cases.—The occasional presence of the Klebs-Loeffler bacilli in the mouths of healthy individuals has long been known and certain authors have reported large proportions in persons where they were found. Denny has examined the cultures of 285 healthy individuals in the Brookline Board of Health Laboratory and in only seven found in the presence of diphtheria bacilli. This shows the comparative rarity of the condition in suburban communities living under good hygienic surroundings. He also examined cultures from 190 healthy boys in the Municipal School for Truants in West Roxbury, Mass., and in 16 of these had positive results. Fifteen of these 16 lived in a building where they slept in large open dormitories, and this accounts for the larger proportion, as five cases of diphtheria had occurred among the 120 boys sleeping in the dormitories. He says: 1. Diphtheria bacilli are seldom found in the throats of those who have not been exposed to diphtheria. 2. The bacilli are more frequently found in those who have been exposed, especially in persons living under poor hygienic condition or in institutions. 3. The conditions of institution life which favor the growth of the bacilli in healthy throats are the living together of a large number of persons in a limited air space. 4. Healthy individuals with virulent bacilli in their throats can spread the disease. They are just as dangerous as mild or convalescent cases of diphtheria, and ought, therefore, to be detected and isolated. 5. Cultures ought to be made among those who have been exposed to diphtheria: By physicians among the members of a family who have been exposed; by inspectors in the schools; by health officers under any circumstances when they think the disease is being or may be spread by such individuals.

24. Chronic Diffuse Interstitial Nephritis.—Enebuske gives an account of the general and special symptoms and the pathologic anatomy of this disorder with special reference also to its diagnosis and treatment. Formerly if the patient revealed a pulse of high tension with increased area of cardiac dulness, the second aortic sound accentuated with ringing quality, the urine of low specific gravity in increased amount with a trace of albumin and some few hyaline or fine granular casts it would have been justifiable to make the diagnosis of

chronic interstitial nephritis. More reliable observations of recent date have induced some reserve in drawing conclusions, and he says albumin and casts are not always present, high-tension pulse and accentuated aortic second sound have been found to exist in advanced age, without any renal lesion, and the dislocated apex-beat with increased cardiac dulness may be simply the expression of idiopathic hypertrophy. The diagnosis can not be made with certainty from any single examination or from any formula of symptoms. It requires repeated examinations during a sufficient length of time to establish the persistence of sounds and its history and etiology must also be considered. The differentiation of chronic nephritis and secondary cirrhotic kidney must not be made before a consideration of all the facts in the history of the case has been learned and the persistence of symptoms noted. The prognosis is generally admitted to be unfavorable, though under good régime the patient may live for many years without apparent disturbance. When the heart fails, weakness, dyspnea, and dropsy will appear, at first amenable to treatment, but increasing later in spite of it. Severe edema appearing well on in the disease is a serious symptom, and there is a constant danger of uremic intoxication, which is often fatal. Nevertheless, even with severe symptoms—Cheyne-Stokes respiration, persistent vomiting and edema—the patient may live for months. Cabot and White have found from the Massachusetts General Hospital records 17 complete recoveries out of over 300 cases, and cases of eight or ten years' duration are not unusual, and there have been cases recorded up to twenty or twenty-nine years. The leading indications of treatment are to avoid irritation of the kidney and overwork of the heart. The diet must be adapted to the individual, over-eating avoided generally, both starchy and nitrogenous foods restricted and fats given generously, and the skin kept active. Physical overwork and mental worry should be avoided, but moderate exercise and recreation and rest encouraged. The several symptoms must be treated as they arrive. Iodid of potassium, nitroglycerin and chloral hydrate are important for their effect in reducing arterial tension. The leading indication in the early stage is to dilate the arteries and reduce tension, later when compensation is weak the indications are: 1, to increase the systolic stroke of the heart, 2, to relieve the venous hyperemia of the abdominal organs and the lungs when such exists, and 3, to relieve the edema. Experience with regulated gymnastics, according to Swedish and Nauheim methods, has shown their advantages. The author states in general that it may be said that, 1. Dilatation of the small arteries and reduction of too high arterial tension can be obtained in many instances by kneading and stroking of the muscles of the extremities with slow strokes and gentle but rather deep pressure. 2. Increase of the strength of the systolic stroke is obtained in many instances by simple movement of the joints of the extremities with gentle resistance, provided that the exertion is limited to that which the recuperative force of the heart can respond to. 3. Edema is relieved by centripetal strokings with gradually increasing pressure. 4. The resistive movement must be given while the patient is in a restful horizontal attitude or half reclining. 5. Passive movement must be attempted with caution in persons who have not good muscular control, because otherwise the effort of the patient to inhibit co-operative or resistive action either fails, or is so great an exertion in itself that the effect of a vigorous active movement is obtained instead of the passive one which is attempted.

26. Renal Casts.—Tobie finds from the examination of 200 cases taken without selection that there was albumin with casts in 29. This was the result from examinations for very minute quantities of albumin, otherwise the proportion of cases where casts occurred without albumin would have been very materially increased. Three influences, he finds, effect urinary examinations as regards casts. 1. The season, as bearing only to the extent that diseases affecting the kidneys were more common at certain seasons, notably winter and early spring. 2. Age is a very important factor. It is not generally appreciated how commonly the kidneys approach the cirrhotic condition in advanced life. Hyaline casts are frequently present. The question arises: What is their significance? 3. The occur

rence of casts with cirrhotic constitutional diseases is very common, but the cause of their formation is not always clear, and he notices especially the frequency of hyaline casts in connection with carcinoma, and has been led to believe that some relation exists between them, and that the casts are the result of some impairment of nutrition or from poison products occurring in the cancerous formation. He says, as considering the importance attached to the kidney diseases by life-insurance companies, the means employed by their examiners is surprisingly lax, as microscopic examination is not the routine. While he would question very much the propriety of making the presence of casts the standard for refusal it should certainly constitute a reason for more searching examination regarding the eliminating functions of the kidneys.

27.—See also p 115.

28.—See abstract in THE JOURNAL of October 20, p. 1050.

29. **Gastric Carcinoma.**—Rettmann reviews the symptoms which have heretofore been supposed to be characteristic of gastric ulcer and shows that the disappearance of hydrochloric acid from the gastric secretions is not a pathognomonic sign, neither is the presence of lactic acid. He thinks also that too much devotion to laboratory methods has worked harm as regards the diagnosis of cancer, and the search for positive signs has largely prevented proper attention to clinical observations and judgment which would be sufficient for a working diagnosis. While the absence of hydrochloric acid is a most constant and reliable symptom it would not do to depend on it, and more than once he has been led to a correct diagnosis by noting the steady decline in weight and strength all out of proportion to the gastric disturbance. Any excess of nutritional disturbance is always suspicious, great loss of weight especially, and also the rapid or gradual disappearance of HCl, and when a patient suffering from any gastric disease grows suddenly worse under proper treatment it is well to be on the guard for cancer.

30. **Uterine Displacements.**—After first describing the supports of the uterus, Bonfield notices the different types of deformities, upward, downward, backward, forward or to either side. Retrocession of the uterus seems to be due to shortening of the sacro-uterine ligaments and is usually accompanied by sharp ante-flexion of both body and cervix and a slight descent of the whole organ. It may produce no symptoms or there may be those of ante-flexion or of atrophic endometritis. If the condition requires treatment, curettage with subsequent massage and tamponade, if necessary, will relieve. Prolapsus uteri is a more serious condition. The indications for treatment are to remove the weight, and resort to supports. The weight can be reduced by replacing it and holding it in position temporarily with tampons, the patient being kept in bed. Curettage, and if necessary cervical amputation, are the more radical measures. The perineum and round ligaments are the only supports that can be restored by surgery, while the tone of the others may be improved by the use of strychnin, quinin and ergot. He has seldom been able to relieve complete prolapse without ventrosuspension. Deviations of the uterus are divided into versions and flexions. A certain amount of ante-flexion is normal, and others such as posterior deviations are apt to occur where there is a hypertrophy of the organ. The surgical measures for these conditions are noticed, and he believes that Alexander's operation is as good as any. As regards retrodeviations he summarizes his views as follows: The treatment of this condition is not satisfactory; therefore, prophylaxis is of great importance. Many cases may be cured without surgery if well-recognized and time-tried methods be carefully and perseveringly used. Many more cases may be cured by a combination of these methods with repair of cervix and perineum. The Alexander operation may be done to avoid prolonged local treatment when the uterus is movable, and there is no prolapse of ovaries, or when reposition of the uterus pulls them into place. Adhesions and ovarian prolapse are best treated through an abdominal incision in the median line. When it is found necessary to remove the appendages, ventrosuspension is the operation to be done; when pregnancy is possible shortening of the round ligaments is preferable.

35. **Renal Calculi.**—The chief point made by McGuire is that the operation should be performed early where stone is found to exist in the kidney and not as a last resort. Early nephrolithotomy or incision of the healthy kidney for removal of the stone is not risky, gives permanent cure and has no tendency to mutilation. The opposite is the case with late operations involving nephrectomy or extensive removal of the diseased parts. The diagnosis of renal calculi is sometimes exceedingly difficult and they may cause death without their presence being detected. The position of the stone, of course, affects the symptoms and the passage of the calculus is, of course, of the greatest diagnostic importance. He reports four cases.

39. **Nasal Syphilis.**—Levy describes the symptoms, diagnosis, prognosis, and treatment of tertiary nasal syphilis. Its importance depends not only on local disorders it produces, but the possible implication of the important intracranial organs. The most common deformity is the perforation of the nasal septum, the cartilaginous or bony or both, but this may be caused by other factors also. The symptomatology as a rule may vary according to the nature and site of the lesion. Pain is not prominent. The diagnosis is of special importance on account of the value of early recognition and treatment. If the gummata can be absorbed before breakdown and the disorder checked before extensive ulcerative processes have occurred there is a chance to prevent the hideous consequences which are commonly observed. Three cases are reported, illustrating the difficulties of diagnosis. In some of these very striking mistakes were made by able men. If the disease is recognized early the chances for treatment are good, and mercury and potassium iodid should be actively administered, and properly constructed tubes inserted at the adhesions and the nose, if necessary supported by an artificial bridge. If necrosed bone is detached we should attempt its removal, provided it is well separated. There is some danger in too early or vigorous curetting. The sharp Volkmann spoon should, however, be used whenever necrosis has developed to such an extent that the sequestra can be removed with slight difficulty. Besides operative medicinal treatment, frequent cleansing with a warm 1 per cent. permanganate solution, the use of tincture of iodine and the insufflation of iodoform may be employed. Great importance is attached to constitutional treatment; as a general thing mixed treatment is advised. The effect of potassium iodid may be largely enhanced by the combination of other iodids. For the occurrence of deformity plastic surgery is a valuable resource in some cases.

40. **Recurring Parotitis.**—The author describes the case of his son, who has since the second year of his birth been subject to recurring attacks of swelling and inflammation of the parotid gland, apparently idiopathic, generally unilateral, appearing at intervals varying from a few months to a year and becoming less frequent as the child grows older. There has been no attendant enlargement of the lymphatics and no resulting hypertrophy. Fever has been absent. The general health has been good, no adenoids existing. Ewing reviews the literature and finds little that is parallel to this case and is inclined to consider it one of infectious disease of Steno's duct, causing swelling, by some microbe, the identity of which is unknown.

47. **Reminiscences of a Physiologist.**—The address of Sir Michael Foster before the Denver College of Medicine is an interesting account of the early experiences of this eminent physiologist and also calls special attention to the relation of physiology to medicine. He particularly mentions the embarrassment which physiology suffers from the English anti-vivisection laws and exhorts American physiologists not to allow themselves to be thus crippled. It is the duty of the whole medical profession to see that physiology is not hampered by any misdirected legislation.

49. **Contract Practice.**—Davis' article on contract practice maintains that it is a violation of ethics in a special sense; it nullifies the agreement made by local societies as regards fee bills and is a surrender of medical ethics to corporations. In a preliminary note the author states that it is a subject for

the local societies first to deal with, and until they take up the fight in earnest and prosecute it to its fullest extent only then should the AMERICAN MEDICAL ASSOCIATION take cognizance of it.

50.—See abstract in THE JOURNAL of October 6, p. 902.

51.—Ibid., September 29, p. 841.

52.—Ibid., p. 840.

53.—Ibid., p. 841.

54.—Ibid., p. 838.

55.—Ibid., October 6, p. 903.

57.—Ibid.

58.—Ibid., p. 902.

59.—Ibid.

60.—Ibid., p. 904.

61.—Ibid., p. 902.

62.—Ibid., November 17, p. 1275.

64.—Ibid., October 6, p. 903.

65.—Ibid.

66.—Ibid., September 29, p. 840.

69.—Ibid., October 6, p. 902.

70. **Tropical Dysentery.**—The subject of tropical dysentery as considered by Flexner and his associates has been already noticed elsewhere in THE JOURNAL. The present article is the Middleton-Goldsmith lecture delivered before the New York Pathological Society, April 12, and the views expressed are largely the same as those already published.

71. **The Prostate Gland.**—This article is an elaborate discussion of the anatomy and functions of the prostate. Walker shows what varying views have been held and describes elaborately the minute anatomy of the organ. He sums up his results as regards this in the following: 1. The prostatic muscle is derived from the longitudinal coat of the urethra, and the circular layer of the bladder. 2. Every lobule is surrounded by a circular and longitudinal coat, so arranged as to expel quickly and forcibly the secretion. 3. The prostatic muscle of the full-grown animal is independent of both urethra and bladder, and is only indirectly in connection with either. 4. The muscle is not disposed as to compress the urethra, or to act as a sphincter to the bladder. 5. The connective tissue is found in nearly the same amount as in other secreting organs; and is amply sufficient to give all the needed support to the gland, independent of the muscular elements. 6. A membrana propria is present in all cases, and consists of very fine connective-tissue fibers. There is a sheath of longitudinal elastic fibers around the prostatic urethra, from which the outer fibers diverge around the prostatic ducts in a figure-of-8 manner, and thence onward into the glandular substance. 7. Outside of the above-named elastic coat is an incomplete set of similar fibers, which also pass into the glandular substance. 8. In the gland substance a rich elastic mesh-work is seen lying under the cells, with a few extremely fine fibers in the membrana propria. 9. The glandular substance forms about five-sixths of the organ. 10. The cells are disposed in one layer; tall columnar-shaped; have a large amount of protoplasm, and a well-defined nucleus. In the same lobule, areas are present where the cells are entirely inactive. 11. Adenoid tissue is scattered at irregular intervals throughout the gland. As regards the functions, Walker finds that the prostate gland secretes a substance which causes motility of spermatozoa together with thinning of the fluid and describes the method of ejaculation. The conclusions as regards the latter are as follows: 1. The verumontanum does not prevent the entrance of the semen into the bladder. 2. The semen is prevented from passing backward into the bladder by the contraction of the so-called sphincter of Henle. 3. The prostatic ducts are so arranged that they eject their fluid directly into the outpouring testicular secretion, thus producing a homogeneous mixture. 4. The longitudinal fibers of the sphincter membranacea urethra dilate the outer half of the membranous, and a portion of the bulbous, urethra; and by this means draw the semen from the prostatic portion. 5. During the last act of ejaculation, the orifices of the prostatic

and ejaculatory ducts are closed, and their respective fluids put on much tension; so that at the moment of relaxation a sufficient quantity of semen is poured in for the next emission. 6. The sphincter membranacea urethra aids, not only in carrying the semen along the urethra, but helps very materially in expelling it.

73. **Aortic Aneurysm.**—The Moore-Corradi method of treatment of aortic aneurysm is described by Hunner, and five cases reported. He remarks that while the operation was devised by an Englishman and modified by an Italian, it has been perfected and developed principally by Americans. The selection of the wire is of importance, and he finds that a silver alloy highly drawn, 75 parts of copper to a thousand, making a wire from an 8 to 27 standard gauge, is about the most satisfactory. He finds that the fibrin formation is more of a chemical than a mechanical process; silver being least resistant of all metals, transmits more of the given current for action on the blood. The sac should never receive both poles, or the current be so passed that the negative is in the sac, as this produces a friable soft structure while around the positive pole the clot is smaller, firmer and darker in color. He reviews the cases that have been published and discusses the dangers of the operation. The chance of a loop of wire entering the aorta is less than might be supposed, and the danger of an embolism breaking from the sac either during or after insertion is possible. The closing of the important vessels by the sudden filling with clot, puncture of the sac wall and the chances of failure because of the presence of a double sac are other possible or theoretic dangers among those considered. As regards the results of the method he finds that there are two cases at least where cure resulted; in many others, at least 39 per cent., there were amelioration and prolonged life, and there is one case still under observation with more or less chances of both. Clinical and post-mortem evidence point, Hunner says, to the efficacy of the method. Its great drawback is the difficulty of an accurate diagnosis. When we consider that none of the cases were selected as specially hopeful for operation, but almost all without exception considered hopeless, he believes we are forced to give the method careful consideration.

74. **Obstetrical Paralysis.**—Thomas describes and discusses the subjects of infantile and maternal obstetric paralysis, and as regards the former, it is probable that it is due to injury to the brachial plexus, and while it is difficult to explain at first sight how paralysis may result from such injury he suggests that since all the muscles receive fibers from several spinal roots their movements are represented particularly in one or two roots and that an injury of these special roots causes paralysis of those muscles most represented in them. It seems fairly well determined that the muscles affected in obstetric palsy have their chief representation in the 5th and 6th cervical roots and the experiments of Fioux and Schoemaker show that these roots are most apt to be injured during difficult labor whether it is by simple stretching of the plexus or squeezing between the clavicle and spinal column. What we need to clear up the question is careful post-mortem examination, which we at present lack. Maternal nerve injuries during labor are also discussed and the author reports two cases. Huenemann's theory that the paralysis resulting from trauma is nearly always due to pressure on the head and not to the blade of the forceps on the external popliteal nerve is modified by saying that, "The upper roots of the sacral plexus do not lie on the pyriform muscle, but against the bony wall of the pelvis, and are thus exposed to injury from pressure during certain difficult labors. It is the dorsal offsets of these roots which lie against the bone and which receive the chief injury. The external popliteal nerve is made up from these dorsal offsets, and therefore the paralysis is chiefly localized in the distribution of this nerve." Near the close of his paper he gives the classification of the puerperal neurites by Windscheid into, 1. those developing during pregnancy and probably due to some toxic action; 2. those due to peripheral infection; 3. those due to traumatic injury during labor; 4. those developing after perfectly normal labor from unknown causes, though toxic agents have been blamed. Thomas suggests the name puerperal neuritis for those cases classed in the fourth group. As re-

gards the other three groups we have only to consider the second and third, for there is no reason to distinguish the first group from cases occurring during pregnancy. For the second group he would suggest the name septic neuritis with the qualifying sub-title local and general. For the third, traumatic puerperal neuritis. He would also suggest that the cases of paralysis during labor be called obstetric paralysis and that the paralysis of the baby's arm be also qualified by the adjective infantile; thus we would have infantile obstetric and maternal obstetric paralysis.

85. **Inhalations.**—Penrose maintains that inhalation methods are the rational means for combating pulmonary affections. Internal medication should be used only as accessory. Change of air, mountain air, etc., which are in reality inhalation methods, are all right for those who can afford them, but for the masses this is practically impossible. He reports cases where he has given inhalation with steam or oxygen, and three cases where both these methods were combined. The good effects of oxygen in pulmonary disorders are raised to the maximum when combined with the heated vapors of his inhalation mixture, consisting of one dram of a mixture of creosote, oil of turpentin and compound tincture of benzoin in a pint of hot water, gradually increasing the creosote and oil of turpentin until a mixture of equal parts of each is combined, that is one ounce of each. Inhalations to be effective should last ten or fifteen minutes at least. Breathing exercises and general gymnastics are independent adjuncts. These do not upset the stomach like cough mixtures, and many can be induced to take them that would not take medicine.

79.—This article has appeared elsewhere. See THE JOURNAL of October 27, 1900, p. 1115.

91. **Gastroptosis.**—McPhedran reports ten cases of gastroptosis and notices their cause; these, as he says, are nothing extraordinary, but are types of cases constituting the bulk of those met with. He believes the common cause of all is general debility and lack of tone. The diagnosis is not usually difficult; by inflating the stomach with air or carbonic oxid its outline can usually be determined by percussion. As regards treatment he prefers diet, medicines, abdominal massage and gymnastics. Electricity may be beneficial, an intragastric electrode being used. He is in the habit of directing massage and abdominal exercise to be taken morning and night after drinking one or two glasses of water. In this way many patients can wash their stomach out into the bowel. Change of scene is especially recommended; travel with due regard to avoidance of fatigue is of great benefit. Rest without pleasure is of little advantage.

92. **Mental Sanitation.**—Smith thinks that the public should be enlightened in regard to the nature of insanity, especially the influence of heredity, and should also be taught that the disease is insidious in its origin, and family and personal history should receive early and careful attention. Then there should be full recognition of the variability of persons to stand strains and work. Smith thinks that if the condition under which many cases originate were understood, many attacks might be avoided. An all-important matter is the study of child character and the mental development during the period of growth. The burdens of life should be adjusted to the capacity of the individual, so that overstrain is avoided, and public sentiment must be enlightened before any reasonable restrictive measures can be carried out.

98. **Cocainization of the Cord.**—Morton reports his experience with the new method of anesthesia and discusses its utility. He has had no bad results in any of his cases, which number, up to the date of the paper, ten. He uses a spray of ethyl chlorid before making the puncture, which dulls the pain and helps to keep the patient quiet. He believes this is the safest, quickest, cheapest and best anesthetic, but it will take thousands of cases to demonstrate its safety as compared with other and older methods.

109. **Hysteria.**—Zenner's article treats of the association of hysteria with organic nervous disease and the necessity of recognizing this factor in the case. He says that hysteria may

be a possible complication of various serious organic troubles and may lead to unpleasant mistakes in diagnosis. There are some symptoms which are of special importance from the diagnostic point of view, for instance, the globus and concentric contraction of the visual fields in hysteria, and the hemianopsia, alterations of the deep reflexes, rigid pupils, and the reaction of degeneration for organic disease; but these are not altogether pathognomonic nor are any diagnostic tests absolutely reliable, hence the greater importance of careful and painstaking examinations in each case.

110—See abstract in THE JOURNAL.

FOREIGN.

British Medical Journal, November 17.

Varix. WILLIAM THORBURN.—The divergence of opinion in regard to varix being first noticed, the author discusses the etiology and reduces the possible common causes down to: 1, congenital enlargement of the veins, or weakness of their walls or valves; 2, obstruction to the escape of blood from the veins; 3, increase of influx of blood to the veins. From a clinical point of view we have also three main types: 1. Developmental varix in which a large trunk stands out from a limb whose tissues are otherwise healthy. This condition may be present in one or both limbs, but is often strictly unilateral and is most common in the left side. The internal or external saphena may be alone affected, or a large branch of it be selected. The special characteristic is the limitation of the disease and its selection of large channels. The subjects are often young adults, and the most marked cases occur in robust young men. Edema, eczema and ulceration are conspicuous by their absence, or if ulcers occur it is from atrophy of the skin overlying the large venous pouch, and is not of the type of the ordinary varicose ulcer. Hence almost the only secondary troubles are pain and risk of hemorrhage from injury of large veins. No external cause is discoverable. Pregnancy, constipation and the like are readily excluded, and the only factors found are heredity and the not infrequent association with varicocele, with enlargement of the veins of the arms and chest and occasionally nevus. The predominance of the male sex indicates a congenital origin. 2. We have a more common group of cases in which the varix is less sharply limited. It is bilateral excepting in its earliest appearance, and instead of single large swellings there is an almost proportionate swelling of veins of all sizes. The whole is apt to be slightly obscured in outline by some swelling around the vessels. This type is rare in the young; increases with age, and is more common in the female sex. Complications, such as edema or chronic ulceration, almost always develop ultimately, but we do not always find large thin-walled venous sacs, with their possibilities of profuse hemorrhage. In this case we can generally find a history of some obstruction; pregnancy may be referred to. The indications point to obstruction of the venous return as the prominent cause of the disease, and the term "obstructive varix" may be given to this class of cases. In the third form we find no varix of the larger trunks, but patches scattered over the surface and the venules only are enlarged and present themselves as somewhat radiating stellate or leaf-like areas of dusky-red spots. The author considers these as probably a lesion of inflammation and prolonged hyperemia and describes the different hyperemic or inflammatory appearances probably due to long-continued increase in the blood-supply. In the lower limb it is not common, but may occur in association with inflammatory conditions, such as chronic ulcerations, exposure to heat, etc. The first type is the simpler. The second is more complicated and is also the cause of the most of the common complications of varix, such as ulcerations, edema, etc. The treatment is largely by the ligation of varicose veins, which relieves the region of the vessels involved and its best results are in the first form where one or two large veins alone were affected. In the obstructive type the probability of success will largely depend on the relative etiologic importance in each case of developmental area of obstruction. Varix of the large vessels existing after the first pregnancy indicates a marked developmental area and is fairly amenable to operative treatment. Diffuse varix with tissue congestion

and slow production is far less favorable. In conclusion he insists on the fact that the essential cause of varix is in nearly all cases a congenital venous defect, that such defect may, if severe, show itself spontaneously, although in comparatively mild and uncomplicated form, but slight deficiencies are only rendered prominent by superadded causes of congestion, and they unfortunately then are liable to be accompanied by other results.

The Lancet, November 24.

The Treatment of Sprains and of Some Fractures. A. H. TUBBY.—A sprain may be defined as a momentary disturbance of the normal relation existing between the opposing joint surfaces, but varying very much in degree. In any case some stretching of the surrounding parts must take place accompanied by hemorrhage and lymphatic effusion. In some cases the injury may cause only temporary inconvenience; in others the ligaments are ruptured, and in the severest a small portion of the bone is torn away, and in this case the injury is known under the name of sprain-fracture. Tubby notices the symptoms, the severe pain occurring shortly after the accident, then being apparently quiescent for a short while and later recurring with increase of swelling. The first stage is that of the injury associated with stretching and tearing of the parts and effusion of the blood. The second stage of pain after the quiescent period is due to tension and continued effusion of the blood. A great deal of damage is often sustained by the patient when he attempts to use a sprained joint during the quiescent period. This retards the period of convalescence. It is important in severe cases to make the diagnosis as clear as possible and the X-ray may be valuable in case of sprain-fracture. Even when no fracture has taken place there are frequently found about the joints some tender spots, as at the knee, where a spot is found just below the patella, and in the ankle in front of the external malleolus. These are first noticeable during the second period of pain and last for a considerable time and are due to rupture of the ligament in the first place and later to the persistence of roughened inflamed synovial fringes. If they should persist for some weeks or months after a sprain their usual cause is the formation of bands of adhesion. There are certain predisposing causes of sprains, malformations, club-foot, ankylosis of the knee, atrophy of the muscles, etc., which cause abnormal tension of the joints. As to treatment there are two methods, the mobile and the immobile. The principal thing to remember is what to do and the right time to do it. At first, the author recommends applications of cold water for a short time during the first two or three hours after the accident. The position is important as the joint should be put in the position of least tension and the potential cavity be lessened. For instance, the knee should be placed in extension and not flexion and the ankle at a right angle. Bandaging should be done in such a way as to relieve pressure over the point where it can cause more tension and tenderness. If the sprain is seen within the first two or three hours he insists on the following treatment: apply cold vigorously for a quarter of an hour, either by pouring on cold water, applications of ice or the spirit lotion, then wrap the joint around with lint or other material soaked in cold water and put on the cotton-wool in such a way as to relieve the pressure over the prominent points and place the joint in such a position that there is the least potential cavity for effusion to be poured into, and firmly bandage the part. During the period of quiescence the same round of treatment should be followed out where there are still some quiet effusions going on, but when the second stage of the pain occurs the right thing to do is to apply heat, as hot applications exercise a permanent effect on the duration and the amount of swelling. The most important question is the duration of the period of rest. It may be said that as a rule most joints are rested too long. On an average of three or four days after the swelling has subsided movement of the joint should be commenced. The direction of the movement is an important point so as not to interfere with the healing of strained and ruptured ligaments. When the amount of swelling is very great, hot applications and rest are not sufficient, and here properly applied friction comes into play. Together with rubbing, frequent applications of hot water and

gentle movement should be carried out. If after ten days' treatment the thickening about the joints has not disappeared and there are still tender spots, use counter-irritants by blisters. In from ten days to three weeks a severe sprain ought to cease to give trouble and the patient be able to go about with comfort, but if at this time acute pain sets in with movement the only treatment is absolute rest. Six weeks is not too long a period to keep such a joint quiet. The mobile treatment of sprains can only be used in very slight cases and then with some misgivings. The author concludes his paper with the treatment of fracture about the elbow-joint and separation of the lower epiphysis of the femur.

Ten Cases of Enteric Fever in Which the Blood was Examined Periodically for Agglutinative Properties. WILLIAM G. SAVAGE.—From the results of a number of cases covering a considerable period the author finds a decided variation in the agglutinating power of the serum and in a number of cases of relapse, he notices that in all at one period or other before the relapse the blood reaction was very feeble or not at all. He says it does not follow, however, that all cases with feeble reaction, relapse, as his own experiences show, and definite rules can not be laid down, but he thinks we are perhaps justified in saying if the blood examination shows a well-marked reaction no relapse is to be anticipated, but if feeble, relapse may follow and is more liable if on previous examination the reaction was better marked. He concludes that well-marked differences of the agglutinating power undoubtedly exist between typhoid bacilli obtained from different sources, certainly when broth cultures are used and probably also, but to a less extent when cultures on solid media are employed. That such differences can not be considered sufficient to justify a differentiation into distinct varieties, but are rather to be explained as due to differences of present environment and to conditions of environments which have acted in the past on the race of bacillus, producing changes not fairly stable and permanent but liable to be again modified.

Annales de Dermatologie et de Syphiligraphie (Paris), October.

Sarcoma Caused by Foreign Body. W. DUBREUILH.—A piece of oyster-shell crushed into the right forefinger, was apparently eliminated in an abscess. A few months later a sarcoma developed at the spot requiring ablation. The microscope showed a chronic inflammatory reaction around a number of particles of oyster shell, each enclosed in a phagocyte, giant-cell or leucocyte, with no evidences of microbial action. Spitzer has related a similar case in which a sarcoma developed rapidly on the spot where a caterpillar had been crushed, with fragments of the hairs as the origin of the irritation.

Elastic Pseudo-Xanthoma. E. BODIN.—Only two other instances of this lesion have been recorded. The patient in the case described was 50 years of age and had noticed the cutaneous affection for thirty years, but it had caused no annoyance. The lesions were symmetrical, principally on the lower portion of the abdomen, in more or less confluent patches. The skin around, above and below was normal. Sections showed each lesion to be formed of small masses of granular substance, which responded to all the tests for elastic tissue, with connective tissue and large numbers of polymuclear giant-cells near the vessels and at the periphery of the lesion. Darier is inclined to consider the affection an elastoclasia or elastorhexis.

Bulletin de l'Academie de Medicine (Paris), November 6.

Large Myeloplexes in the Blood in Leukemia. CORNIL.—The autopsy disclosed that the cells present in the blood of the patient described, a girl of 17, were derived from the bone marrow. The large bone-marrow cells or myeloplexes were formed in the marrow in great numbers and passed directly into the circulation with the eosinophiles. They had accumulated in the spleen, with effusions of blood, increasing its size and weight to a remarkable extent. They were also found in the liver and in the blood contained in the cavities of the heart.

Bulletin de la Soc. de Pharmacie de Bourdeaux, October.

To Preserve Samples of Milk. A. DUBOIS.—Samples of milk can be preserved for weeks for analysis or medicolegal

tests by adding to the liter 5 c.c. of a solution of 50 gm. of carbolic acid in 10 c.c. of 95 per cent. alcohol. It does not interfere with any of the tests, while it keeps the milk from souring or deteriorating.

Bulletin de la Soc. Med. des Hopitaux de Paris,
November 1 and 8.

Pneumococcus Otitis from Contagion. E. HIRTZ.—The case reported illustrates the necessity of antiseptic prophylactic measures on the part of the attendants of a patient with pneumonia. A healthy woman became suddenly affected with a bilateral otitis media with copious discharge containing numerous pneumococci. The otitis commenced the third day of the patient's attendance on a patient with pneumonia. It was completely cured by appropriate treatment in twelve days.

Scapulothoracic Amyotrophy a Sign of Incipient Tuberculosis. E. BOIX.—Muscular atrophy of the scapulothoracic cap, the dome of flesh surmounting the apex of the lung, is frequently observed in advanced tuberculosis, but no one has called attention to it before as a sign of incipient tuberculosis. It is frequently to be noted before other symptoms are manifest. It is always more pronounced on the side more gravely affected, is unilateral if the lesion is confined to one side and proportionate in its extent to that of the lesion. Nine cases are described in detail showing the progress of the atrophy to be parallel with that of the disease, the muscles being apparently attacked by the infection from the very beginning of the bacillary invasion. It is possible, however, although not probable, that the muscles were congenitally defective and hence favored the localization of the infection.

November 8.

Acholic Icterus. A. GILBERT AND P. LEBEBoullet.—Under this term a pathologic condition is described which is characterized by a more or less pronounced icteric complexion predominating at certain points or generalized, with the constant presence of bile-pigments in the blood, but with no elimination of bile by the kidneys. It is distinguished by its familial and hereditary character, and its close kinship with other manifestations of chronic biliary infection. The hereditary predisposition seems especially marked among the Jews as is the case for autoinfections in general. Simple acholic icterus may date from early childhood or birth, but may remain latent and unnoticed. In other cases, there may be cutaneous manifestations—frequently urticaria and xanthelasma. Or it may appear with digestive disturbances. In other cases nervous symptoms predominate—somnolence, neurasthenic or hysterical symptoms. Profuse epistaxis or menorrhagia may occur, presenting the hemorrhagic variety and there is still another, the rheumatic, in which there are pains in the joints, muscles or bones. The predominance of these secondary symptoms frequently causes them to be accepted as primary, and possibly an erroneous diagnosis of chlorosis may be made. The affection can be differentiated by examination of the blood. It is probably due to some slight chronic infection of the biliary passages on a biliary diathesis, sufficient to cause the icterus and the passage of the bile-pigments into the blood, but not to lead to their elimination in the urine. The prognosis would be favorable if it were not for the inherent, peculiar predisposition to more serious chronic, biliary infectious processes—lithiasis or cirrhosis—which are liable to occur later, possibly subsequent to some intercurrent disease.

Echo Medical (Lille), November 11.

Suture of the Bladder After Suprapubic Incision. V. CARLIER.—The only condition indispensable to the success of suture of the bladder is to ensure ample drainage. The suture is invariably successful in children, almost always in women and very frequently in men. Besides hemorrhage, profound infection from a calculus or neoplasm is the only contraindication in men. Carlier prefers suturing in two tiers, both of catgut. When the mucosa is infected he does not include it, but otherwise makes the suture through the entire thickness of the bladder wall. He always leaves a small drain in the lower corner of the abdominal wound, pointing toward the cavity of Retzius but scarcely touching it. He does not consider a permanent sound a necessity in all cases, and describes two cases

in which a permanent sound became bent and closed the lumen of the urethra with consequent distension of the bladder. In all cases he has the urine drawn every three or four hours.

Simple Treatment of Strangulated Hernia with Gangrene. BRILLANT.—Jaboulay published recently an account of a case in which a gangrenous patch 3 cm. in diameter, on the small intestine was left untouched and the strangulated hernia reduced after careful antiseptics and lavage with boiled water at 40 C. The patient made an uninterrupted recovery. Brillant describes a similar case, but, instead of reducing the gangrenous loop, he sutured the longitudinal slit in it and passed a roll of gauze under the loop which he left outside the abdomen for twenty-four hours. After this interval the intestine had become of a better color and he considered himself justified in replacing it without further intervention. The patient made a complete recovery in ten days. The hernia in this case had been strangulated only twenty-one hours. The operation was performed under very unfavorable conditions at the patient's home, and he recommends this method as far preferable to the formation of an artificial anus or to any protracted operation in the homes of the poor.

Journal des Sciences Med. de Lille, November 10.

The Sanitary Bulletin of the House.—The writer states that in Paris and Rheims efforts are being made to keep the sanitary record of each house, the condition of sewers, the cases of infectious diseases that have occurred in it, the disinfection practiced, etc. This may prove practicable for new houses, but even this is dubious, as all infectious diseases are not reported. Lemièrre advocates instead, the general adoption of the plan of disinfecting the house throughout whenever a new tenant takes possession. If this were done as a matter of course and exacted by the tenant as he now demands new wall paper, etc., there would be no reflection on the property nor on the previous tenants. Lemièrre proposes that small houses or apartments renting for less than \$40 a year should be disinfected gratuitously by the municipality, while those renting from \$60 to \$200 a year should be disinfected at the expense of the owner. Every effort should be applied to simplify and cheapen the methods of thorough disinfection. If more generally practised, competition would soon solve the question of expense.

Presse Medicale (Paris), November 10.

Extraction of Foreign Bodies from the Ear. M. LERMOYEZ.—Lermoyez says that hundreds of lives would be saved every year if physicians, parents and nurses realized that a foreign body in the ear does no harm as long as it is not meddled with. The efforts at extraction cause the trouble. Filling the ear with olive-oil will kill insects, and the syringe will remove nearly all foreign bodies if exclusively applied, syringing toward the free space left between the foreign body and the walls of the meatus, or if this can not be discovered, toward the lower front of the foreign body. If the meatus is inflamed from efforts at extraction with a hairpin, etc., the inflammation should be allowed to subside. Lermoyez advocates chloroform for children and timid adults if an instrument has to be used, as any movement of the head is perilous. A retroauricular incision is better than protracted intervention by the natural route.

Revue de Chirurgie (Paris), November.

Technique of Colostomy. H. HARTMANN.—The artificial anus made by the technique described for the relief of inoperable tumors of the rectum, has proved extremely satisfactory in the thirty cases in Hartmann's experience. No complications of any kind have been observed and the anus is continent to a certain extent. The incision is about 10 cm. long and exactly perpendicular to a line from the umbilicus to the antero-superior iliac spine of the ilium. The different tiers of the abdominal wall are separated and the lips of the wound drawn apart by retractors at right angles to the wound and at the top and bottom, making a square opening with one corner pointing to the umbilicus. A small buttonhole is then made in the peritoneum only large enough to admit the thumb and forefinger, in the search for the iliac portion of the omega loop, which is found by following the parietal peritoneum to the point where

it is reflected on the iliac fossa and then the iliac peritoneum, until arrested by the iliac portion of the omega loop or its mesentery. Pulling on the latter always brings the right loop. It is recognized by its knobs, the longitudinal band and the epiploic appendages. This loop of the pelvic colon is drawn well out and supported by a roll of gauze passed through the mesentery beneath. Gauze of another color is then packed lightly around beneath, over the lips of the wound, which it thus tampons. Neither sutures nor ligatures are required. Forty-eight hours later the intestine is opened with the thermocautery without anesthesia, the opening being not more than 2 cm. long, on the afferent end of the exposed loop. A warm, moist compress is applied, and two days later a gentle purgative is given, if there has been no bowel movement, irrigating copiously with tepid water afterward, and covering the wound with moist gauze and oiled silk. The tiny opening in the intestine gradually enlarges, and the mucous membrane becomes everted. On the sixth or seventh day the gauze surrounding the intestine is removed and by the tenth day the roll supporting it is taken out, cutting the latter close to the intestine and pulling each side out separately. The intestine gradually retracts and the mucous membrane everted at the small orifice spontaneously adheres to the lips of the wound in the skin, and by the twentieth day the anus is complete. A certain amount of constipation is desirable and the diet is adapted to this end. An evacuation is induced each morning with an injection into the proximal end. By observing all these apparently trivial points a satisfactory and practically continent anus is obtained, which will squeeze the inserted finger. In only one of the thirty cases was a slight supplementary autoplasmic operation required.

Resection of the Median Nerve in the Forearm. PERRAIRE AND MALLY.—A young woman was operated on for the removal of a diffuse, dissociating lipoma in the median nerve, requiring resection of 8 cm. of the nerve. After removal, all the movements of the fingers were retained and the patient resumed her occupation of seamstress without disturbance of any kind. The sensibility was normal nineteen months after the intervention, except for a patch of anesthesia in the center of the pulp of the forefinger. The flexor brevis pollicis had evidently assumed certain of the functions of the paralyzed antagonist and the abductor brevis.

Entering the Posterior Mediastinum. A. F. LLOBET.—Nassilov first suggested the possibility of this operation for lesions of the esophagus and Rehn has applied it twice on man. Lobet followed Nassilov's directions in an attempt to relieve a young woman with complete constriction of the esophagus due to the action of caustic. She had been fed by means of a gastrostomy done several months before and was in good condition. The fourth to the eighth rib inclusive were resected for 5 cm. and the esophagus reached without injuring any of the thoracic organs. It was incised along the two strictures found, but was not sutured. The wound was sutured in tiers and the operation was successful, the pleura and other organs remaining intact. The patient died eight days later, and the autopsy disclosed a purulent pleurisy, probably attributable to ascending infection from the stomach by way of the lymphatics. The mediastinum should be entered about two finger-widths to the left of the spine for the upper portion of the esophagus and on the right for the lower portion.

Revue Generale d'Ophthalmologie (Paris), September.

The Lashes in Cataract Operations. SCHIÖTZ.—The skin is shaved as a preliminary measure to operations on other portions of the body, and the lashes should also be removed before a cataract operation. Shaving produces an injurious irritation and the stiff new growth disturbs the patient. Epilation is the only rational procedure in these cases. It does not produce any reaction on sound lids and the sprouting lashes are soft and fine. Several days should elapse between the epilation and the operation proper.

Sympathetic Ophthalmia in Spite of Enucleation. ABADIE.—A case is described in which sympathetic ophthalmia recurred fourteen years after enucleation of the eye primarily affected. It resisted all treatment until conquered by injections of three or four drops of a 1 per cent. solution of mercury

cyanid injected into the stump of the enucleated eye. The optic nerve had probably been invaded by the primary infectious process, but the infection had remained latent for years.

Semaine Medicale (Paris), November 7.

Infection of the Uterine Cavity after Delivery. E. WORMSER.—Doederlein reported this year that he found the uterine cavity sterile in 83 per cent. of 250 women examined between the second and fifteenth day after delivery. In nearly every case in which bacteria were found, there had been temperature, subfebrile in most. Wormser instituted a parallel series of investigations at Basle, following Doederlein's technique as closely as possible, but he found that 84 out of 100 patients had bacteria in the lochia and yet there was no morbidity, only 24 having had temperature slightly above normal. His examinations were all made from the eleventh to the fourteenth day after delivery, as he considers it established that sterility is the rule during the first few days. In the immense majority of cases of infection, especially the fatal ones, the infection is of heterogeneous origin, almost always from imperfect sterilization of the hands of the midwife or obstetrician. The best prophylaxis of puerperal fever is, therefore, rigorous disinfection of the hands and the use of rubber gloves if the hands have been infected with virulent germs within twenty-four hours. It is equally important to disinfect the external genitalia. In case of rapid, normal birth it is unnecessary to disinfect the vagina—his statistics for the last three years are equally favorable with and without. But when delivery is delayed, especially after rupture of the waters which neutralize the vaginal secretions, and before any obstetric maneuver, he rinses the vagina copiously with 1 to 1000 sublimate solution. For the same reasons he makes an injection of 1 per cent. lysol in the uterine cavity after intruterine manipulations. The practical results of bacteriologic examination—which is practiced at Basle in every case in which there is temperature for more than twenty-four hours—are the certainty that the fever is due to absorption or to some extra-genital cause if the lochia prove sterile. Bacteriologic examination saves much anxiety by demonstrating the absence of infection or in other cases revealing its presence at the start of the process, before any clinical symptoms have appeared. There is little or no information to be derived from bacteriology in regard to the prognosis. Wormser relates instances in which fatal puerperal infection was evidently derived from a sluggish chronic infectious process elsewhere, a sinusitis in one case, a streptococcus pneumonia in another, and a migration of pneumococci in a third from the lungs through the diaphragm and peritoneum to the endometrium, producing a chain of lesions on its path.

Centralblatt f. Chirurgie (Leipzig), November 10 and 17.

Obliteration of an Intestinal Diverticulum Without Incision. C. BAYER.—A diverticulum was found in the invaginated portion of the intestine near the ileocecal valve during a laparotomy on a boy 2½ years old. The collapsed condition of the patient rendered rapid operating a necessity and the diverticulum was taken up in four folds, a thread passed through each, thus gathering the diverticulum into a small shallow space and obliterating it as a cavity. The child recovered and is now in perfect health.

Radiography of the Neck of the Femur. C. LAUENSTEIN.—Fine skiagrams of the neck of the femur can be obtained by placing the Roentgen light between the knees of the patient, who reclines on his back, the thigh flexed and abducted. The rays should be in the plane of the diaphyses of the femur and radiate toward the lower circumference of the neck. Comparison with similar skiagrams of normal individuals shows clearly any backward bending or other abnormal conditions impossible of detection by other means.

November 17.

Wire as a Permanent Substitute for Bone Defects of the Jaw. C. HOFMANN.—A piece of stout silver wire passed through the stumps of the bone after resection and the ends woven together, forms a remarkably simple and reliable means of substituting defects in the jaws or long bones. It can be bent to adapt it to the exact shape required. A wire is preferred that has a core of a less flexible metal than silver. The

wire prosthesis has proved a perfect support in a case in which it was used to substitute a missing portion of the tibia 6 cm. long, also in a case of extensive necrosis of the lower jaw. The teeth fitted accurately together and the outline was normal.

Buried Wire Netting in Operations for Hernia and Movable Kidney. O. WITZEL.—The silver-wire netting recommended by Witzel as a support to be left permanently in operations, is proving extremely useful in sustaining a movable kidney. It permits the patients thus operated on to be up in ten to twelve days. Witzel never uses a ready-made netting, but always weaves it in the tissues from straight wire as required for each individual case. Less wire is needed and the netting thus made is more elastic.

Muenchener Med. Woch., November 13.

Plaster Treatment of Scoliosis. A. SCHANZ.—The position as corrected and maintained by the plaster dressing is the final result that can be attained in the treatment of scoliosis. In favorable cases this is nearly equivalent to a complete cure. These results can be surpassed only when it is possible to apply the cast in an over-corrected position, and this is now the problem to be solved. Schanz uses the plaster only in those cases in which satisfactory results are not to be anticipated from other treatment, the patients being at an age when the skeleton of the trunk is still sufficiently plastic. The treatment commences with mobilization of the spine, and not until this is attained is the plaster dressing applied. The correction is accomplished by free suspension and extension with occasionally lateral traction. The cast reaches from the trochanters to the neck, where it stops two finger-breadths below the mastoid process. It is renewed a few times and removed after twelve weeks. It is followed by a supporting apparatus and the correcting bed, tonic measures and all the tried and tested means of treating scoliosis and preventing recurrence.

Typical Laryngeal Neuralgia. G. AVELLIS.—The writer has had occasion to treat a number of cases of suddenly-appearing neuralgia of the larynx, in healthy, middle-aged persons, with remissions and exacerbations on swallowing, speaking, moving the head sideways, etc., with a typical painful spot at the emerging point of the superior laryngeal nerve and prompt recovery after administration of an antineuralgic and the local application of dry heat.

Subjective Troubles of Neurasthenia. L. HOEFMAYER.—The principal groups of subjective troubles experienced by neurasthenics can be traced to disturbances in the functions of the intestines and neuroses of the vagus and sympathetic. The treatment is suggested by this etiology. Several cases are described, all of which were cured with gentle laxatives and the systematic use of opium, which has a wonderful effect on the heart disturbances and confirms their nervous character.

Wiener Klinische Rundschau, November 4 and 11.

Therapeutic Application of Catheterization of the Ureters. F. STOCKMANN.—In an experience of 250 cases in which Casper's method of catheterism has been used for practice, diagnosis or therapeutics, Stockman has never observed any harm from its employment. He describes four cases which had resisted all treatment and were cured by systematic catheterization of the ureters. He advocates trying it at least as a last resort before counselling nephrotomy in all cases of chronic pyelitis. In the cases reported he made from five to twenty and thirty-eight pelvo-renal injections of 10 c.c. of a 1 per cent. solution of silver nitrate every second or third day. There was no fever nor reaction. In one case the pain was completely abolished with three injections. In two the affection was consecutive to a gonorrhoeal cystitis; in two others it was caused by the bacterium coli. A fifth case was more of a reflex nature consecutive to an operation for the removal of uterine tumors.

Gazzetta Degli Osp. (Milan), October 14 and 28.

Relation of Neuroses to Anomalies in the Cerebrospinal Axis. A. DE GIOVANNI.—Every functional anomaly in the nervous system is dependent upon some anomaly in its evolution, either from atavistic degeneration, from variations

in ontologic development or from anatomic-pathologic processes. From the slightest to the severest, most classic forms of neurotic manifestations, all are intimately connected with the evolutionary processes of the elements constituting the nerve tissues.

October 28.

Diagnosis of Pericarditis. F. SENNA.—The area of dullness over the heart is not always a reliable means of diagnosing an effusion in the pericardium, as the area may be small with a large effusion or extensive with no fluid. The intensity of the apex-beat and of the sounds of the heart is much more significant. In dubious cases it is well to have the patient lie on the left side to determine whether the lower limit of the dullness coincides with the point of the apex-beat.

Cure of Trophic Lesions by Nerve Stretching. A. MONTINI.—A young woman had suffered for five years with a trophic lesion of the middle finger of the right hand, finally involving the entire hand. Years were wasted in all kinds of treatment until finally Chipault's method of nerve-stretching was applied. The median nerve was stretched several times at one sitting, through an incision 12 cm. long. The symptoms gradually subsided, and after a slight relapse the patient is now completely cured.

Change of Address.

- A. R. Allen, Lincoln, to Bradshaw, Neb.
 H. R. Baumgart, Eldora, Colo., to 260 S. Halsted St., Chicago.
 A. J. Black, Wilton, to Breckenridge, Mo.
 J. F. Coleman, Montrose, to Leadville, Colo.
 F. O. Church, Watertown, to Henry, S. D.
 H. Cushman, 277 Ogden Ave., Chicago, to General Delivery, Washington, D. C.
 Geo. E. Clements, Chicago, to 509 W. North St., Crawfordsville, Ind.
 C. N. B. Camae, 550 Park Ave., to 108 E. 65th St., New York City.
 C. H. Carlson, 406 Sutter, to 140 Geary St., San Francisco, Cal.
 A. M. Dam, 74 Boylston St., to 215 Huntington Ave., Boston, Mass.
 Robt. E. DeCen, 184 E. Geneese St., to 93 Red Jacket Parkway, Buffalo, N. Y.
 A. O. Eckart, San Jose, to P. O. Box 360, Alameda, Cal.
 B. Gilbert, Silver City, to Deming, N. M.
 A. Gronerud, Beaver Falls, to Kennedy, Minn.
 T. C. Hollister, Louisville, Neb., to 2002 Francis St., St. Joseph, Mo.
 S. H. Insley, New York City, to Payne's Depot, Ky.
 R. P. Johnson, 324 Lake St., Oak Park, Ill., to 1375 Washington Boul., Chicago.
 W. H. Jenkins, Leavenworth Kan., to City Hospital, Kansas City, Mo.
 A. Korn, 1835, to 1857 Madison Ave., New York City.
 A. J. Iyerly, Wolf Lake, to Jonesboro, Ill.
 Wm. Lowder, Ledyard, to New Providence, Iowa.
 J. A. Leet, Eastfield, to Enfield, N. H.
 P. E. Lock, 368 Grant, to 1133 Seneca St., Buffalo, N. Y.
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 Jno. Moroney, Oswego, to 328 Baldwin St., Elmira, N. Y.
 D. R. McKinney, Cowan, to Oakville, Ind.
 J. Pestal, 2547, to 2558 Michigan Ave., Chicago.
 C. L. Pearson, Asheville, N. C., to 131 Huntington Ave., Boston, Mass.
 E. S. Potter, 174 W. 87th, to 214 W. 92nd St., New York City.
 J. T. Reid, 112 Clark St., to 5253 Monroe Ave., Chicago.
 Edwin Randall, Judson, Ind., to Wellington, Ill.
 M. B. Strickler, 512 E. Capital St., to 815 M St., N. W., Washington, D. C.
 C. F. Sherman, 1556 N. Halsted St., to 912 Irving Park Boul., Chicago, Ill.
 W. T. Stankiewicz, 3315 S. Morgan, to 572 Noble St., Chicago.
 Ida L. Schell, Elwood, Ind., to Mary Thompson Hospital, Chicago.
 C. S. Siegfried, 378, to 326 Franklin St., Buffalo, N. Y.
 John E. Walsh, 2 6th St., N. E., to 200 E. Capital St., Washington, D. C.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Nov. 15 to 21, 1900, inclusive:

George E. Bushnell, major and surgeon, U. S. A., member of a board in Washington, D. C., to examine officers of the quartermaster and subsistence departments for promotion.

Herb B. Clayton, lieutenant and asst.-surgeon, U. S. A., as Bushnell, above.

Robert P. Cooke, acting asst.-surgeon, orders directing him to proceed to Boyce, Va., for annulment of contract revoked.

Robert J. Gibson, major and surgeon, U. S. A., member of a board in San Francisco, Cal., to examine officers of the quartermaster and subsistence departments for promotion.

Louis T. Hegg, lieutenant and asst.-surgeon, U. S. A., leave of absence extended.

H. Newton Kierulf, acting asst.-surgeon, now at Seattle, Wash., will proceed to San Francisco, Cal., and report by letter to the surgeon-general for annulment of contract.

William F. Lewis, major and surgeon, Vols., (captain and asst.-surgeon, U. S. A.), member of a board, vice Major Frederick P. Reynolds, surgeon, U. S. V., (captain and asst.-surgeon U. S. A.), in Manila, P. I., to examine candidates for admission into the medical corps of the army.

George W. Mathews, captain and asst.-surgeon 36th U. S. V. Infantry, discharged from the volunteer service in consequence of his having accepted a commission as first lieutenant and asst.-surgeon, U. S. A.

George J. Newgard, captain and asst.-surgeon, U. S. A., sick leave granted.

Benjamin F. Pope, lieutenant-col. and deputy surgeon-general U. S. A., as Major Gibson, above.

Erwin I. Shores, acting asst.-surgeon, previous orders revoked: on being relieved from duty at Fort Caswell, N. C., he will proceed to West Bridgewater, Mass., for annulment of contract.

Henry D. Thomason, major and surgeon, Vols., leave of absence granted: honorably discharged from the service of the United States to take effect Dec. 31, 1900.

Clarence A. Trueholtz, acting asst.-surgeon, from the Department of California, via Seattle, Wash., and Skagway, to Fort Egbert, Alaska, for post duty.

Clarence D. Webb, captain and asst.-surgeon 43d U. S. V., infantry, discharged from the volunteer service of the United States to accept a commission as first lieutenant and asst.-surgeon, U. S. A., to date from Nov. 12, 1900.

William L. Witt, lieutenant, acting asst.-surgeon, from St. Joseph, Mo., to San Francisco, Cal., to accompany troops to Manila, P. I., and to report for assignment in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the navy for the week ended Nov. 24, 1900.

P. A. Surgeon A. W. Dunbar, detached from the *Monongahela*, and ordered to the *Vermont* for temporary duty with the crew of the *Wisconsin*, and then to naval hospital, Mare Island, Cal.

Asst.-Surgeon R. D. Williams, appointed asst.-surgeon, from Nov. 17, 1900.

Asst.-Surgeon J. T. Kennedy, detached from the *Monocacy* and ordered to the Cavite naval station.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Nov. 22, 1900.

P. A. Surgeon J. B. Stoner, relieved from duty at Quebec, Canada, and directed to proceed to Norfolk, Va., and assume temporary command of the service during the absence of the medical officer.

P. A. Surgeon A. R. Thomas, granted leave of absence for one month.

P. A. Surgeon H. W. Wickes, granted leave of absence for seven days from November 28.

Asst.-Surgeon L. E. Cofer, directed to rejoin station at Los Angeles, Cal.

Asst.-Surgeon W. C. Huddy, granted extension of leave of absence for two weeks from November 3.

Asst.-Surgeon L. P. H. Bahrenburg, relieved from duty at Liverpool, England, and directed to proceed to New York City, and report to Surgeon L. L. Williams, at Immigration depot for duty.

Asst.-Surgeon C. H. Lavinder, granted leave of absence for two months from Nov. 20.

A. A. Surgeon L. P. Gibson, granted leave of absence for ten days from Nov. 13.

Hospital Steward F. S. Goodman, granted leave of absence for thirty days from Dec. 19.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Nov. 23, 1900:

SMALLPOX—UNITED STATES.

Maryland: Prince George County, Nov. 3-14, 9 cases.
Michigan: Nov. 10-17, Detroit, 1 case; Grand Rapids, 1 case.
Minnesota: Minneapolis, Nov. 10-17, 3 cases.
New Hampshire: Manchester, Nov. 10-17, 10 cases.
New York: New York, Nov. 10-17, 1 case.
Ohio: Cleveland, Nov. 10-17, 19 cases, 1 death.
Tennessee: Memphis, Nov. 10-17, 1 case.
Texas: Houston, Oct. 31-Nov. 7, 6 cases.
Utah: Salt Lake City, Nov. 10-17, 20 cases.
Virginia: Alexandria, Nov. 18, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Oct. 20-27, 8 cases.
Brazil: Pernambuco, Sept. 23-Nov. 5, 15 deaths.
England: London, Oct. 27-Nov. 3, 1 case.
France: Paris, Oct. 27-Nov. 3, 14 deaths.
India: Calcutta, Oct. 13-20, 6 deaths.
Japan: Nagasaki, Oct. 11-20, 1 case.
Mexico: Vera Cruz, Nov. 3-10, 1 death.
Russia: St. Petersburg, Oct. 20-27, 3 cases, 3 deaths.
Scotland: Glasgow, Nov. 2-9, 31 cases.

YELLOW FEVER—UNITED STATES.

Mississippi: Brookhaven, Nov. 16, many cases; Natchez, Nov. 22, 2 cases.
YELLOW FEVER—FOREIGN AND INSULAR.
Columbia: Boaca del Toro, Oct. 31-Nov. 7, 3 cases; Cartagena, Oct. 28-Nov. 7, 1 case, 1 death.
Cuba: Havana, Nov. 2-10, 15 deaths; Matanzas, Nov. 15, 1 case at Hamilton Barracks.
Mexico: Vera Cruz, Nov. 3-10, 6 deaths.

CHOLERA.

India: Bombay, Oct. 16-23, 10 deaths; Calcutta, Oct. 13-20, 17 deaths; Madras, Oct. 13-19, 37 deaths.
Russia: Siberia, Novolissk, November, reported.
Straits Settlements: Singapore, Sept. 15-22, 1 death.
AGUE.
China: Hongkong, Oct. 6-13, 4 deaths.
India: Bombay, Oct. 16-23, 74 deaths; Calcutta, Oct. 13-20, 15 deaths; Madras, Oct. 13-19, 1 death.
Japan: Kobe, Oct. 8-23, 2 cases; Osaka, Oct. 8-23, 3 cases.

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Original Articles.

NEPHRORRHAPHY.*

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PHILADELPHIA.

The operation of nephrorrhaphy dates back only to 1881, when Hahn,¹ of Berlin, introduced the operation as a substitute for nephrectomy in the treatment of movable kidney. In this country the subject has been ably discussed by Edebohl,² who perfected and published a systematized technique for the operation.

Senn³ presented a method of anchoring the movable kidney, the essential feature of which consists in the substitution of gauze packing for sutures to hold the kidney in place until the formation of granulation tissue shall cause permanent adhesions of the kidney in its new position, the wound being left open to heal by granulation. Deaver⁴ has adopted the principle of Senn's operation, rejecting sutures in favor of gauze packing and a granulating wound. Morris⁵ may be considered the most prominent advocate of the operation in England. He employs silk sutures to fasten the kidney to the cut edges of the transversalis fascia.

Tuffier, of Paris, believes that the proper capsule of the kidney, being smooth, thin, little resisting and but slightly vascular, is not likely to form firm attachments to the muscles of the back, and for this reason recommends the stripping off of the proper capsule from the free border of the kidney, so that the kidney substance proper may come in direct relations with the muscles of the back. Edebohl has adopted this principle in his technique.

The writer adopted at first the technique of Edebohl.⁶ By eliminating some of its features and substituting others, he has developed the technique which will be discussed in this paper.

The two papers of the writer referred to above, discuss the general subject of movable kidney, its causation, symptoms, diagnosis and treatment. Seven years of careful study devoted to the subject have served to confirm most of the views advocated in the previous papers, which are well represented by the following summary:

"Movable kidney is a very common condition among women. I find it in one-fourth of my own patients. Both kidneys are movable in about one-tenth of the cases. The underlying cause of movable kidney is a deficiency of adipose tissue, especially in the perirenal region. Tight lacing, multiple pregnancies, and falls occasionally act as contributing causes.

"The symptoms of movable kidney are both reflex and local. The reflex symptoms of movable kidney

are those at times of neurasthenia, irrespective of its cause. In other cases nervous dyspepsia, palpitation of the heart, distension of the abdomen with gas, and neuralgic areas are the symptoms complained of. Patients are usually unable to lie on the side opposite to the movable kidney. The local symptoms are a sense of weight or bearing down, soreness in the kidney region, attacks of pain similar to renal colic, and in rare instances symptoms of strangulation due to torsion of the vessels of the kidney.

"Movable kidney may be suspected when its rational symptoms are present, but the diagnosis must be made by the physical exploration. This should be made with the patient in a standing position. The diagnosis can be made with the patient lying on her back only in long-standing cases, where the displacement is extreme, as usually in that position the kidney slips up under the margin of the ribs. In many cases movable kidney gives rise to no symptoms and therefore does not require treatment. The rest cure promises to be efficient in cases of slight degree, as the kidney returns to its normal position while the patient is lying on her back, and the increase in fat which the rest cure usually brings about should effect a cure. The rest cure used in cases of long standing, with extreme displacement of the kidney, will improve the general condition of the patient, but will not improve the local trouble. Nephrorrhaphy is a simple and safe operation, which should be done in the cases having well-marked displacement, that is, three inches and upward. The more marked the local symptoms the more necessary is the operation. The reported cases indicate that the results are permanent."

The chief purpose of this contribution is to report the experience of the writer with nephrorrhaphy in full to date, and to consider the final results secured in the older cases, as well as the immediate results of the more recent ones, in relation to the technique which should be selected in performing this operation. This experience embraces forty-three operations done for movable kidney. The first patient operated on had both kidneys movable, and each was operated on at a separate sitting, so that the total number of patients operated on is forty-two. Of these, two died, which on superficial inquiry would indicate that the operation has a definite mortality. The first case, however, was known to have chronic Bright's disease before the operation, but suffered so much pain in the movable kidney that in spite of the existence of chronic interstitial nephritis the operation was undertaken. This patient died suddenly on the fifth day, when apparently in good condition, either from pulmonary embolism or from angina pectoris. No autopsy was permitted. The second patient did perfectly well for about a week, when she bled to death from an ulcer of the stomach, the presence of which was unsuspected. In considering

* Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

the inherent mortality of nephrorrhaphy in patients otherwise sound both of these cases should be excluded.

Of the forty women remaining, so far as is known to the writer, all of them are cured, mechanically speaking. In not a single case has the kidney again become loose. The kidney having the greatest degree of mobility is one in which a double nephrorrhaphy was done in a very anemic and much prostrated woman, in which the operation on the left kidney was followed by suppuration, necessitating the removal of the fixation sutures. This kidney has a range of mobility of perhaps an inch. This fact has a definite bearing on the choice of technique, as to whether sutures are to be employed and primary union obtained, or whether granulation and possible suppuration is to be invited.

Of the forty patients, twenty-nine may be considered cured. They so reported when last heard from, and most of them have been seen or communicated with quite recently. In two the result is unknown. In four, symptomatically speaking, the result was a failure. In five the patients, while benefited, were not cured, and may be considered as improved.

This percentage of cured cases is most gratifying, and demonstrates the value of the operation in properly selected cases. Granted that a proper technique is employed, it is the opinion of the writer that the percentage of cured cases as contrasted with the failures or partial successes will depend on the discrimination with which cases are selected for operation. In by far the majority of cases the symptoms are neurasthenic, or else reflex in character, and unless care is exercised the symptoms will be attributed to a movable kidney, when its presence is merely a coincidence.

The diagnosis of movable kidney is usually so simple and exact that it is within the power of every practitioner to become expert in palpating this organ when displaced. Movable kidney is almost never present in fat women, the only exception being fat women having flabby abdominal walls; hence, the conditions are favorable for making a diagnosis. The following from the writer's original paper contains exact rules for diagnosis:

"For seven years, in my practice, I searched in vain for movable kidneys. During that time I followed the method of examining the patient when she was lying on her back. I understand now why I failed to find the movable kidneys. It was because that in this position they slipped up above the margin of the ribs. In my entire experience I have felt not more than half a dozen kidneys with the patient lying on her back. These were cases of extreme displacement of long standing.

"It occurred to me that by examining the patient standing the diagnosis could more easily be made, and experience has shown that this was the one thing lacking in my previous investigations. The examination should be conducted as follows: The patient's clothing should be loosened, all bands about the waist unfastened, and the skirts supported by a nurse or assistant, so that the patient will not be embarrassed with the fear that her clothing will fall off. She should then stand before a table or desk of convenient height—about 30 inches—with the examiner seated on her right. The patient then bends forward from the hips, and supports some of her weight by resting her hands on the table. She is directed to respire regularly, care being taken to relax herself thoroughly during expiration. The examiner's left hand is placed against the lumbar region posteriorly, and his right hand in a corresponding position in front of the kidney. By a conjoint manip-

ulation the region between the two hands can be carefully palpated, and, if present, the kidney is easily recognized. The points to be looked for are the shape and size of the kidney, and the fact that it can be readily displaced upward beneath the margin of the ribs, and that it will return to its former location as soon as the examiner's hands no longer support it. When the kidney is compressed, as a general rule, the patients complain of tenderness or pain of a peculiar character, and often make the statement that the pain causes them to feel faint or somewhat nauseated."

Seven years' experience has but emphasized the value of the foregoing rules. It has also taught that in a definite percentage of cases the diagnosis can be made with the patient in the recumbent position. Much more skill, however, is necessary to make the diagnosis in this position, as the patient must first cough or strain the kidney down below the margin of the ribs, and it must then be seized by the palpating hand. The disadvantages of examining in the recumbent position are that many cases will be overlooked, that only the more marked cases will be recognized, and that the degree of displacement can not be estimated nearly so well as with the patient in the standing posture.

The technique of nephrorrhaphy as performed by the writer may be described as follows: The patient is placed prone on the table. The Edebohls' air cushion is placed beneath the epigastrium, and should be accurately located; if too low it will tend to displace the kidneys under the ribs, if too high it does no good. The incision is made along the external border of the quadratus lumborum muscle from the twelfth rib toward the ilium. It should be about 3 inches in length. When the muscles are reached they should be separated as far as possible rather than cut, in order to preserve the integrity of the posterior wall of the abdomen. It is usually necessary to ligate cut vessels, as these are much larger than in the anterior abdominal wall. Care should be taken to avoid wounding the iliohypogastric nerve, which runs through the field of operation. If this be cut, it sometimes causes annoying paresthesia in the region of its distribution. When the muscles have been well separated, the subjacent fascia is divided, which exposes the perireal fat. This is drawn outward and downward, and torn through as near the spinal column as convenient, and also at as high a level in the wound as convenient, the object being to deflect this layer of perireal fat outward and downward, so that at the conclusion of the operation it will form a cushion below and to the outside of the sutured kidney. After the fatty capsule is torn through, the kidney, as a rule, comes into view. If it does not, it is either because it is below the field of operation, or else it has slipped up under the ribs. When the kidney is very movable and the Edebohls' pad is used, not uncommonly the movable kidney is displaced downward toward the pelvis. When the kidney is brought into view, it should be gently grasped by the hand and the fatty capsule detached from it by the fingers of the operator. If the kidney is too firmly pressed, it is apt to result in the formation of a hematoma. The kidney is teased out through the incision, and the fatty capsule is stripped off from its external border, upper and lower poles, and lateral surfaces. The region of the hilum is best not disturbed, as the renal vessels might accidentally be wounded. Three silkworm-gut sutures are passed through the lower half of the kidney at intervals of $\frac{3}{4}$ of an inch. The sutures are passed with a straight needle deeply enough to secure a good hold in the

kidney, but not deeply enough to encroach on the urinary canals. Each suture is caught in an artery-forceps. The kidney is now repositioned and the wound is irrigated with salt solution. At this stage it is best to let the air out of the nephrorrhaphy pad, to lessen intra-abdominal pressure. The kidney sutures are now passed with a carrier from within outward through the lumbar muscles, the upper suture being inserted as close to the last rib as feasible. The sutures are so passed that when tied the knots are just external to the deep fascia. Between each fixation suture a chromicized catgut interrupted suture is passed to close the wound in the lumbar muscles, and additional sutures are passed below the level of the lowest fixation suture to close the lower part of the incision in the lumbar muscles. In tying the sutures the corresponding catgut suture is tied first to close the wound, and then the silkworm-gut suture is tied, care being taken to make it snug and not tight, as the function of the silkworm-gut suture is to hold the kidney, but not at all to close the wound of the loin. Should these sutures be employed to close the wound in the loin, it might well defeat the object of the operation by causing the sutures to cut through the friable renal tissue. When all of the interrupted sutures have been tied, the subcutaneous fat is closed by a running catgut suture, and the skin is closed by an intracuticular catgut suture and the usual dressings are applied. It has been stated that the perineal fat is divided on the inner and upper aspect of the kidney, and that it is deflected outward and downward so as to form a cushion and a support upon which the kidney is to rest. This disposition of the fatty capsule is insured by drawing it outward and downward through the wound as the kidney sutures are passed through the external side of the wound. Each silkworm-gut suture is passed through the fatty capsule before it enters the muscle on the external side of the wound, and this is so arranged that the free portion of the fatty capsule is deflected to the outside and below the kidney. When the sutures are tied they not only fasten the kidney to the abdominal wall, but also hold the fatty capsule in its new position.

This technique in essentials has been employed in the last forty of the forty-three nephrorrhaphies. In the first three cases, in which the Edebohls' technique with silkworm-gut drainage was employed, two of the cases suppurated. In the last forty, one suppurated frankly, and in one a silk ligature was accidentally left with a long end hanging out of the wound, which caused a localized infection involving one deep suture. The results of the technique in obtaining primary healing of the wounds is very gratifying. In none of the cases in which primary union was obtained have the buried silkworm-gut sutures given trouble. So long as this experience continues there will be no occasion for substituting other suture material.

The use of a non-absorbable suture for the fixation of the kidney has been objected to on the ground that it might lead to the formation of a stone in the kidney. This objection is purely theoretical, as no such case has been reported; moreover, it is contrary to the teachings of comparative pathology. The suture soon becomes encapsulated in a scar tissue-sheath, which, so far as the functioning structure of the kidney is concerned, makes the suture extrarenal. *A priori* the greatest objection to a non-absorbable suture in nephrorrhaphy is, that if the kidney should again become loose, each suture might cut its way through the cortex of the kidney, in this way making linear scars to correspond

with the original sutures. This objection is so far theoretical, and should it take place, the results will probably be of small moment.

The foregoing results are strong arguments against the allegations of those who oppose this or similar technique in nephrorrhaphy. First, it is alleged that the kidney will not remain in place if sutured; second, that if permanent sutures are employed they will give rise either to suppuration or to the formation of calculi. The results speak for themselves. The technique has the further advantage that primary healing of the wound is obtained, that the patient is not annoyed by dressings, or even by the removal of sutures, and at the end of three weeks she is able to leave her bed.

In this connection a few remarks are in order concerning the various steps in technique which are employed by different surgeons, which it seems to the writer are either unnecessary or undesirable. 1. The incision of the proper capsule of the kidney and its separation over a greater or less area from the external border of the kidney, as practiced by Tuftier, Edebohls and others, would seem to be unnecessary. The only advantage claimed by its advocates is that it favors the permanency of the fixation of the kidney. A distinct objection to the procedure is that it promotes capillary oozing from the renal vessels. By the formation of clots in the depths of the wound suppuration is promoted. On the ground that it was both unnecessary and harmful it was abandoned by the writer after its employment in three cases.

2. The substitution of gauze packing for fixation sutures and the reliance on granulation tissue to fix the kidney in position, as advocated by Beinebott, Senn and Deaver, would seem to be a distinctly retrograde step. The allegations of the supporters of this latter method are in direct contradiction to the results recorded in this paper. If the latter method is to meet with general approval and adoption, it must be because its advocates can show that the results secured by it are better than by other methods heretofore employed. The following objections to the method immediately suggest themselves: The period of convalescence is much prolonged. The change of dressings when the gauze packing is removed and replaced is painful. Local infection and suppuration are invited by the very nature of the open-wound treatment, with the risks always attendant on a suppurating wound, and especially with one in connection with so important an organ as the kidney.

In conclusion, the writer would make the following recommendations:

1. Careful discrimination in diagnosis in order to separate cases in which movable kidney is a coincidence in a case of neurosis from those in which it is the cause of local and reflex symptoms.

2. Resort to the rest cure for cases of slightly movable kidney, especially in young women.

3. The employment of symptomatic treatment in cases in which the relation between the movable kidney and the nervous symptoms present is uncertain. Nephrorrhaphy should be employed in these cases only after non-operative measures have failed to afford relief.

4. The immediate resort to operation in those cases in which local symptoms, such as pain, sense of weight, or symptoms of strangulation, are present, and when the examination of the urine shows indications of congestion of the kidney, such as the presence of hyaline casts or albumin.

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NEW POINTS IN THE ANATOMY AND HISTOLOGY OF THE RECTUM AND COLON.

THE TREATMENT OF OBSTINATE CONSTIPATION BASED ON POINTS SET FORTH IN THE FOREGOING.*

J. RAWSON PENNINGTON, M.D.

PROFESSOR OF RECTAL DISEASES CHICAGO POLICLINIC.
CHICAGO.

Doubtless some of the statements herein made may be a radical departure from those generally believed and accepted by the profession; however, I shall try to make no claim that can not be substantiated.

I believe it is universally recognized that the sigmoid flexure begins in the left iliac fossa, at the outer border of the psoas muscle, and that the rectum ends at the anus. The part of intestine included between these two points, therefore, constitutes the rectum and sigmoid. With reference to the point of division between these two organs, there seems to be a difference of opinion. However, we shall not discuss that question in this connection, but recognize that portion having a mesocolon as the sigmoid and the remainder as the rectum. This makes the point of division about opposite the third sacral vertebra. The sigmoid has two fixed points only—the first, its beginning where it is made fast to the ilium; the second its ending where it is anchored to the third sacral vertebra. Any further description of its position is a relative one and depends on its length, the length of its mesentery, its relative degree of distension, the degree of distension of adjacent viscera and the tension of the diaphragm and the abdominal muscles. In a collapsed state, as it is usually found in the cadaver, the sigmoid most frequently occupies the left iliac fossa and dips into the pelvis. Skiagraphs, photographs and specimens, however, show that this is not the position it usually occupies when distended or perhaps when studied clinically. As it becomes distended it rises from this position and extends toward, and often into, the right iliac fossa and frequently above the umbilicus, and in some instances to the diaphragm and under the liver—Figs. 1, 2, 3, and 4. It will also be observed that in the distended or semi-distended state the flexure is held near to and over the sacrum and the bony prominences of the abdominal and pelvic cavities, which suggests the idea that defecation may be aided by intermittingly squeezing the filled sigmoid between these irresistible bony points and the diaphragm and abdominal muscles during the act. It is maintained in this position by means of its mesentery, which surrounds the free border of the intestine in such a manner that its point of union is a little anterior to the posterior surface of the flexure. Near the junction of the rectum and sigmoid the mesenteric fibers are frequently thrown across the anterior aspect of these organs and hitched to the posterior or lateral surface of the rectum and the right side of the pelvic brim in such a manner as to more securely hold the feet of the flexure in a specific relation to each other—A in Fig. 2. When the sigmoid is distended it

appears as a flexed intestine lying on a flat surface. The rectum consists of the remaining portion of this intestine—from the third sacral vertebra to the anus—and is divided into chambers or apartments by partitions extending across it at different points. These partitions or structures are known as the rectal or Houston's valves, and were first described by him in 1830. Other earlier writers evidently referred to these same structures; however, it was his paper more especially that stimulated a discussion of the subject. He described these valves as consisting of mucous membrane, cellular tissue and circular muscular fibers. Since then a few writers, like Kohlrausch, Otis and Martin, have corroborated his discoveries; while Bodenhammer, Kelsey and Mathews have denied their existence, and still others, as Allingham, Cripps and Ball have ignored them. Martin, to whom we are indebted for valuable contributions to this subject, states, after making a histological examination of a rectal valve in an adult, that: "beneath the mucosa is noticeable the heavy layer



Fig. 2.—From a photograph showing the distended sigmoid flexure extending into the right iliac fossa. An incision was made in left inguinal region, sigmoid and rectum ligated, then filled with hot paraffin. After cooling, the abdominal muscles and adjacent viscera were removed when it was photographed. a, Band of mesenteric fibers thrown across sigmoid and rectum at their junction; b, pubes.

of fibrous tissue which gradually diminishes until it is lost at the valve base. Bundles of circular muscular fibers are seen in the middle of the valve. At its base are seen arteries and veins for its special nutrition. This structural arrangement makes this organ the typical anatomic valve. The evidence of the fibrous tissue in the valve is an original contribution to our knowledge of this subject." From this it will be seen that while a few comparatively unknown men in the field of rectal surgery have corroborated Houston's discoveries, our leading authorities on this subject have either entered into lengthy discussions to deny their existence or have ignored them entirely. The position and arguments of this latter class have had much to do with molding the medical mind concerning these valves. Their treatment of them, being practically a unit in point of evidence against their existence, has naturally carried the weight of medical opinion with it. Notwithstanding this preponderance of evidence, which has existed for the last seventy years, original and experi-

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mental study has convinced me that Houston was right; that the rectal valves are veritable structures. Believing that the most acceptable manner in which to offer conclusive and impartial evidence of this fact would be through a disinterested and recognized authority, I presented to William A. Evans, M.D., professor of pathology and histology in the medical department in the University of Illinois, and the Columbus Medical Laboratory, a number of specimens of valves for histological and pathological examination and submit herewith his verbatim report. I also offer as additional evidence a number of photomicrographs made of the sections from the valves.—Figs. 5, 6, 7, 8 and 9.

EXAMINATION OF HOUSTON'S VALVES.

Specimen 1.—Rectum of a child aged three weeks. The valves project into the lumen of the intestine for a considerable distance. The free border of this projection embraces between one-half and two-thirds of the circumference of the intestine. It is to be understood that a measure of this projection on a microscopic specimen, prepared by the usual

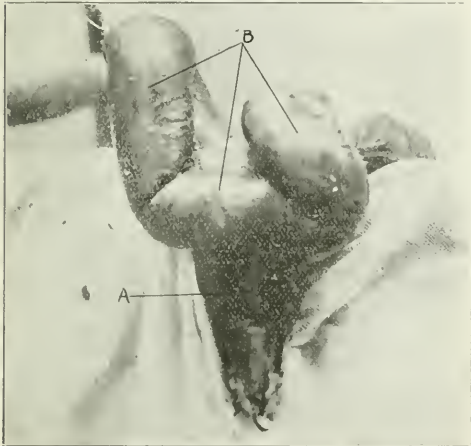


Fig. 3.—Photograph of rectum, *a*, and sigmoid, *b*, of Fig. 1, after removing from the body. Sigmoid extends into right iliac fossa, makes sharp bend anteriorly upon itself, descends and crosses junction of rectum and sigmoid at right angles.

microscopic methods, has only relative value. The maximum projection was in the lowest valve, or the one next the anus. The projection was covered by a mucosa consisting of tubular mucin-secreting glands and interglandular lymph-tissue. In some sections the mucosa was thickened over the valve, in others it was thinned. There was no uniformity except at the angles, where some thickening seemed constant. The muscularis mucosa was more prominent in the valves than elsewhere. At the tip it measured .0125 millimeters. This represented a thickening of about 10 per cent. The submucosa was composed of the usual, loosely-arranged connective tissue, almost devoid of lymph elements and containing a considerable vascular supply. Some of the changes in the submucosa found in diseased cases will be noted below.

Measurement of the submucosa away from the valves showed a thickness of .15 millimeters. The submucosa at the tip measured .475. (Measurements made on three intestines from other subjects showed submucosa away from valve, .225, .36 and .3; submucosa at tip, .75, .35 and .82.) From this it will be seen that the submucosa thickens in the valves to twice its normal dimensions. In this connection it is well to bear in mind that the preparation of the specimen will cause a condensation of the submucosa, with diminution of its dimensions. The circular muscular coat usually dips into the valves. In

this specimen the thickness of the muscular coat away from the valve was .11. In the valve it measured .375. (Measurements of two other specimens showed, circular muscle away from the valve, .075 and .11; circular muscle in the valve, .185 and .25.) The circular muscle is liable to be hypertrophied in the valve. The longitudinal coat is more irregular. In this specimen it measured, away from the valve, .075; at tip of valve, .187.

Outside of the muscular tunic was a loose connective-tissue tunic containing some adipose tissue and moderately supplied with blood-vessels. This structure was composed of white fibrous and yellow elastic tissue. It ran into the valve for about two-thirds of its height and bound together the two longitudinal muscle bundles. Some fibers, and enough to almost constitute a membrane, could be demonstrated stretching across the base of the valve. These fibers can be picked up



Fig. 4.—Same as Fig. 2. Showing the rectum, *a*, and the sigmoid, *b*, with its mesentery, *c*, after being removed from the subject.

with a needle as a bridging membranc-like structure. In this layer were found lymph nodes, nerve ganglia and nerve bundles and the epithelial glands presently to be described.

Specimen 2.—Bowel from baby 2 months old. Rectum filled through the anus with a 2 per cent. watery solution of formalin. Anus closed by stitches made through surrounding skin. Body amputated at twelfth dorsal vertebra and kept in 1 per cent. formalin solution. Inferior mesenteric artery was injected with carmin. Internal iliac with soluble prussian-blue.

Two and a half centimeters from anus is lowest of valves. Circumference of intestine at this point is 6 cm. Valve occupies all of circumference except 1.5 cm. on the right side and rather posteriorly. Greatest width of valve found on left side and rather anteriorly. Greatest depth of valve is about .7 cm.; circumference of howel at level of second valve, about 6 cm.; length of second valve along free edge is 3.5 cm.; depth of second valve at deepest point, .9 cm. This valve is so located that its deepest area is directly over that portion of bowel lumen not obstructed by lowest valve. Distance from second to third valve, 1 cm.; circumference of bowel, 2.5 cm.; above

third valve, 6 cm. Circumference of bowel at third valve is 5.5 cm.; length of free edge of third valve, 2.5 cm.; depth of third valve, 1 cm. at deepest point. Right point of attachment of third valve is exactly over point of attachment of first valve. Left point of attachment comes to posterior middle line.

Bowel was split longitudinally from a point just below the first valve to a point just above the third. Slit was along posterior surface and approximately in the median line. Now the bowel was slit longitudinally into six pieces, beginning at the posterior slit and traveling to the right, so that 1 and 6 represent the posterior surface, 3 and 4 the anterior, and 2 and 5 the lateral surfaces. A suture was made in the upper end and in what would correspond to the left corner.

Sections of these pieces show some valves composed exclusively of mucosa and submucosa; others show the circular muscular tunic running into the valve for about one-half its length. The longitudinal coat passes across without entering at all. Others show a longitudinal muscle running well into the valve. Solitary lymph-glands are found in the valves.

Some of the specimens show a very rich nervous supply

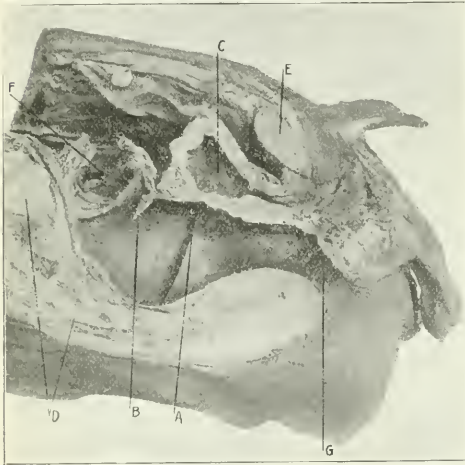


Fig. 12.—Left half of unfilled frozen section; showing the first, *a* and third, *b*, rectal valves and their relation to the bladder, *c*, sacrum, *d*, pubes, *e*, sigmoid, *f*, and anus, *g*.

outside of the muscular layers. Large ganglion cells are demonstrable.

It is peculiar that some of the sections show valves composed of all of the coats, and right near will be another valve composed of a smaller number of coats. Near the clearly outlined valves are smaller invaginations usually composed of a mucosa, submucosa and thick circular muscle coat.

Three other specimens were examined, giving the same results as those already outlined. The mucosa, muscularis mucosa and submucosa were invariably present. The circular muscle was generally present in the valves. The longitudinal muscle was usually present; sometimes it was absent.

Epithelial Glands.—In two of the specimens, in the loose tissue outside of the longitudinal muscle, we found an epithelial structure; one of these comes from the valve next the anus and one from the uppermost or third valve. The one from the third valve shows as nine small parallel tubes arranged in linear fashion; the other as a distinct epithelial structure, showing considerable lumen, and a wall thrown into somewhat papillomatous folds. The folds are covered by epithelium in several layers. Around this is, in some specimens, considerable lymphoid tissue. In other specimens there is considerable rather dense circularly-arranged connective tissue. We do not undertake to say what this structure is,

and still less do we suggest any function for it. It is to be remembered that the anus does not come from the tip of the gut, but from a point anterior thereto. This posterior prolongation, to-wit, the part behind the anus, of the intestine is comparatively slight in certain animals. In others it is very considerable. In birds it communicates with the spinal canal as the neurenteric canal; in man, in the early stages of embryonic development, it sometimes exists as a neurenteric canal. In many of the mammalia, in the early embryonic stage, this canal is present. In many of the reptilian types and other animals bearing tails there is a very considerable posterior or caudal prolongation of the intestine.

Pathologic Specimens.—The pathologic specimens were removed from people suffering from obstinate constipation of long standing. They were clipped out in situ with one exception. In this case a tenaculum was caught behind the valve and the valve was prolapsed until it appeared outside of the anus, when a piece was snipped off. One section was from a woman who, in addition to the constipation, had mucous colitis.

Mucosa.—The mucosa showed epithelial glands containing a very large percentage of goblet cells. No other pathologic process was demonstrated in these structures. They were

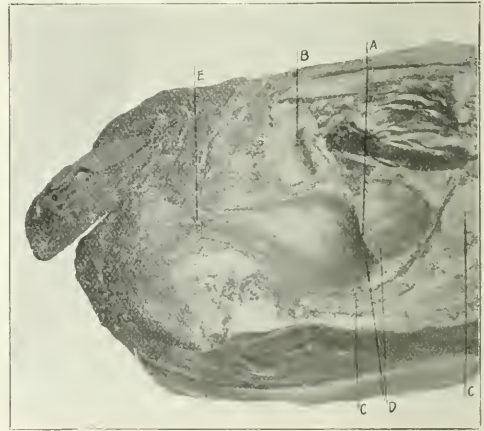


Fig. 13.—The right half of Fig. 12, illustrating the second rectal valve, *a*, and its relation to the bladder, *b*, and sacrum, *c*. Note the dilatation, *d*, immediately above and below the valve, *a*; *c*, the anus.

slightly hypertrophied. There was nothing to indicate an atrophic process in the mucosa, at least at this time. Between the glands there was an increase of tissue which was generally round cells, though some spindles and young fibers were apparent. In two of the specimens there was evident local infection with a pus organism, the focus extending into the submucosa. The muscularis mucosa was thickened.

Submucosa.—The submucosa showed a great increase in the connective tissues. This tissue was principally of the white connective-tissue variety and was in bundles. These bundles usually ran across the long axis of the valve. The most marked is illustrated in Fig. 10. There was extensive thickening of the blood-vessel wall. This thickening was the usual type of endarteritis obliterans—*C*, in Fig. 11. The sections removed from the valves in live subjects showed no muscle except a very few circular fibers.

In a section made from a cadaver in which the valves were coarse and resistant (Fig. 9) the following was found: The circular muscular layer was generally hypertrophied. The longitudinal layer showed slight hypertrophy. The adventitia external to the muscle layer showed an increase of white fibrous tissue, together with an extensive endarteritis obliterans.



Fig. 1.—Skiagraph showing the distended sigmoid, *a*, in the right side; *b*, the rectum; *c*, transverse colon; *d*, splenic flexure. The subject was placed in the knee-chest posture, and the bowel filled from below with bismuth emulsion.



Fig. 5.—Photomicrograph of the third rectal valve in a child two months old. It contains mucosa, *a*, and submucosa, *b*, only. Some fibers of the latter spanning its base; *c*, infoldings due to thickening of the circular muscle.

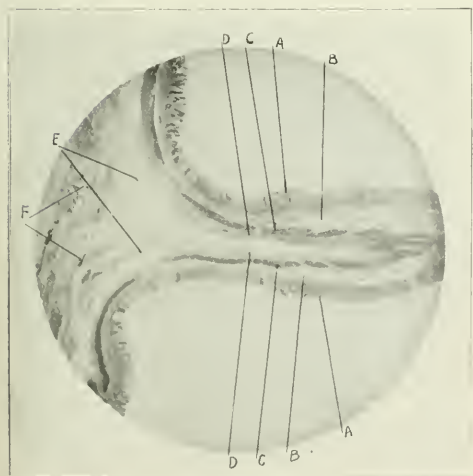


Fig. 6.—Section from the second rectal valve of a child four months old, showing the mucosa, *a*; submucosa, *b*; circular muscular fibers, *c*; longitudinal muscular fibers, *d*, and loose connective tissue, *e*, containing ganglia and nerves, *f*, external to the muscular tunics.

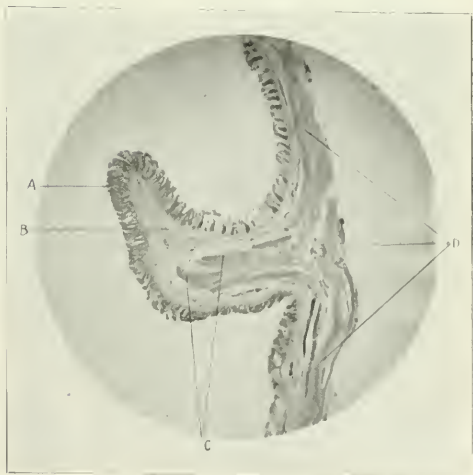


Fig. 7.—Taken from the first rectal valve of a child six weeks old. It contains mucosa, *a*; thick, dense, submucosa, *b*. The circular muscular tunic, *c*, runs into the valve about one-half or two-thirds its length. The longitudinal muscle, *d*, spans its base.



Fig. 8.—Photo-micrograph of rectal valves in child three months old. They contain mucosa, *a*; submucosa, *b*, and lymph nodes, *c*. None of the muscular tunics enter the valves.



Fig. 9.—Photo-micrograph of a section of the free border of the third rectal valve of an adult. This valve was located seven inches above the anus. Its free border spanned two-thirds of the intestine's circumference. It plainly shows: *a*, the mucosa; *b*, muscularis mucosa; *c*, submucosa; *d*, circular muscular layer; *e*, longitudinal muscular layer; *f*, loose connective tissue outside of longitudinal muscle; *g*, blood-vessels with thickened walls.

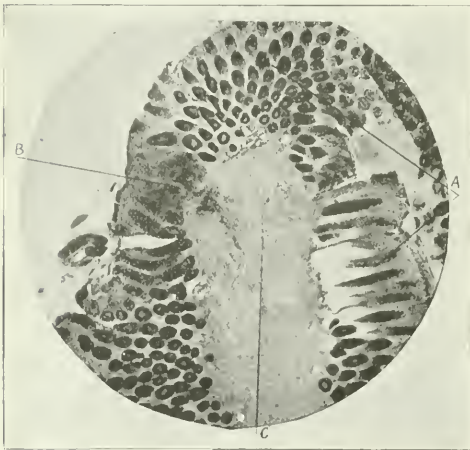


Fig. 10.—Section of rectal valve in case of chronic interstitial proctitis. *a*, mucosa showing interstitial increase between mucous glands; *b*, round cell infiltration extending to submucosa; *c*, submucosa showing great increase of connective tissue. The fibers running diagonally across the valve. This specimen is from a male 19 years old.



Fig. 11.—Section of first rectal valve in chronic interstitial proctitis in female 27 years old. *a*, Mucosa showing some interstitial increase; *b*, submucosa showing great increase of connective tissue; *c*, blood-vessels with thickened walls.

The number of these valves varies. In fact, they are not only irregular as to number, but as to location, size, position, direction with reference to the axis of the intestine, capacity and structure. As a rule, there are three, sometimes only two; again, there may be four or even more. Usually they are semilunar in shape. Their attachment forms from one-half to two-thirds the circumference of the intestine; their margins are concave and usually directed slightly upward. They are most prominent when the bowel is distended. Their depth in the adult is from one-half to one inch, or even more.

When in regular order the lowermost, or first, one is situated on the left side about opposite the junction of the sacrum and coccyx—Fig. 12. The uppermost one is placed at the upper end of the rectum and on the same side of the intestine; while the second or middle one is situated on the right side at about the junction of the middle and lower third of the distance between the first and the third one—Fig. 13. Frequently they are irregularly situated or coarcted, which might be construed as a deformity—Fig. 14. From studies on the living, by inserting pledgets of cotton into the sigmoid and rectum and having the individual pass them, and from observations made on the cadaver, by repeatedly filling and emptying the sigmoid and rectum with water and other material, and from a study of the direction of the valves with reference to each other and to the axis of the intestine, it would seem that during defecation the fecal mass is rotated from right to left in passing through the cloacal canal. However, this is not always the case. One valve may direct the fecal current to the right and the one immediately below is situated so as to reverse the current or direct it to the left, and the next one to the right, etc. Again, their relations may be such that the upper valve directs the fecal mass immediately into the pocket of the one next below, which is situated at right angles to the bowel's axis. In this case it is necessary for the fecal mass to be literally dumped over the valve's free border. In other instances they seem to be only slightly concave and arranged so as to form a kind of regular plane for directing the fecal current; yet in others they form pockets—Figs. 7 and 8. Again, one valve may be situated almost opposite another, so that when the rectum is distended their free borders almost entirely enclose the canal—Fig. 14. Their histology also is variable. Some are composed of the duplicated mucosa, together with very thick dense fibrous submucosa, noted by Martin, no other coats entering the structure. In some of them, in addition to the coats already mentioned, circular muscular fibers run almost to the tip—Figs. 6 and 9. In others, such as shown in Fig. 7, the circular muscular fibers run half or two-thirds the length of the valve. Sometimes the longitudinal muscle spans the base of the valve without deflection—Figs. 5 and 7. Sometimes it follows the circular muscular fibers—Figs. 6 and 9. Sometimes it splits, some fibers following the circular coat and some spanning the base. Not infrequently the muscular tunics and submucosa at the apex are hypertrophied. Sometimes the submucosa divides, part of the fibers entering the lumen and part spanning its base—Fig. 5. Lymphatic nodules were found in the valves and large sympathetic ganglia located external to the muscular tunics. The structure in these valves, called cellular by Houston, and fibrous by Martin, and usually described simply as submucosa, is probably one and the same structure.

TREATMENT OF OBSTINATE CONSTIPATION BASED ON POINTS SET FORTH IN THE FOREGOING.

I believe that the tortuosity of the sigmoid flexure, together with the hyperplasia, irregularity and deformity of the valves above mentioned, frequently form the principal primitive causes of so-called obstinate constipation. These conditions and obstructions favor germ infection and the development of chronic interstitial tissue. This interstitial tissue surrounds the glands in the mucosa, contracts on them and perverts their secretion, with resulting dry and hardened stools, and finally causes atrophy of the glands.

In the submucosa this interstitial tissue not only surrounds the large vascular trunks, nerves and lymphatics, and contracts and mars their function, but causes

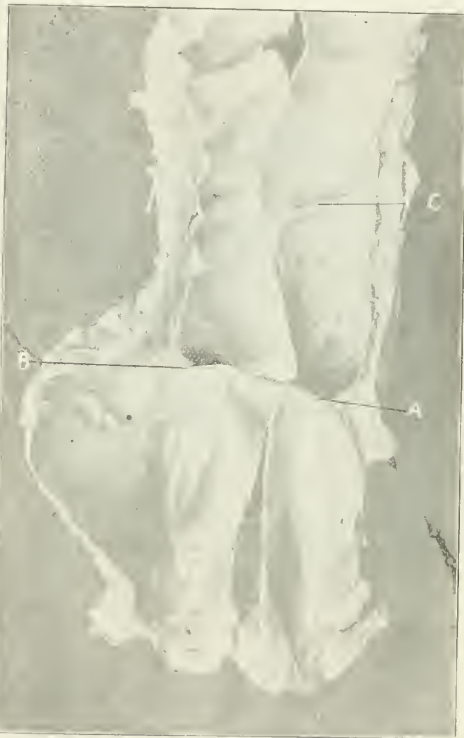


Fig. 14.—Illustrates anatomic coarctation or deformity of the first, *a*, and second, *b*, rectal valves; *c*, third rectal valve.

loss of pliability in the submucosa, which impairs the free movement of the mucosa over the muscular tunic. It also causes loss of flexibility in the muscular tunics and muscular insufficiency, and as a result of these and other pathologic conditions the valves are changed from a physiologic intermittent obstruction to a pathologic and continuous one. The intestinal wall is frequently pouched and thinned immediately above the base of the valve and hypertrophied opposite the valve's free border. These pathologic conditions seem sooner or later to result in obstinate constipation or obstipation and its results. The diagnosis of the obstruction offered by these valves is made by the symptoms of the obstipated patient and by instrumental inspection.

Symptoms.—The patient is the subject of more or less obstinate constipation; he may have a daily evacuation, but it is unsatisfactory; he experiences a sensation after defecation as if feces still remain in the rectum; he may have a desire to defecate, which requires a labored and straining effort to accomplish the act, or he may tell you that he never has a desire to do so and believes his bowel would never move unless he takes some form of physic or an enema. In the former condition it is usually the first or second, or both valves that are involved; while in the latter it may be the uppermost one only that is at fault. In time, he has occasional attacks of diarrhea, or diarrhea alternating with obstinate constipation; also, the symptoms of so-called intestinal auto-intoxication and neurasthenia. The valve being an almost non-sensitive organ, the patient rarely refers his sufferings to this region; yet, in some instances, he may complain of pain and aching in the sacral and lumbar region and a heavy sensation in the pelvis and pains extending down the legs.

Instrumental Inspection.—This requires that the

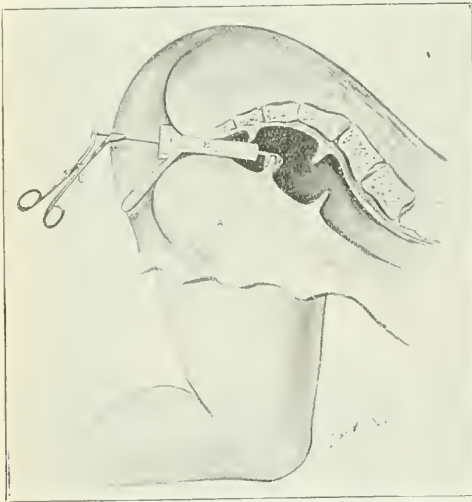


Fig. 15.—Illustrating the application of the automatic valve clip, *a*, to a rectal valve; *b* is the speculum, *c* the clip applicator, and *d* the rectal valves.

operator be provided with special instruments designed for the purpose and that the patient be maintained in the knee-chest or proctoscopic posture, in order to gain the assistance of atmospheric inflation. For obtaining this position I have had constructed a specially designed table armed with a bracket, light-condenser and reflecting mirror for throwing the light on the field of inspection. The instruments necessary for this examination consist of a set of tubular specula of various lengths and diameters, fitted with glass caps and bulb for inflating the bowel when necessary. With the patient in the proctoscopic posture, the speculum is well anointed with vaselin, grasped with the full hand and gently introduced. The obturator is then removed and the light so adjusted as to illuminate the bowel. By intelligently manipulating the speculum and light, you at once command a view of the various chambers and valves, and observe the degree of rectal distension, the number of valves, their relation to each other, and the relative size of the various chambers.

In the next step, note the character of the mucous membrane, whether edematous, swollen or atrophied, moist or dry, red and inflamed or pale; then compare its relative characteristic in each chamber and over each valve. Should atmospheric pressure not produce sufficient inflation, then effect this artificially, by means of the insufflator. The next step is to test the elasticity of the valves, which is done by means of an angular hook. A healthy valve is readily effaced by means of this instrument. If the valve is hypertrophied or stiffened from other causes it will not be effaced and will interfere with normal defecation. Unfortunately, the condition of these structures is rarely noted until they are in a chronic pathologic state, which changes them from a physiologic intermittent obstruction to a pathologic and continuous one. This is probably due to compensatory hypertrophy of the bowel immediately above the valve, which prevents the early development of noticeable symptoms of obstipation.

When, from interstitial inflammation or other reasons, these valves become pathologic or are the cause of obstinate constipation, noted by Martin, then the question of relief is to be considered. After using the cauter, knife and scissors, and having one case of peritonitis and another of alarming hemorrhage following the cutting operation, notwithstanding I had

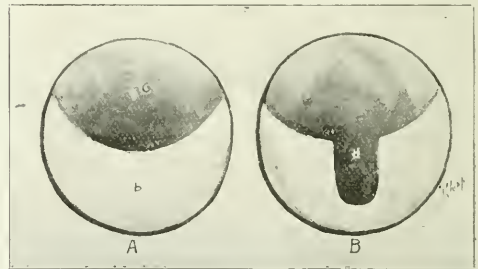


Fig. 16.—*A* illustrates the rectal valve, *b*, as it appears when looking through a tubular speculum, with the patient in the proctoscopic posture; *c* represents the lumen of the bowel as seen above the free border of the valve; *B* showing appearance of valve after a section, *d*, has been removed with the clip by pressure necrosis.

been able to give a great deal of relief to sufferers of obstipation, I became very chary about employing the knife on these cases, which led to the development of an instrument with which these structures can be divided with the same clinical result and practically no risk to the patient's life. The little mechanical device which I herewith show you is the product of that effort, and is known as an automatic valve clip. It is made of spring steel, and consists of a permanent and movable plate. To apply the clip the patient is placed in a proctoscopic posture; a tubular speculum is introduced, the clip made fast to the clip introducer, carried through the speculum and applied to the pathologic structure to be divided—Fig. 15. All instruments are then withdrawn. The clip is retained in position by means of its spring and automatic action. The section grasped is destroyed and removed by pressure necrosis, leaving a permanent division of the valve—Fig. 16. The introducer is made with a reversible handle.

The writer is indebted to Mr. Zan D. Klopfer for drawings and charts; Mr. E. Soegaard for photographs; Dr. Carl Theodore Gramm for photo-micrographs, and to the Mica-Plate Static Machine for the skiagraphs.

Columbus Memorial Building.

DISCUSSION ON PAPERS OF DRs. WYETH AND PENNINGTON.*

Dr. J. P. TETTLÉ, New York City.—I am quite sure that the Murphy button does not produce any ill-effects when lost in the intestine, as I have had four or five such cases without any bad results whatever. I think the title of Dr. Wyeth's paper is rather misleading, since we are in the habit of looking on the fistula as a pathologic condition. I think the paper would better have been entitled "permanent artificial anus," because that is what he attempts to produce. We must clearly distinguish between an artificial anus done for temporary purposes and one which is desired to be permanent. Where we do the operation for a temporary purpose so as to aid in the treatment of inflammatory condition Dr. Wyeth's method is not applicable, but where we want to excise the rectum we want as much of the colon as we can get and we must have all of the tissue necessary for making a wide dissection. The long flap renders future closure very difficult. With all due respect to those who say there is no danger in resection of the gut I find there is a death rate of not less than 31 per cent., and any method which requires the entering into the peritoneum for the closure of an artificial anus becomes too dangerous to be used as a simple preliminary. We may, therefore, lay aside this operation so far as a temporary anus is concerned. As to a permanent artificial anus, here we have an entirely different matter to deal with. Dr. Wyeth has struck the key-note when he says he desires to prevent the continual discharge of fecal matter, as this is what is most objected to by the patient. It makes the man unfit for anything, because he knows not the time when that distressing discharge will come out all over his abdomen. Many methods for overcoming this objection have been instituted, and I think the best is by Bailey, of London. Dr. Wyeth's operation is applicable to any of these methods, but the technique should be carried further and we should endeavor to develop a sphincter as well as make an opening that will control the artificial anus. Bailey's operation consists in drawing the muscle out, making the ordinary incision through the skin, dividing the fibers of the external oblique muscle, not by incision but by careful dissection, then dividing the internal oblique fibers by the same method, cut the transversalis, open the canal and drawing out a loop of intestine. The internal oblique is split laterally and a loop is passed through the laterally-split fibers and brought out to the original opening in the external oblique. On a level with Poupart's ligament a second opening is made and loop brought out, a glass rod being used if so desired. I pack and suture the abdominal wall, the intestine being brought out from two to three inches below the point where it comes out from the deeper walls of the abdomen so that it lies flat on the external oblique. In Bailey's method you can apply a firm but soft compress which will absolutely occlude the intestinal canal and prevent any leakage. I can speak from experience that patients can go about their business without any escape of fecal matter and they can not even pass gas without loosening their compress. If we can adopt the method which Dr. Wyeth has demonstrated and can in this way succeed in providing for the accumulation of fecal matter in the intestinal canal we shall have accomplished one of the greatest boons to mankind. The time is coming when artificial ani are going to be much more in vogue than they are at present, and we shall soon recognize that certain malignant conditions which we have attempted to remove can be successfully accomplished with greater safety to the patient than by excision. When such a method is known and it is proved that the patient is made comfortable, operation will no longer be refused. I heartily approve of Dr. Wyeth's method, although I do not know his reasons for never using a glass rod. Out of twenty-four operations for these conditions I have used the rod twenty-one times and in only one of my last seven did I put in a suture. I have never had a prolapse of the small intestine nor any breaking away. I want to say that all of the deaths which Dr. Krips had in his forty-five cases were due to the sutures giving way and the intestine dropping back into the abdominal cavity. It takes eight or ten days before union between the intestine and the skin occurs and sometimes longer for firm enough

union to take place to prevent the patient breaking it loose. I remember in one case my assistant actually saw the break occur on the ninth day in a case of right-sided colostomy.

As to Dr. Pennington's operation, we must acknowledge that he is doing excellent work in this direction, and his work speaks for itself. I have not the time to discuss this question of valves, but the time is coming when we can no longer split hairs as to whether these are valves or mucous folds. There is an anatomical formation that we must recognize, and every man who has used the sigmoidoscope has often seen these valves. It is not a question as to whether or not they exist, but as to their influence in health and in pathologic conditions. Are they the cause of constipation or obstipation? What harm do they do in disease? What do they do in normal health?

Dr. D. W. FINLAYSON, Des Moines, Ia.—I recently had a case in which the sigmoid lay on the right side, and obstinate constipation of long standing was caused thereby. It measured fully 22 inches in length and I am quite sure the valves the author of this paper mentioned existed, and had tended to produce the constipation. I am also inclined to believe these valves seriously interfere with free defecation when they are unusually developed.

Dr. T. C. MARTIN, Cleveland, Ohio.—As is generally known, six years ago I first employed the method which has been presented this morning by Dr. Pennington. With a few minor exceptions, the author has corroborated my findings. He has called your attention to the fact that the distended sigmoid flexure is usually found on the right side, to which fact I called your attention in 1897. In 1862 Dr. Jacobi called your attention to the same thing, and in 1850 Dr. Nelaton referred to the same thing, but this information has been of no practical clinical advantage. I desire to refer to the clinical significance of the position of the sigmoid flexure and to endeavor to impress on you the necessity of making a differential diagnosis between its dilatation and hyperemia and chronic catarrhal appendicitis. After five years of clinical research, I reported to this Section my observations on the surgery of the rectal valve, and I now wish to present certain conclusions based on this experience: 1. What is called stricture of the rectum is hypertrophy of the rectal valves. 2. Two or more of these valves, infiltrated with lymph, constitute what is called benign tubular stricture of the rectum. 3. Valves may be congenitally so situated, or may develop in such close anatomical relation, that they may form an obstruction without there being any disease. It would be of importance in this connection to closely scrutinize the rectal valve in those cases which are often called idiopathic dilatation of the colon. Dr. Pennington had not the time, perhaps, to call your attention to the symptoms of hypertrophy of the rectal valve. Straining at stool during the passage of solid feces is usually present, while the most common complication is dilatation and hyperemia of the sigmoid flexure resulting in auto-intoxication. The obstruction due to hypertrophy of the rectal valve may be relieved by a simple surgical operation which, in skilled hands, may be done with absolute safety, for, by the modern methods now employed, the valve may be seen as readily as is the finger on your hand. There is therefore no danger in the hands of a properly trained surgeon of perforation of the rectal wall, nor of secondary hemorrhage. A man who is not properly qualified, who has never seen the operation and who, after twice trying it, condemns it, does so unjustifiably.

Dr. W. R. EVANS, Chicago.—I know that Dr. Pennington has given Dr. Martin credit for his valuable work. Lack of time in which to read the paper in full prevented this fact from appearing.

Dr. J. R. PENNINGTON, closing the discussion.—We have appreciated Dr. Martin's work and have endeavored to give him full credit for the same. There were two or three points in his remarks, however, which we feel deserve special notice:

1. Houston, in studying the gross and minute anatomy of the rectal valves, filled the bowel *in situ* with spirit in order to harden or fix them. Martin, for the same purpose, filled the bowel *in situ*, using paraffin followed by alcohol. In our histological studies we used formaldehyde to fix the valves *in situ*. In studying the gross anatomy of the valves and the various

* Dr. Wyeth's paper appeared in last week's JOURNAL.

positions of the sigmoid, under different degrees of distention, we used paraffin, bismuth emulsion, formaldehyde solution, alcohol, water, freezing and air. In some of the specimens we used nothing. Such observations, especially those on the sigmoid, could not have been made with paraffin followed by alcohol in the manner which Martin used these agents.

2. Many writers and observers have reported cases and called attention to the sigmoid being found in the right side, but if Martin, Jacobi or Nélaton has ever offered a theory similar to that expressed in my paper, as to why this is true, and the probable advantages gained thereby, I have failed to notice it in literature.

3. Houston, seventy years ago, described the structure of the rectal valve as consisting of mucous membrane, cellular tissue and circular muscular fibers. Martin's observations evidently were the same, except that the tunic which Houston described as cellular tissue, Martin says is fibrous.

We found the valves to be more irregular in structure, some containing mucosa and submucosa only; others had these and the circular fibers in addition, and still others contained mucosa, submucosa, circular muscular fibers, and a part or the whole of the longitudinal coat. We also found the valves to contain lymph-nodes, and in the loose connective tissue external to the muscular tunics we found large ganglia and nerves. In the pathological specimens we found dense fibrous tissue. Hence, we do not see how Martin claims that our findings, other than those stated in our paper, corroborate his, as he claims to have made one discovery only, that of fibrous tissue in the valves. This is probably the same structure referred to by Houston as cellular tissue. On the one hand, cellular tissue is the antecedent of the fibrous variety; on the other, in Houston's day the term cellular was used in a way that would be considered loose to-day.

4. He stated that there was no danger in the operation in skilled hands. To this we must dissent. We understood him to say, in a discussion before the American Proctological Society at Washington, in May last, that there was danger of perforating the bowel in transfixing the valve's free border, and with that we do agree. The intestinal wall is very thin, and the slightest move on the part of the operator or patient is liable to be followed by a fatal puncture of the bowel. After operating a number of times and having one case of peritonitis and another of hemorrhage, we began to look on the operation with fear and this led to the development of the automatic valve-clip. With it these structures can be divided by pressure necrosis, with the same clinical results and with what seems to us little or no danger.

COLITIS, CONSTIPATION AND APPENDICITIS: THEIR ETIOLOGIC RELATIONS.

WITH A CONSIDERATION OF THE VALUE OF INCISION AND DRAINAGE IN CERTAIN FORMS OF APPENDICITIS*

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I desire first to direct attention to the question of etiological relationship between constipation, colitis and appendicitis.

My attention was first attracted in this direction by the following case, seen by me over four years ago: Jessie C., of Ada, Ohio, aged 12, had, when I saw her, the usual signs and symptoms of a periappendicular abscess, which I opened and drained. Her father, who is a physician, told me that from her earliest infancy she had been a frequent sufferer from colitis, with the symptoms and signs usual in such cases. Moreover, the present illness commenced as an attack of colitis, and only after these symptoms had continued for some time did the symptoms of appendicitis arise. She was even at the time of my visit having frequent

mucous stools, tormina and tenesmus, and continued to have these symptoms for some time after the symptoms referable to the appendix had subsided. She is still a sufferer, at times, from the same trouble.

Since that time a number of cases have occurred in my practice, which seem to me to show that appendicitis not infrequently arises as a result of extension of inflammation or infection from the colon. From among these cases I will briefly report the following:

CASE 1.—Mrs. B., of Lima, Ind., was referred to me by Dr. G. W. McCaskey, whom she had consulted on account of bowel trouble. Dr. McCaskey, after examining the case, concluded that the patient had been for months a sufferer from gastrointestinal catarrh, but that she was at present suffering from a mild appendicitis, this being the third attack, the first having occurred three months before. For two years she had been a sufferer from obstinate constipation. On removal, the appendix was found to be the seat of a catarrhal inflammation, with slight signs of periappendicular inflammation. So certain was Dr. McCaskey that in this case the appendicular trouble had its origin from the bowel, that he suggested that it might be advisable to treat the colon for a time in the hope that an operation might thus be avoided.

CASE 2.—Mrs. M., widow, aged 35, was taken sick October 23. I saw her two days later, when I got a history of habitual constipation. She had had a slight passage on the day before she was taken sick, this being the only bowel movement for ten days. She had had several attacks of belly pain prior to this, but without any localized pain or tenderness. When I saw her the abdomen was greatly distended, generally tender, and vomiting was frequent. She also complained of much pain in the back and head. Because of the frequency of peritonitis of appendicular origin, the abdomen was opened in the right semilunar line and a slightly adherent and perforated appendix was removed, and an abundance of foul pus evacuated.

CASE 3.—Mrs. R., aged 56, is at the present writing convalescent from appendicectomy done on the second day of the first attack. Her attending physician, Dr. Drayer, who was my assistant for three years, and has had considerable experience in appendicitis, told me that he had treated her a number of times for attacks of belly pain, which he regarded as acute exacerbations of a chronic colitis, and assured me that this was the only time he had ever found any signs of appendicitis. This patient still has symptoms of enterocolitis.

CASE 4.—Mr. S. was referred to me by his brother, who is a physician of ability. He was taken sick with the usual signs of an acute colitis, including frequent bloody stools, and after five days developed appendicitis, for which he was operated. Many authors consider chronic constipation a causative factor in the production of appendicitis, but I know of only one (Maylard) who speaks of the possibility of extension of inflammation from the cecum to the appendix. He says: "Extension of inflammation from the mucous membrane of the cecum to that of the appendix probably takes place in some cases."

Lange² says: "Appendicitis is due, in America, to two of our natural failings, those of eating too much and chewing too little, the result of which is constipation." I believe this statement would be more nearly correct if the last phrase were made to read, "the results of which are colitis and constipation."

The uric-acid diathesis is acknowledged as a predisposing cause of appendicitis. This condition is usually accompanied, and not improbably caused, by gastrointestinal disturbances. The majority of cases of appendicitis occur in childhood. Enterocolitis and colitis find the majority of their victims during the same period.

Greig Smith³ regards the mechanical causes of appendicitis by far the more important. He says: "It may safely be affirmed, that very few cases of appendicitis would become dangerous if there were a free passage always patent between it and the cecum."

*Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

It is quite reasonable to suppose that either impaction of the feces in the cecum or swelling of its mucous membrane may produce closure of this passage. When we consider that both these conditions frequently, if not usually, obtain in colitis; that colitis is a disease of frequent occurrence; that both colitis and appendicitis occur most frequently in childhood; the conclusion seems forced on us that colitis is frequently the cause of appendicitis.

As for myself, my personal experience has convinced me that colitis and constipation, either or both, frequently cause inflammation of the appendix. If my position is correct, then the physician has in the prophylactic treatment of appendicitis not only a legitimate field, but one from which he may expect to reap a harvest for which both he and his patients may well be thankful.

The second and last question which I wish to discuss is: Is not incision and drainage the best method of treatment in some cases of appendicular abscess? No one of experience in appendicular surgery doubts for a moment that the appendix should be removed in the great majority of cases operated on. Neither can there be any doubt that the number of cases in which incision and drainage is the better operation has grown less as skill and knowledge in this branch of surgery have grown greater. Greater skill will enable some operators to remove the appendix in cases in which its removal at the hands of other operators would be attended with unwarrantable risk.

If the truth of this statement be granted, and I take it that no one will dispute it, then does it not follow that this same "greater skill" would enable those possessed of it to establish drainage with greater celerity and with less shock to the patient than their brothers of lesser skill? Good logic, it seems to me, requires an affirmative answer to this question also. If our reasoning thus far be correct, then either one or the other of the following conclusions must be accepted as true: 1, no case of appendicitis can be saved by incision and drainage that can not be saved by appendicectomy; or 2, incision and drainage without removal of the appendix is the better operation in some cases of appendicular abscess. Other things being equal, appendicectomy is an operation of greater gravity than simple incision and drainage. There are some cases in which the shock of either operation would prove fatal. On the other hand, there are cases that would withstand the simpler operation, but would die if subjected to the graver one. If then incision and drainage is sufficient to bring about recovery, even though it be granted for the sake of argument that it will not be perfect or permanent, then we are forced to the conclusion that some cases may be saved by this method which would die if subjected to removal of the appendix.

The question as to the advisability of removing the appendix, after recovery following incision and drainage, is, of course, not now under discussion.

If one believes that appendicectomy is the graver of the two operations under discussion, and at the same time holds that the appendix should be removed in all cases operated on, at the time of the primary operation, is he not likely to reject as unfit for operation some cases on which he who holds the contrary opinion would operate? If operation will give even the slightest chance of recovery, then the patient is entitled to that chance. I do not think that any one will claim that the immediate death-rate following in-

cision and drainage is greater than that following appendicectomy in case of like gravity. I mean deaths occurring as a result of the attack for which the operation is made.

Deaths due to attacks recurring after incision and drainage may with some show of reason be charged to this method of operating. But it will not do to assume that all such deaths might have been prevented by removal of the appendix, for that would be assuming that the operation of appendicectomy itself had no death-rate, which would be manifestly wrong. On the other hand, I believe it to be true that incision and drainage has per se no death-rate. Some cases, in extremis, treated in this way will die, but not from the operation. I contend that a greater number of this class of cases will die after appendicectomy than will die after incision and drainage.

For a paper published in the *American Jour. Med. Sci.*, 1893, the statistics of which are given in Greig Smith's "Abdominal Surgery," vol. ii, p. 762, I collected 448 cases operated on. Of these, 157 cases of appendicectomy during the attack gave a mortality of 19.7 per cent.; 14 cases operated on during quiescence gave a mortality of 14 per cent. Incision and drainage in 188 cases gave a mortality of 18.18 per cent. This is certainly a remarkably favorable showing for incision when we consider that the cases that were treated by incision and drainage were so treated because their gravity, in the opinion of the operator, precluded the more radical operation.

Through private correspondence with fourteen operators of repute in this country, I collected 177 cases of appendicitis treated by incision and drainage. To these, adding 25 of my own, we have 202 cases thus treated. There was a recurrence in 13 per cent. of those cases. The time elapsing after operation varies from two weeks to twenty-one years.

Dr. Ochsner reports 9 cases, with 5 recurrences; Dr. Joseph Eastman, 20 cases, with 10 recurrences. While I do not wish to be understood as questioning the validity of the reports of Drs. Ochsner and Eastman, I do want to say that their statistics are so at variance with any other statistics with which I am acquainted, that I am forced to the conclusion that they do not teach the truth as regards the frequency with which recurrence of attacks may be expected after incision and drainage.

In my own cases I have had one recurrence. This occurred after four years. Two of my cases were operated on only two months ago. The rest were operated from ten years to six months ago. The average time since operation is about three years. My opinion is then that 13 per cent. of recurrences after drainage is certainly as many, if not more than actually obtain.

Granting that 13 per cent. will suffer with recurrence they will still have the chance of relief which operation affords during the second attack, which chance will be as good as this class of cases have from operation in the primary attack. Or they may have the chance which an interval operation affords. The interval operation is attended by nearly 6 per cent. less risk than is operation during the attack.

Given then 100 cases of appendicular abscess treated by incision, 13 will recur. Operated on during quiescence these cases will give a death-rate of 1.8 per cent. In other words, we will have the death-rate of interval operations in the hands of good operators to-day. I am not unmindful of the fact that many cases treated by incision and drainage will require an operation for

neria later. But this operation will be required in a certain number of pus cases treated by appendicectomy also. Again, an operation for hernia in the absence of infection will give a death-rate much less than the difference in favor of incision and drainage as compared with appendicectomy in cases of the character under discussion. Whether a case suited to incision and drainage could be subjected to appendicectomy with less risk of hernia following than would obtain if treated by the former method remains to be proved. I take it that no competent man would think of treating a case by incision and drainage that could be treated by appendicectomy without drainage, and it is the drainage that causes the hernia.

Of the fourteen operators above referred to all but one, Joseph Price, replied in the affirmative to the question: "Do you from your own experience regard incision and drainage as the best method of treating some cases of appendicitis?"

I wish, in conclusion, to say that it is my firm conviction that no operator can subject all cases of appendicitis to appendicectomy, without a higher death-rate than is necessary.

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DISCUSSION ON PAPERS OF DRs. DEAVER AND PORTER.*

DR. NICHOLAS SENNS—I am willing to confess that there are more fistula following the retention of the appendix than its removal. Appendicitis, if not interfered with, leads in a great majority of cases to a number of conditions, but I think there is much to be done in the way of prevention. We all recognize Dr. Deaver as one of the most radical of men. Under ordinary conservative treatment, 80 per cent. of all cases of appendicitis will recover, and perhaps not more than one-half of them will ever suffer a second attack. I am glad that we have in this Section such a representative as Dr. Deaver, as he represents one side of the question and I the other. His statistics are better than mine, as I operate only on desperate cases, where there is no question as to the propriety of performing the operation, while Dr. Deaver operates on every case of pain in the appendicular region. I do not know of any more difficult subject to deal with from a surgical standpoint than appendicular fistula, and it is a dangerous operation to perform when treating it, no matter what the method. I have proposed in a number of instances to operate in the way I have described before, i. e., subperitoneal enucleation, and I prefer this method. Appendicular fistula means a great deal, and when I have reason to believe an attack has terminated in the formation of an abscess which has ruptured into the cecum, I am very cautious, as these cases are extremely dangerous. But if the abscess has formed during a first attack and ruptures into the cecum, I am very loath to recommend operation.

DR. MORDECAI PRICE, Philadelphia—I am exceedingly glad to be able, on one occasion at least, to take Dr. Deaver's side; we are not now in Philadelphia. I can endorse Dr. Deaver very strongly in this connection. I have operated 125 times, twice without pus, and fifteen times the head of the colon was open. In many cases the appendix was separated from the head of the colon by ulceration. I have not yet regretted a single operation. I have devised an operation with a view of avoiding fecal fistula by first opening the abscess and then simply enucleating the appendix. I thoroughly irrigate, draw the colon forward, separate all the adhesions within the peritoneal cavity, repair the head of the colon to the best of my ability and use silk suture for this purpose when it can be borne. I use simple gauze drainage in all cases. I replace the colon as far back as I can so as to have a long drainage tract to close by contraction. Dr. Deaver states that the drainage-tube does harm, and I am sure it is often the cause of fecal

fistula. I have yet to see a case where a cure was not effected within three weeks. The wound will close by the slow contraction of the cicatricial tissue, and I have not seen any case give trouble in this respect. As to Dr. Senn's statement that 80 per cent. of cures take place by medical treatment, I have never heard him make any such statement in any surgical meeting before. I am surprised to hear it and am surprised to hear him advise leaving the appendix in under any circumstances. If I had appendicitis and had my choice of the two men, after Dr. Senn's statements to-day, I should prefer to have Dr. Deaver treat me. This is one of the most serious questions we have to deal with. It is not five weeks since I saw two cases die of so-called medical treatment. I operate on every case that will leave the table alive, and I am more than ever convinced that when a man can not make a diagnosis he should not trust to his medical treatment. The cases that kill are those that have to be operated on before a positive diagnosis can be made. There are three men in this room in whose practice I have operated 22 times with only one death. Gauze drainage and Schuykill water will save everything that you can operate on; the trouble is the men do not use Schuykill water. I had a case of abscess in the kidney region which I simply opened and drained and in which I had made a mistake, as I believe it was a case of appendicitis and the appendix was no doubt gangrenous. I remember a case which a year ago had suffered typhoid for four weeks and pain and misery for a year. At the end of that time the muscles were like boards. His physician, who was a good man, told me he was sure pus was present, but I could not make up my mind what it was. I opened the patient and pus flowed out. I washed him out thoroughly and found a hole in the head of the colon into which I could stick my thumb. There was a large amount of rank pus present and I found five stones in the appendix. I then repaired the head of the colon, broke up every square inch of the bowel, washed out thoroughly, put in gauze and left the wound wide open. I have not used fifty silk-worm-gut sutures in ten years to close these cases. In ten days a fecal fistula occurred, and the temperature was 102. I again opened the wound and put my fingers into a quantity of pus. I used the gauze again and the man is now on the way to health. I consider this the most important part in the treatment of appendicular fistula.

As to the first paper, many young people are affected in this way. Some cases occurring in patients 50 years old have been operated on with good results, and there is no reason why you should hesitate in any case merely because of age. The patient will be more comfortable after operation than before. If you can not make a diagnosis and the case looks like death do an exploratory operation at once. When it is only exploratory a two to three inch opening in the skin would never kill any one.

DR. R. H. M. DAWBARN, New York City—I believe that twenty-five years from now we shall hear the same discussion as at present. He who is radical will be said to be killing his patients, even though he proves the contrary; while the opposite side will still be taken by many of the unconvinced. The most conservative surgeon is the one who conserves the patient's life, however radical his measures. I agree with Dr. Deaver absolutely; and if I had the diagnosis of genuine appendicitis, not merely appendicular irritation, made on my own person I should certainly be operated on at once. While I do not wish to stand up for Croton water, as Dr. Price has done for Schuykill water, we in New York do not expect pus. With so many men anxious to discuss this subject, I do not think any of us should take more than a moment on any one point, and I wish only to allude to one point. One may so frequently prevent fistula, and I have a feeling that in the majority of cases its formation is due to deficient technique. When I find the appendix is gangrenous I have invariably for some years past surrounded the gangrenous part of the cecum with a purse-string suture (a running Lembert) well outside of the gangrenous portion, and then inserted this portion. In a week the slough will separate and this portion would fall off into the feces. It would be a very unusual degree of gangrene that could not thus be surrounded. If the cecum be not left smaller

* Dr. J. B. Deaver's paper on "Appendicular Fistula" appeared July 14.

in caliber than the ileum opening into it no trouble will result. As to the statement that when a gangrenous patch is present fecal fistula will surely follow, I am sure it is not necessarily true. The technique I have named is credited to me in Fowler's work on "Appendicitis."

DR. W. D. HAMILTON, Columbus, Ohio—I have had fair opportunities for studying cases of appendicitis, considering the size of the city in which I live, and much of my experience has been gained within the last eight years. No absolute rules can be given in regard to the disease which will be applicable to all cases. It is not too much to ask the general practitioner to make repeated examinations of the abdomen of the patient from the time at which he is first called, and if the case be suspicious, he should at once call the surgeon and let him take the responsibility of saying when the operation should be done, if at all. Several points have interested me to-day, and one was the question of irrigation. I have no doubt that in some of the desperate cases it should be used, especially when the infection be general and purulent. In other cases it is unwise, lest the infection become general from its use. In my own experience fistulae have ordinarily healed without suture within a few weeks. A few have needed closure by operation. If the patient is kept in bed for a time on a liberal liquid diet and the wound kept clean the fistula, if one of the large bowel, will frequently heal. I remember a case of appendicitis operated on a few weeks ago in which a fecal fistula occurred and three or four weeks afterward it became necessary to establish an opening in the loin in order that drainage might be facilitated.

I wish to emphasize the point Dr. Senn made yesterday, that enucleation of the appendix is useful when the organ is inaccessible and can not be brought outside. It is a useful experiment and is often applicable where it might be impossible to ablate the appendix by any other method.

DR. H. MYSTER, Buffalo—If I had the choice between following Dr. Deaver and Dr. Senn, I should take the former. I agree with him that the question is decided best by early operation. I must acknowledge that I am astonished to hear Dr. Senn state that nine out of ten cases get well by medical treatment. I think we may state that in all cases of appendicitis the first change is congestion, then cicatricial retraction, obstruction and stricture. Pyelitis follows, bacilli get to work, ulceration occurs, gangrene, perforation and peritonitis result. One can not usually make a mistake in such cases. I have wondered if it is opium that Dr. Senn believes in or is it hot and cold applications? As a rule, medicine will have no effect whatever. In regard to the first of the papers, it was stated that certain cases recur after incision and drainage, but in my own practice I have only seen 5 per cent. recur after this treatment. I believe this is the proper thing to do in a great many cases, but if you see the patient early the removal of the appendix should be done as Dr. Deaver says. If we get them late, that is a different matter. The consensus of opinion is that in the late operation, say after six days, the appendix should be left alone. Dr. Deaver says that fistula is the most important sequela, but I do not agree with him, as I have seen only five in my practice. They get well by being left alone, and there was only one exception to this rule. When healing does not take place after resection, end-to-end anastomosis should be performed. Everything considered, I feel that Dr. Deaver takes a very strong position. I entirely agree with him in operating early, but I disagree with him in removing the appendix in every case. I believe in personal equation, and I also believe that Dr. Deaver may be able to do it where others would fail.

DR. W. W. KEEN, Philadelphia—Like the poor, appendicitis is something we always have with us. As a result of the discussion which was held two years ago in Denver, thirteen months ago in Chicago, at the meeting of the American Surgical Association, two questions were proposed: 1, should operation be done in every case the moment the diagnosis of appendicitis is made, and 2, should the appendix be removed in every case? It is sometimes stated that Philadelphia is asleep, but on that occasion the only two surgeons who advocated instant operation and universal removal of the appendix

were Drs. Deaver and Harte, of Philadelphia, every other surgeon who took part in the debate speaking in the negative. I can not but think that in these discussions, we surgeons forget that we are surgeons and that we are called in constantly to see the pronounced cases, but not the mild ones. I am not prepared to go so far as Dr. Senn, who says that 80 per cent. would get well without treatment, yet I can not forget the statistics of Hektoen, who, in 300 consecutive cases seen post-mortem of patients dying from causes other than appendicitis, showed that 100 had evidences of this disease. This shows that a very large proportion of the cases diagnosed as intestinal colic and such like were really cases of slight appendicitis which got well without surgical treatment. I believe there is a very large proportion of cases that surgeons never see and which do get well without surgical treatment. I do not believe in practicing surgery by aphorisms, neither do I believe that it is right that every case should be treated this way or that, as each case is a law unto itself. I have operated on cases of appendicitis just as quickly as I could make the needful preparations, and I have refused to operate. In spite of the theoretical statement Dr. Deaver makes, he does not operate on every case. I believe it might be placed as a rule with exceptions that no case certainly should ever be allowed to pass beyond two attacks, because it shows there is a condition which is sure to recur. Hektoen's statistics show that one may have a single attack and no more. Appendicitis of any gravity should be operated on, and I try to follow this rule, but I do not believe that every case should be subjected to operation. We must remember that we lay down rules here for the whole country. A rule laid down for Dr. Deaver, if made to apply to a man of less experience, one who does an operation once in three or four months, would be giving too great liberty. In many communities there are not enough cases of appendicitis to give experience. We must differentiate not only the case, but the surgeon. What is permissible for a man of large experience and great operative skill is not applicable to every doctor in this country who may be called on to treat a case of appendicitis, and I would urge therefore a consideration of what is best in the case of each individual patient. As a rule, operation will be best, but there are many exceptions. Also, as a rule, removal of the appendix is best, and as we grow larger in experience and more skilful in operating from having had difficult cases to deal with, successfully and unsuccessfully, and learn by our failures we become more and more expert and urge the removal of the appendix in almost every case. I am sure that if we had a very large number of cases of appendicitis it would be unwise for us always to attempt removal.

As to fecal fistula, I agree with Dr. Price. While they are rare, it is still rarer to find one that does not heal spontaneously. A very large proportion of them will get well if left alone. However, I have seen a number of cases that did not get well, and have been so unfortunate as to have one in my own practice. I have seen some very large ones indeed, and my usual rule is to open the abdomen clear into the abdominal cavity to the side of the fistula, cleanse and pack, and then, by making an incision at the side, I insert my finger into the opening. I then invert the margins and by appropriate treatment with a Lembert suture and gauze, complete the operation.

DR. F. W. McRAE, Atlanta—There is one statement in Dr. Porter's paper which it seems to me is misleading, that is the statement as to the frequency of recurrence of appendicitis after simple drainage of the abscess. Recurrence has taken place in more than 75 per cent. of the cases I have seen that have been drained, and removal of the appendix has been subsequently necessary to relieve the condition. Dr. Senn did not mean to say that 80 per cent. of the cases got well without operation, and he did not use the term. He said 80 per cent. would recover from the attack, which does not mean get well. A large proportion will recur and require subsequent operation. An operation for appendicitis done during an acute attack often does not leave a sound belly wall. Those who do this kind of work should consider the possibility of ventral hernia. I saw a case only the other day, of through-and-through closure where drainage was put in, develop a ventral

hemia three years after operation. Dr. Price makes a very dangerous proposition when he says that in every case of appendicitis with infection we should shut off the abdominal cavity with gauze and tear up all adhesions. I do not believe that this practice should be generally adopted, neither do I believe that surgeons generally get as low a mortality as 5 per cent. in this class of cases. I think Dr. Price's suggestion may be carried out in certain cases, but it is dangerous to recommend it as the proper practice for all cases.

Some appendicular abscesses ought simply to be drained. I have seen seven or eight cases of fecal fistula, all of which, with the exception of two, have closed without treatment other than simple cleanliness. In two of them it was necessary to operate. I reported, last December, before the Southern Surgical and Gynecological Association, the method which I adopted in these two cases. The simple point, which is somewhat original, is in the putting in of several tiers of sutures. Four or five tiers of sutures will turn the edges in without turning too much of the gut, and I have seen the method cure where a simple row of sutures would not. As to the gauze packing after operation for fecal fistula, I think Dr. Deaver's statement is somewhat misleading. I consider it had practice to pack the gauze down to the line of suture, and I believe it will often cause a failure of the operation. I use gauze, but do not allow it to go down as far as the line of suture.

Dr. JOHN B. MURPHY, Chicago—I wish to congratulate Dr. Deaver on two points, 1, on the amount of work he has done in repairing fistulae, and 2, the interest with which he has taken up the prevention of the results which he is laboring so hard to devise a means of repairing. Fistulae are not necessarily the results of bad work at the time of the operation, but they should not occur. We are not justified in having cases presented to us that will have fecal fistula. Will we ever get this matter right? Will it ever come to be as bad or worse than it was in the beginning? I will accept the statement and will add to it that more than 80 per cent. of the cases recover without operation, but I believe that 98 per cent., even 99 per cent., will recover with a timely operation. Will we come here and father a procedure which we admit has an expense of 20 lives in every 100? Is there any amount of evidence that will right it, or any proof which will prove it? I have not had Dr. Deaver's unfortunate experience in seeing so many cases of fistula. The men who call me in consultation have been educated to calling me in early. Can we, as physicians, tolerate 15 or 20 per cent. mortality without operation? Do you want your life jeopardized to the extent of 15 or 20 per cent.? We will certainly waste some time by operating on every case, and the questions are: Should every surgeon operate on every case and should every case be operated on? We must assume that good intelligent surgical skill is available in almost every town of two or three hundred citizens, and available within a few hours. Heretofore I have said that I operate on every case of appendicitis, but I wish to apologize for making this statement, as I do not. Cases of moribund appendicitis I leave to the physician, as he is entitled to have them if he keeps them up to this stage. Within the last year one physician has had three cases of this kind on which I refused to operate, and they all died. In some cases I merely empty the stomach and cease to give them food. No case should be allowed to go on to peritonitis, and I feel that any practitioner can make the diagnosis, as it is a very easy matter. The diagnosis can be made in every case within the first twenty-four hours. It is our duty as surgeons to avoid the possibility of fistula by removing the infected appendix at a time when it can be done safely, and there should not be even a loss of 1 per cent. Can any one show us that he has operated on 100 cases without a death, or on 1000 cases and not had a number of deaths? I remember no case operated on within twenty-four hours that died. I am willing to take the responsibility of operation if it has no danger.

Dr. PLATT I have listened with great pleasure to this discussion and consider Dr. Keen made a wise remark when he said that every case must be considered individually, separately and distinctly from all others. I do not think that every case should be operated on. If, within a very short time after the

beginning of the disease, it is believed that suppuration will occur, the operation should immediately take place and may be performed by an experienced surgeon with a mortality which is practically nil. If the patient has been permitted by the attending physician to go on until the disease has passed through a very considerable period, but has recovered, that patient is not well and should be operated on unless it is a very old person, because the operation will be far less dangerous than the risk of recurrence. I do not believe it is wise in all cases to waste time trying to remove the appendix. I have noticed in my own practice that where I have left the appendix in and have drained with gauze the patient has fully recovered and not in one case have I had a recurrence. I have known of serious damage being done by searching far and wide for the appendix, and I believe if we will let it alone nearly all of these cases will recover. But few of them will recur if we drain well with gauze and do not sew up the wound too soon, as this would interfere with drainage.

Dr. F. D. GRAY, Jersey City—Appendicitis is a subject which interests me very much, although I have not had a very large experience with the disease as compared with that of many here, my operation cases not numbering probably more than 175. Not more than seven, however, have proved fatal and the cases have been taken as they came, primary, moderate and desperate, just as we find them. I am a strong believer in early operation, and I think with Dr. Deaver that every case should be operated on as soon as the diagnosis is made. I agree also with what our eminent President has said, that when we talk about advising physicians throughout the country we must not give bad advice; but what shall we aim at? Shall we strive for less than can be done by the best men? I claim that when we talk about operating on all cases of appendicitis we have mainly in mind cases which come to us for advice. I believe that any surgeon with an aseptic hand and instruments and a fair knowledge of technique can open the abdomen and remove a primary inflamed appendix with safety. When we come to statistics, admitting that 80 per cent. will get well without operation, what are the surgeon's results? Do you expect that 20 out of every 100 will die. We would all be ashamed of such results from surgical treatment. I do not claim any especial skill, but, as I have said, I have only had 7 deaths in 175 cases, and 5 of them should not have been touched had I had consideration for my statistics. I would like to plead also for the cases that may not be moribund, but still are suffering from general peritonitis. These are the cases which usually remain under the care of the physician until surgery is called on as a last resort. I have done a laparotomy in about fifteen of these cases and found them suffering from a virulent form of peritonitis. Ten of them are living to-day. After opening the abdomen I eviscerate the intestines completely into hot towels, wash out repeatedly with a saline solution and peroxid of hydrogen, flush the abdominal cavity again, return the intestines and drain with gauze. I do not simply drain in one direction, but in several, and remove the drains in two or three days. This procedure I am convinced will save many lives.

Dr. RUFUS B. HALL, Cincinnati—I do not feel that this discussion should close with the statement that desperate cases should be left to the medical man. We see too many of them in which there is an accumulation of pus six, eight or ten days after the primary attack and these are the patients who deserve a chance to get well. If they are dying I agree with Dr. Murphy, but if not they should be given a chance by letting out the pus. In this class of cases I disagree with the speakers who say that we should remove the appendix in all of these instances. Should the patient get well, a second operation can be done at a time when they would have some show of surviving, but if you do complete the operation at that time you will lose your patient. When you are called to see the case at the bedside you must decide this question for yourself. If you believe that every one of them must be operated on as soon as the diagnosis is made you will lose many.

Dr. H. J. BOLDT, New York City—I agree entirely with Dr. Murphy and operate on every case except those that are moribund. We have heard that about 80 per cent. will get well

without operation and 90 per cent. will survive the primary attack. A second attack may occur, however, and within twenty-four hours a general septic peritonitis may have developed. If the patients get well from the primary attack, by all means advise radical operation during the interval. I fully agree with what has been said by those who take the ground that radical operations should be done in every case of appendicitis.

DR. CHRISTIAN FENGER, Chicago—Operation is not always the first thing to be thought of in appendicitis; if 80 per cent. recover from acute attacks they will be in a state of comparative safety. My own practice and my advice to my students is to first make the diagnosis, but not to operate simply because the diagnosis is made. If the symptoms improve, the patient may recover from the attack, but if they become worse immediate operation is indicated. About 30 per cent. of the patients have a second attack. About one-half of these have the second attack during the first year, while 70 per cent. do not have any recurrence. The question when we should operate is a difficult one, but I wish to emphasize conservatism and do not feel that the 80 per cent. necessarily should be operated on.

DR. WILLIAM EASTERLY ASHTON, Philadelphia—I agree absolutely with Dr. Deaver in the position he has always taken with reference to early operation so soon as the diagnosis is made. If you are called in to see a case and you make the diagnosis you can not say what the condition of the patient may be to-morrow. It is absurd to say: "Call in the surgeon early"; you might as well say: "Call in the cook," as she has as much knowledge of what is going on as the best surgeon in the country. I agree with Dr. Murphy that 20 per cent. mortality in the early operation is horrible. If we can only offer 80 per cent. recoveries, then I for one believe that the patient is running risks which are not justified. The whole question is in our ignorance in diagnosis. If we have a large lump present, it is easy to say that the patient should be operated on, but it is in the early stages where the difficulty arises, as it is impossible for us to know what is going on or what to do. I operated on a case three weeks ago which was first seen by me on Sunday. The patient had been taken sick the previous Thursday, and when I saw him his general condition was good, pulse 80, temperature normal, abdomen flat, and pain on pressure over the right side. I advised operation and transferred him to the hospital, where I found a post-cecal appendix one inches long, thick and gangrenous. In a few hours more perforation and death would have occurred. There was considerable objection to the operation because the man had been getting steadily better so far as his symptoms were concerned, but the appendicitis caused me to urge operation, and it was one too soon.

DR. ERNEST LA PLACE, Philadelphia—There is no doubt that the mortality from appendicitis is too high. We are constantly being shocked by the death of well-known people from his disease, and every effort should certainly be made to diminish this mortality. In every case of appendicitis there is a time when operation will mean recovery. If this is true, and why should it not be true, when we know that a mere opening of the abdominal cavity has no danger, then the medical man is responsible for the death. If we could establish precise rules on which the diagnosis could be made, then the diagnosis would be an indication for operation. Is this possible? Do all of us who have studied pathology, especially recent pathology, know in a given case of appendicitis whether the pain is a symptom which has a microbe element? Is it the staphylococcus? Is it the streptococcus? Is it the bacilli coli? Toxins may develop, the absorption of which may cause death, and yet give very little general recognition. You may have the appendix loaded with the bacilli coli and yet you may have no temperature disturbance. The pulse may have gone up, but if it had been stimulated by the streptococcus there would have been some equilibrium between the pulse and the temperature. How are we going to tell what is going on? I know from experience of a case which occurred some months ago in a gentleman 26 years of age. He had been ill only two days, but it is my rule to take it for granted that it

is a grave case when I am not sure. The man refused to be carried to the ambulance and also to use the elevator, preferring to walk, which he did, to the top floor of the hospital building. His father wanted to be present at the operation, but I refused him permission. When I opened the abdomen his pulse was 90, his temperature normal, and I found three enormous abscesses in the abdominal cavity. Peritonitis developed. You may be sure that the next case I see will be operated on, but should I neglect to do so I shall always have the lasting regret that I had not benefited by experience.

DR. A. J. OCHSNER, Chicago—In order that my statistics which Dr. Porter quoted may not be misleading, I must say a few words in explanation. The nine cases to which he refers and which were treated by means of drainage without removal of the appendix all occurred in my practice during the past two years, 1898-1899. During this time I operated on 248 cases of appendicitis. Consequently this form of treatment was employed in less than 4 per cent. of all cases. In former years I employed it in a much larger proportion of cases. In many of these the pathological conditions were very much less serious in character, and consequently the relative number requiring further operative treatment was much smaller at that time. No surgeon should be guided in this matter by the opinion of another, for with increasing experience and skill each one will find that he can remove the diseased appendix safely at the first operation in a relatively greater number of cases.

The question in any given case is: Will the patient be more likely to recover from the present attack by simply instituting drainage or by adding to this the removal of the appendix? The surgeon in the meantime must not base his treatment alone on the condition he finds, but also on his own skill and experience.

It seems proper in this discussion to speak of a form of treatment which, if employed systematically, will not only make the operation of which Dr. Porter speaks unnecessary, but also prevent the recurrence of the complication which is the subject of Dr. Deaver's paper. In order to show why the treatment I am about to advise is of great value, I must first direct your attention to the anatomical location of the appendix. It is located in the most favorable position possible for its isolation from the general peritoneal cavity, having above it the cecum and the cecal end of the ileum; behind it is the peritoneum covering the iliacus muscle; to the right and in front is the parietal peritoneum, and to the left the small intestines. Were it not for the presence of the very movable small intestines to the left it is plain that an inflammation of the vermiform appendix must necessarily result in a harmless circumscribed abscess in the worst case. This would be the more likely because the omentum folds itself about the appendix at once in case of inflammation. In order to prevent extensive, dangerous and destructive inflammation, then, it will be necessary to secure complete rest for the small intestines. The motion in the small intestines is due to peristalsis, and this is due to the entrance of food from the stomach into the small intestines, even in very small quantities. To secure complete rest it is, consequently, necessary to prohibit the use of food of any kind by mouth, and if the stomach contains food, to remove this by means of gastric lavage. The patient may be nourished by the use of concentrated predigested enemata, not to exceed four ounces at a time, given once every four to six hours. I have employed this method in many cases and it is certainly of great practical value. It relieves the pain by rapidly reducing peristaltic motion and gaseous distention of the intestines; it prevents the small intestines from carrying the septic material from the region of the appendix into the more sensitive portions of the abdomen. In short, it prevents all of the most favorable conditions and complications of appendicitis. I would, consequently, advise the treatment consisting in absolute and complete prohibition of the use of food and cathartics by mouth; of performing gastric lavage, and of employing exclusive rectal alimentation in all cases of appendicitis.

DR. MILES F. PORTER, closing—At our meeting a year ago Dr. Deaver stated that he advised removal of the appendix

in all cases on which he operated and later stated that he did not advise it, but always did it. In his paper to-day he reported a case where he did not remove the appendix, and therefore there is no difference of opinion between us. I am absolutely opposed to the method of operating suggested by Dr. Price. He says that he breaks up the abscess walls, which in my opinion not only harms the patient, but may kill him. It kills patients that do not need to be lost. As to the matter of statistics, I said that 13 per cent. of recurrences after drainage was too large and I still believe it. I must enter a most earnest protest against the statistics given by Dr. McRae, i. e., that 75 per cent. of the cases operated on recur if the appendix is not removed. I am aware of the fact that there is nothing so fallacious as facts, except figures, but making all due allowance, we must not accept this statement. I believe I understood Dr. Murphy, and I believe the impression he leaves is a wrong one, i. e., that when a case is so bad that it scarcely has a chance of recovery he leaves it to the physician. I do not think he means this. I am too sympathetic to let any of these patients die without operation, and 99 per cent. of them will probably die, do what you will; but every now and then you will save one and you will not kill any. Every surgeon should give a patient a chance for his life, and I think that we should be very careful as to the impression we leave regarding statistics. I was very glad to hear Dr. Ochsner's explanation of his method of treatment.

One man reported 175 cases of appendicitis, including severe pus cases, with only 7 deaths; I must say that he is playing in better luck than any operator I know—that is all.

Dr. J. B. DEEVER, closing—While Dr. Senn and I are the best friends, it is evident we do not agree on the subject under discussion. Dr. Senn says that I am a man of extreme ideas; I am glad to go on record as such on the subject of appendicitis. Gentlemen who visit the German Hospital have ample opportunity of seeing many of my cases after operation, and can testify as to the result. I operate as soon as I can make the diagnosis and do not wait until the eleventh hour to do it, which will mean crape on the door. I regret to say that I have not one iota of confidence in the judgment of a man who says that he can wait until pus is present, for such a man knows nothing of the gravity of the disease. I could cite case after case were it necessary, but I would like to ask how many men there are here this afternoon some of whose friends would not have been saved had they had the treatment I advocate. My cases number in the thousands, and I simply say that I know in the majority of instances when a case has appendicitis, and I also know that when such is the case the appendix should come out. This subject has been very thoroughly discussed, but I confess I am much grieved to hear some of the utterances made. It is our mission to promulgate the doctrine which will save and not destroy lives.

Dr. Keen said in Denver that a living man with an appendix is better than a dead man without; I should say that in my opinion a living man without an appendix is better than a dead man with one. Dr. Keen says that I do not operate on every case, and that is true. I may not have the conveniences at hand, friends may object, and the patient may be practically dead when I am called. I do not believe any of us can cure general septic peritonitis. My experience is that in the latter case death is more painful after an operation than before it. I am arguing from the standpoint only which will save the greatest number of lives. Dr. Keen states that early operation will save more lives than late operations, and he also mentions that he sees many cases very late. Why? Because of the teaching that we should wait several days, when the patient is thought to be doing well, before doing anything. I regret seriously that such a stand should be taken. No men have my regrets more than Drs. Senn and Keen, for they are promulgating a theory which will cost many lives.

Hydrogen Peroxid as a Hemostatic.—The *Scm. Méd.* quotes Rifaux to the effect that hydrogen peroxid is extremely effective as a hemostatic. A tampon moistened with it inserted in the nasal fossa in case of hemorrhage will arrest even the most serious and uncontrollable epistaxis.

TREATMENT OF IMMATURE CATARACT.*

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Non-progressive cortical opacities are very rare. The opacity accompanying congenital coloboma of the lens, the partial cortical cataract caused by the adhesion of a retained or acquired pupillary membrane and some forms of traumatic partial cataract do not progress. The anterior punctate cortical cataract, the posterior cortical cataract and the form of zonular cataract, in which the zone is situated well in the cortex of the lens, are extremely slowly progressive. Traumatic partial cataracts, with or without perforation of the capsule, sometimes become stationary and in a few cases the opacification partly disappears. Anterior and posterior polar cataracts are almost always stationary. The small white congenital cataract which occupies the center of the lens and apparently includes only those fibers that are formed during the second stage of development of the lens, the axial congenital cataract and a few cataracts with mixed opacities, are stationary or nearly so. Some forms of monocular stellar cataract, probably of traumatic origin, do not advance. Zonular cataract almost invariably becomes denser as the individual increases in years and in not a few cases general opacification of the entire cortex follows.

The development of cataract is due to a departure from the normal in the nutrition of the lens. The change which takes place in the lens structure may be either hyperplastic and degenerative, or simply degenerative. Cataract which forms during the course of an iritis, cyclitis, choroiditis, or which accompanies intraocular neoplasm, not infrequently presents a swollen appearance, a thickened capsule and a multiplication of epithelial cells. The epithelial cells form in masses on the posterior surface of the anterior capsule, produce cystoid cells at or near the equator of the lens, and sometimes more or less completely cover the anterior surface of the posterior capsule. This form of cataract is sometimes spoken of as inflammatory. To designate these cataracts as inflammatory is plainly a misnomer, since their development is due to perverted nutrition only. In traumatic cataract, with infection of the lens substance, a multiplication of germs takes place in the lens accompanied by an infiltration of small cells and a disintegration of lens fibers. In no other condition will we find a true phakitis.

Cases in which medicinal therapeutics are indicated, due to the condition of the interior of the eye, are those in which intraocular disease, other than cataract, is present, choroiditis, iritis, cyclitis, glaucoma, retinitis, parenchymatous kerato-iritis, atheroma of retinal vessels, etc. The treatment should, of course, be local and constitutional and does not differ because of the presence of opacities in the lens, from that which would otherwise be employed. The influence of such treatment on the lens structure is not to clear up existing opacities, but to prevent further opacification by improving or by preventing further impairment of the nutrition to the lens.

Medicinal therapeutics and other measures to improve health based on the constitutional condition of the patient have a wide range and are of value in preventing the progress of cataract, but are of no importance in causing a disappearance of opacities that have already formed. In atheroma of the vessels,

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arterio-capillary sclerosis, rheumatic or gouty diathesis, diabetes mellitus, albuminuria, pernicious anemia, extreme prostration and impairment of the health from any cause, proper therapeutic measures should be resorted to. I have had the pleasure of recording the arrest of opacification of the lens in patients whose general condition has been much improved by tonic and other treatment.

The question regarding the value of local therapeutic measures, such as massage, absorbents—so-called—or stimulating remedies introduced into the conjunctival sac, and electricity, in the early stage of senile cataract, to prevent progression in the opacification of the lens or to cause existing opacities to disappear, although very old, is one of much interest. All are apparently agreed that opacification of the crystalline lens is the result of impaired nutrition to the lens. Attempts to improve the nutrition to the lens are perfectly legitimate, and I do not think it beyond the possibilities to so influence the circulation of the eye, in some cases, that the progress of the cataract may be delayed. One who is familiar with the anatomical changes present in incipient or advanced senile cataract, of all kinds, must recognize the futility of attempts to cause opacities that already exist to disappear to any marked extent, and must recognize the fact that he who claims to cause the lens to again become transparent is either a knave or a fool. The prevention of opacification is quite another thing and is well worthy of careful study.

From the knowledge afforded by a study of the reports of methods for ripening cataract, the influence of traumatism on the lens and the results of massage of the eye as applied by others, I am of the opinion that this measure is not of much value in the prevention of opacification of the lens. It has fallen to my lot to operate for the removal of mature cataract on a number of individuals who have been subjected to massage of the eye for many months by those who profess to "absorb" cataract by this means.

Electricity in various ways has been applied by others to patients on whom I have subsequently operated for the removal of cataract. Personally, I have no knowledge that electricity has any effect in improving the nutrition of the eye; however, I am not in a position to bear positive evidence against it. I am of the opinion that the beneficial results to be obtained by its use are disproportional to the time and expense necessary to its proper application.

It is, of course, well known that opacification of the lens in some cases advances to a certain stage, becomes stationary and so remains for a varying length of time. Because of this it is difficult to ascertain what benefit is derived by treatment directed to the arrest of the development of cataract. Only by observing a relatively large number of cases and comparing those treated with similar cases not treated, will we be able to decide the value of any course of medication. For the last twelve years I have been directing some of my patients afflicted with incipient cataract, to employ stimulating collyria and moist heat to the eyes, for the purpose of ascertaining what influence the treatment would have on the development of the cataract. I am not as yet ready to report on this study further than to state that the results are sufficiently encouraging to cause me to feel justified in continuing. It should be added that the general condition of the patient is improved to the greatest possible extent, and so maintained in all of these cases.

It is generally known that changes in the refraction of the lens frequently occur during the development of cataract and that the adjustment of glasses in the earlier stages may improve the vision. In a case recently observed, myopia of 3 D. developed. In all cases where vision can be improved, glasses should be given, not with the expectation of producing any effect on the development of the cataract but for the increase of vision only.

In cases of nuclear, zonular, polar or axial cataract, either in youth or in age, if the tension of the globe is normal and the vision is improved thereby, a weak solution of atropin, sufficiently strong to produce a moderate dilatation of the pupil, may be employed often enough to maintain maximum vision.

Myotics are seldom required, but in certain rare cases where the axis of the lens is comparatively transparent and the apices of the opaque sectors, from the equator of the lens, enter the normal pupillary area and disturb vision, and in those cases where the development of cataract is accompanied by increase in tension as when the lens is swollen, a myotic may be employed. Pilocarpin is usually sufficient, but eserine may be required in some cases.

Regarding the operative procedures advisable in non-progressive cataract, the writer is of the opinion that optical iridectomy is advisable only in those cases where vision can be brought up to 20/40 or better by use of a mydriatic, and a correction of the error of refraction if any exists. This degree of vision should be obtained to permit the individual to pursue the ordinary vocations of life.

In all other cases of cataract where the fundus is normal the removal of the lens is necessary. In operating for the removal of immature cataract a number of procedures are open to us: In young individuals, needling of the lens with or without subsequent extraction of the broken-up lens substance by means of small linear incision in the cornea; preliminary iridectomy, with or without direct or indirect trituration of the lens, for the purpose of hastening the maturity of the cataract, applicable to old or young individuals; extraction either simple or combined. In a paper read before this Section in 1895 entitled, "The Treatment of Some Forms of Zonular and Immature Cataract," in which twenty-five cases were reported, I stated that I had abandoned the ripening operations for the reason that the facility of removal was not sufficiently increased to warrant the extra risk and trouble to the patient. I have not changed the views there expressed. Whenever in the development of cataract, the vision is reduced to such a degree that the individual can not follow the ordinary vocations of life, provided there is any reason for not waiting until the cataract is mature, I do not hesitate to advise operation. The choice of the method to be employed in removing the cataract depends upon the case. How to operate permits of an exercise of judgment, and the surgeon who is best equipped, in the way of experience and in a knowledge of the anatomical and pathological conditions present will succeed best.

DISCUSSION ON "IMMATURE CATARACT AND ITS TREATMENT," P. 1467, BY DR. G. E. DE SCHWEINITZ.

DR. S. D. RISLEY, Philadelphia.—I am personally indebted to Dr. de Schweinitz for bringing this subject once more before the Section. The first paper I had the honor of bringing before this Section, during the presidency of Dr. Connor, in 1889, was on the subject of "Incipient Cataract, Its Etiology and Treatment." That paper was based on a careful analysis

cases of immature and incipient cataract seen in my private practice. I then took the ground to which Dr. de Schweinitz has kindly alluded this afternoon, that the term senile cataract seemed to present the idea of old age as the sole cause of the disease. In contradiction of this view, I stated that the majority of old people do not have opacities of the lens; that though the lens may become straw-yellow in old age, it becomes cataractous only in exceptional cases; that therefore in those who did have cataract we should conclude there was some extraordinary cause producing it. The analysis of 80 cases seemed to show that this cause existed in disease, more or less pronounced, of the uveal tract of the eye. I showed, furthermore, in those cases that in a very large percentage of them not only was there demonstrable disease of the choroid in the eye in which the lens was sufficiently transparent to permit study of the eye-ground, but that floating vitreous opacities were present, and that in the majority, or at least a very large percentage, the individual suffered from headaches, asthenopia, red eyelids, chronic conjunctivitis of the congestive type, etc. In those cases in which the opacity is fixed and non-progressive, it is fair to presume that at some time in the history of that case the conditions I have alluded to were present, but when they reached such a stage that the light was partially excluded and the eye was permitted to rest the disease of the choroid gradually subsided and the opacity did not advance to maturity. This was my conception of the history and cause of opacity of the lens, and I argued that if I could arrest the cause by treatment I could probably arrest the progress of the opacity. I want to say here, and I think it should go distinctly on the records of the Section, that we never see the slightest disappearance of an opacity in the lens. I said then, and I say now, I have never seen such opacities disappear. Where an opacity is formed in the lens you can rest assured it will remain there and I think we should say so in order to prevent imposition on the community by the charlatans who advertise the removal of cataract by absorption.

The lower and inner quadrant is the portion of the lens where most of these opacities begin, and it is just this portion of the choroid that is most exposed to the light. Dr. de Schweinitz, at my suggestion, some years ago studied the condition of the choroids of a large number of stokers, and showed that the portion of the eye exposed to the heat and light was most frequently the site of inflammation and frequently presented opacities of the lens at that portion.

We shall often find that by the prolonged use of mydriatics, the correction of errors of refraction, and by the internal use of potassium iodid and other alteratives, the disease of the choroid is arrested, the acuity of vision very much improved, and the progress of incipient opacity of the lens arrested. There is one other point I wish to emphasize and that is concerning the surgical interference for the ripening of these immature cataracts. I observed carefully a series of 25 cases in which I did this operation. In many of these I did not succeed in making the slightest change, even in the opacity of the anterior cortex. A few seemed to ripen rapidly, but when I tried to extract the lens I found the posterior cortex clear and unaffected by the previous operation. Furthermore, in those instances in which the lens cortex was affected by the rubbing the subsequent extraction became difficult because of the glue-like tenacity with which the cortex adhered to the capsule. I quite agree entirely with the reader of the paper in the statement that he would very much rather take chances of extracting an immature cataract than to extract one which we have endeavored to ripen.

Dr. J. A. LAPPINCOTT, Pittsburg—I wish to express also, as Dr. Risley did, my gratitude to Dr. de Schweinitz for his very able paper. His conclusions are so reasonable that we must certainly all agree with him. I certainly do and my experience has extended over a long time. I just desire to add that I have seen three or four cases of these opacities of the lens that were beautifully symmetrical in the shape of spokes of a wheel, and which lasted in three cases for 16 or 17 years, finally culminating in perfectly opaque cataracts on which I operated.

Dr. W. H. BATES, New York City—I had a patient, 70 years of age, with lenticular opacities. About the time she was under my treatment I became acquainted with a gentleman of New York City, a physician in regular practice, a member of the New York Academy of Medicine, a graduate of Dublin University, and a very bright man, Dr. James E. Kelly. I sent this patient to Dr. Kelly for general treatment. Before she went to see him her vision was 15/200 from the incipient cataract. She came back to me in three months, and I can tell you positively that she then had no opacity of the lens, and her vision was 15/10. That is three years ago, and I saw the lady recently and she still has the same vision and no opacities. I have seen a second case in which there were opacities, and under the treatment of Dr. Kelly and in the course of a few months the lenses became perfectly clear. A third case, a patient 60 years old, with very prominent characteristic opacities of the lens and a vision of 15/50 with correcting glasses, was sent to Dr. Kelly, and in three months' time her vision was improved to 15/10, and a number of the opacities had disappeared.

Now, what did he do for them? I do not know. He told me, or tries to tell me, and the patients say he gives them water, at least three quarts a day, and has them go through exercises. Now, why does he give them water and exercise? The cataractous lens contains a great deal less water than the normal lens. That may be the reason this treatment helps them. I noticed in the patients he treated that the skin became clear where before it had been muddy, which is a condition found in many old persons; after a general hygienic treatment the skin becomes more like that of young people, and it may be that the treatment benefits the eye in the same way it does the skin, since both are formed from the epiblast.

Dr. J. L. THOMPSON, Indianapolis—I wish to speak of one case that I did not send to Dr. Kelly. In 1871 a gentleman came to me with very white-looking cataract in one eye, and when asked if he had ever received any injury, he said he had not. The other eye was perfectly clear. I did not see him for a number of years, when he came in one day for some trifling ailment. I think the removal of a foreign body. About fifteen years ago the second eye became cataractous. He was a drinking man and, in fact, had nearly every vice under the sun. I operated on that eye and did a very beautiful operation, but he had an inflammation, an iridocyclitis, and lost the eye. He was blind then, and wanted to know what I could do for the other eye. I was afraid to touch it, but finally agreed to make a preliminary iridectomy, and lo and behold he could see a little, there being a clear space beyond the periphery of the lens. He complained a year afterward of pain in the eye and had to use eserin, and a month later that lens looked as if it was filled with water. I see that man now occasionally, and you can see the red reflex, but the lens disappeared and the capsule only remains filled with water. Perhaps, if a man could live three or four hundred years, a great many of these cases would cure themselves.

Dr. G. O. KING, Philadelphia—The statement made by Dr. Bates recalls a case in my own experience. A lady in Philadelphia came under my care with well-marked double optic neuritis and vision reduced to almost nothing. There was a well marked incipient opacity in the lens, very much like the one the Doctor described. In the course of a few weeks a consultation was held with Dr. Norris, my teacher at that time, and I remember that one of his first observations was that the patient had beginning cataract. The case was clearly a specific one. Active treatment was begun at once, and at varying intervals the patient was observed by me until now every particle of the opacity of that one lens has certainly disappeared and her vision is 20/20 in one eye and about 20/30 in the other. That is entirely unique in my experience, and I have never observed any opacity absorbed but that.

Dr. I. R. GRADLEY CASE, Collinsville, Conn.—About nine years ago two papers published by Dr. Kalish, in the *Medical Record*, on the absorption of immature cataracts fell into my hands. I had plenty of time at my disposal and tried the method after corresponding with Dr. Kalish, so that I might carry out his plan perfectly on a small list of patients. I

recall now four cases where I patiently rubbed the eye from within outward with the ball of the second finger, as directed, for one-half hour daily for weeks. Of these cases, one of traumatic cataract showed not the slightest change. Another, of congenital cataract, undertaken at his earnest request, showed not the slightest change at the time nor several years later. Two other cases of senile cataract resulted as follows: One became more rapidly progressive than I have noticed in other patients of the same age, and the other remained stationary until the time of the patient's death. I now tell my patients with senile cataract, keep your digestion good, use your eyes reasonably, do not worry.

DR. G. E. DE SCHWEINITZ, closing—Opacities in the nasal quadrant are sometimes nearly non-progressive, that is, their progress is certainly very slow. There is another variety that is associated with a corresponding patch of retino-choroiditis that does progress. My only object in bringing up this subject was that we should discuss the best measures for the relief of these patients, and to state my belief, which has been strengthened by the discussion, that there is some reason to believe that we can help these people with proper treatment.

RHEUMATISM AND THE PREVENTION OF HEART COMPLICATIONS.*

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More than fifteen years ago Eichhorst, of Zurich, in the third edition of his "Handbuch der Speciellen Pathologie und Therapie," transferred rheumatism from the class of constitutional to that of infectious diseases. In doing so he was only expressing a conviction that had been forming among clinicians generally. Because of certain superficial resemblances to gout, rheumatism had been classed among diathetic diseases, but without good reason, as time and closer clinical observation showed. Eichhorst's position was not unique, but it is only after fifteen years that the medical profession is coming to acknowledge its correctness. We have at length come to the point of conceding the infectious nature of rheumatism. The reasons given by Eichhorst before any germs had been described as occurring in the lesions of the disease are to-day the best arguments for its infectiousness. Rheumatism has all of the characteristics of an acute infectious fever—the incubation period, the sudden rise of temperature and the remission, with gradual convalescence. It occurs particularly in damp weather, but so does pneumonia, and the dampness seems to stand only in a secondary causal relation to the disease. Even its contagiousness, under certain circumstances, is well established. It has been known to spread through a hospital ward, and to frequently attack several members of a family at the same time. In schools and barracks single cases of it are rarer than the occurrence of several about the same time. According to Eichhorst, Pöcoek, Schaefer, Jaccoud and von Strümpell, pregnant women have been seen suffering from rheumatism who gave birth to children presenting the symptoms of acute rheumatism.

The infectious nature of the disease is shown by its tendency to produce lesions in the most widely different parts of the body. An acute rheumatic arthritis of the wrist or ankle may be complicated by a rheumatic meningitis, endocarditis, or pleuritis. Autopsies made on patients dead during the acute stage of the disease present striking indications of an infectious disease. Hem-

orrhages into the various organs are noted; there is cloudy swelling of the cells, of the heart, of the kidneys, and of the liver. There is the enlarged spleen of distinctly lessened consistency so characteristic of infectious diseases.

BACTERIOLOGY.

Notwithstanding that rheumatism seems to be an infectious disease, no definite bacterial cause has as yet been established. As long ago as 1883 Babes found bacilli and cocci in the synovial fluid of a patient who died during the course of an acute rheumatism from intercurrent nephritis. Observers have found other micro-organisms in various fluids of rheumatic patients who had succumbed to some complication. All of these were isolated observations until the beginning of the present decade, when Bouchard and Charrin found various forms of staphylococci in six different cases in the synovial fluid of patients suffering from rheumatism. Shortly afterward Achalme found an anaerobic bacillus in the tissues of two cases. A third case of the same kind was noted the next year. Other investigators failed in a number of cases to find the micro-organism described by Achalme, though one or two confirmed his results. Triboulet and Coyon found a series of micro-organisms in rheumatic patients, occasionally staphylococci, sometimes streptococci, in rare cases Achalme's bacillus, and almost constantly a diplococcus. In eleven consecutive cases of acute articular rheumatism that came under their observation in succession, some of them severe, others comparatively mild, this diplococcus was found. Cultures made from the blood always resulted in the growth of this germ, which they consider the cause of rheumatism. Intravenous injection of this diplococcus into animals always causes endocarditis of the left side of the heart, especially of the mitral valve. German observers, as a rule, have not found micro-organisms in the blood or in the secretions. Singer, it is true, found various micro-organisms in the synovial fluid in the blood and in the urine of patients suffering from rheumatism, but only in a small proportion of cases. His results were not substantiated by Chvostek, who is a careful observer. The blood in all of sixteen cases examined by Chvostek was uniformly sterile; only once was the articular fluid removed from rheumatic joints found to contain bacteria. These proved to be bacilli, but scant in number. Some years ago Leyden and the assistants in his clinic found a diplococcus in rheumatism; Senator found a streptococcus. The only micro-organism which may be considered to have sufficient evidence in its favor to justify its being considered as a frequent cause of rheumatism is the diplococcus form. Even this, however, has not been found often enough to justify any definite conclusion as to its specific pathogenicity.

RHEUMATISM NOT A SIMPLE DISEASE ENTITY.

Several important deductions may be made from the multiplicity of the micro-organisms that have been found by different observers. It is clear, even from clinical observation, that acute articular rheumatism as we know it is not a simple nosological entity, but is probably a series of similar diseases more or less closely related to one another. The term "pneumonia" a quarter of a century ago embraced a number of affections that we can now easily differentiate from each other. The ordinary self-limited acute arthritis, which usually terminates of itself in from ten to fourteen days, is perhaps due to the diplococcus found so often. Cases that run a longer course, and prove intractable, are due to other forms of bacterial life, or are complicated by

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secondary infection. The rapidly fatal cases of rheumatism with high temperature, coma and collapse, of which quite a few have been reported by various observers, are probably due to the anaerobic bacillus described by Achalmé.

THE ACID DIATHESIS IN RHEUMATISM.

If we are to accept rheumatism as an infectious disease with a bacterial cause, the question arises, has the acid diathesis, which meant so much for a preceding generation, in the production of rheumatism, no effect in the etiology of the disease? There are those who, like Haig in England, still insist that the uric-acid diathesis is the constitutional basis of all rheumatic manifestations. This view has long been abandoned by most of the profession. For many of the older practitioners lactic acid is still supposed to play an important rôle in the causation of rheumatism. It is hard to understand on what the conviction of the etiologic importance of lactic acid is based. The feeding of lactic acid to animals does produce joint lesions, but very different from those of acute arthritis. Lactic acid has been used in considerable quantities in recent years as a remedy for diabetes, but it has never been known especially to predispose diabetics to arthritic manifestations.

The idea of an acid diathesis in rheumatism seems to be founded on a series of misconceptions. The urine of rheumatism is said to be acid. Yet there are those who say that it is alkaline when recently exuded, and only acid after standing. There are others who insist that it is originally acid. The only solution of the question seems to be that sometimes the sweat of rheumatism is acid and sometimes it is neutral or alkaline.

It seems interesting to note that if the blood in rheumatism is acid, as it is said to be by many, it would prove a much less favorable culture-medium for microorganisms than when in its normal condition. Most of the ordinary pyogenic cocci either do not grow on an acid culture-medium, or grow much less luxuriantly and with lessened virulence. It is possible, then, that the hyperacidity of the blood is a protective reaction on the part of nature. The reason why pyogenic cocci in the circulation do not produce pyemia is perhaps because their growth is inhibited in numbers and in vitality by the acid medium in which they are. The alkali treatment as ordinarily given in rheumatism would then be a simple undoing of nature's protective process. As there are many who seem to doubt that the alkali treatment does any good, this makes the question of its employment rather serious.

SELF-LIMITATION AND LOW MORTALITY.

Next to its being an infectious disease, the most important thing about rheumatism is that it is self-limited. This feature has been as much overlooked as its infectious origin. To Austin Flint, according to Professor Osler, belongs the credit of having first pointed this out. Notwithstanding the many remedies recommended for its treatment, rheumatism, like the other infectious diseases, remains practically uninfluenced in its course by any remedy. Symptoms, especially the pain and the fever, may be very much alleviated, but the duration is probably very little, if at all, affected by any treatment.

Rheumatism is a disease which is very seldom fatal. Professor Pribram, of Prag, has had under his care in the last sixteen years 627 cases. Of these, but six proved fatal; only one from hyperpyrexia. This was the only

case in which the complication that brought about death could with any assurance be attributed to the rheumatism itself. Of the five other cases, one died from tuberculosis of the lungs, two from nephritis and uremia, one from pneumonia, and one from sepsis including osteomyelitis and metastatic abscesses. The mortality of the disease itself is probably not more than .1 per cent.

HEART COMPLICATIONS.

Professor Osler thinks that the number of heart complications in rheumatism is grossly exaggerated. In 209 cases carefully examined for this purpose he found only 24 endocardial involvements, while French writers give as high as 65 per cent. Vernal, as the result of several hundred observations, gives the percentage in the rheumatism of children as more than 80 per cent.; Church, 67 per cent. in cases between 10 and 20 years of age, and 54 per cent. between the ages of 20 and 30 years. Hirsch found 52 per cent. between the ages of 16 and 20, 65 per cent. between 21 and 25, 50 per cent. between 26 and 30, and 83 per cent. between 31 and 35. Pribram, to whom I owe these figures, and whose monograph on acute rheumatism in Nothnagel's "Spezielle Pathologie und Therapie" shows how thoroughly he has reviewed the literature of the subject, besides having a very practical acquaintance with the affection clinically, gives the average number of heart complications in primary attacks of acute rheumatism as from 38 to 40 per cent. In this he includes about 5 per cent. of pericardial complications.

How often chronic endocarditis is due to rheumatism is quite as interesting a question, and perhaps even more important. The statistics as to the rheumatic origin of chronic endocarditis are quite as indefinite in their way as those of percentage of heart complications that occur from rheumatism. Once more the French authorities give the highest numbers. Seventy per cent. of all cases of endocarditis are said to be due to rheumatism. All infectious fevers may cause endocardial involvement. In taking the history of a patient with a heart lesion, we all realize, especially in recent years, how important it is to consider rheumatism.

TREATMENT.

At the end of the last century, to a student who asked what was the best thing for rheumatism, Corrigan, the distinguished Irish surgeon, said, "Six weeks." During the first half of the century the medical profession, in England particularly, believed very firmly in the efficacy of the alkali treatment. About 1860 the coal-tar colors were found, and among other members of the coal-tar derivative group was salicylic acid, which proved on trial to have a remarkable effect in alleviating the symptoms of rheumatism. Something that is not generally remembered, however, is that an extract of the willow tree had been in use in England for nearly a century as a useful remedy for rheumatism. About the time that salicylic acid became so popular in Germany, salicin acquired a reputation in England.

It is the custom to say that the course of rheumatism has been very much shortened and all of its symptoms alleviated much sooner by treatment with the salicylates than by any treatment employed before the introduction of salicylic acid and its derivatives into therapeutics. There is a very interesting table that presents the facts concerning the influence of salicylic acid and its derivatives on rheumatism as they were observed during eight years at the city hospital in Berlin. For alternate periods varying between half a year and a year and a quarter the salicylate treatment and so-called indif-

ferent treatment were employed in all cases of rheumatism. The alternations from one method of treatment to the other were made deliberately with the idea of counteracting any influence that the season of the year or the special epidemic virulence of rheumatism at any period might have in making cases of the disease more intractable or more persistent. Altogether, 148 cases were treated with the salicylates and 106 with indifferent remedies; that is, iodid of potassium and the alkalies, with whatever other drugs might seem to be indicated by the symptoms.

	Salicylates, Days.	Indifferent Treatment, Days.
Duration of the treatment until the cessation of the fever	4.2	6.5
Duration of the disease until the cessation of the fever	11.6	15.0
Duration of the treatment until the cessation of pain	8.7	9.3
Duration of the disease until the cessation of pain	16.4	18.0

Relapses, under salicylates, 31.3 per cent.; under indifferent treatment, 13.2 per cent.

Heart complications, under salicylates, 17.6 per cent; under indifferent treatment, 16.4 per cent.

Length of stay in the hospital, under salicylates, 36. days; under indifferent treatment, 34.5 days.

As the mortality is practically nil, the important consideration is the avoidance of heart complications. This salicylic acid was said to do very effectually. Experience, however, has not justified this claim. The general evidence of the English collective investigation committee, as quoted by Cheadle, is that cardiac complications are less frequent and less pronounced under full alkaline treatment than by any other method. Pribram says that, while salicylic acid is the best remedy for the relief of the symptoms of rheumatism, it neither shortens the course of the disease nor lessens the number and severity of the heart complications.

Salicylic acid received its reputation in Germany, hence it is interesting to note the present situation there. It was in Senator's clinic that the original work with the drug was done, yet Senator himself said, two years ago, that salicylic acid is not a specific for rheumatism, but that it does relieve the symptoms, lessen the pain and lower the fever. Other coal-tar products, however, accomplish this purpose, and it is only that salicylic acid seems to be less objectionable than other antipyretic analgesics that it is to be preferred.

In Leyden's clinic at the Charité the routine treatment of rheumatism is with antipyrin. Four to six grams are given on the day that the patient enters the hospital and the same amount repeated the next day. This usually does away with fever and pain completely. Then a gram and a half to two grams are given each day for some weeks. Gerhardt occupies a middle position between Leyden and Senator. He thinks that any of the coal-tar antipyretics should be used, but prefers phenacetin. If this fails to relieve the symptoms, antipyrin is given, or one of the salicylates.

This would seem an unsuitable treatment here, where a strong prejudice exists against the use of antipyrin. To administer it in rheumatism where heart complications are feared would seem foolish. Leyden and Gerhardt, both heart specialists, are convinced that antipyrin, far from increasing the liability to heart complications rather diminishes it. It lowers the temperature and the pain, and so brings down the pulse-rate. Anything that reduces the work the heart has to do lessens the tendency to the production of heart lesions. There are undoubtedly cases in which antipyrin acts as

a serious depressant to the heart and the circulation. Notwithstanding very alarming symptoms, deaths from the drug are very few. The occurrence of symptoms seems to be due not to the amount of the drug ingested, but to an idiosyncrasy for it.

I would not, however, be considered as an advocate of the antipyrin treatment of rheumatism. I wish merely to insist that we have not in the salicylates a specific, but only a remedy that relieves pain and fever. Almost any other of the antipyretics will do this quite as effectually.

It is probable that none of the antipyretics have eventually done good in the treatment of rheumatism. The relief of symptoms has allowed patients to get up and be around much sooner than would be the case if the disease ran its course undisturbed by antipyretics or analgesics. In England, particularly, a number of prominent clinicians insist that relapses are more frequent after the salicylic treatment of rheumatism and that the heart complications, instead of being less, are at least as frequent, and probably more severe.

Rest is the most important indication for the heart complications. The heart of a normal person walking is ten beats faster per minute than if he is lying down, which means one-seventh more work. MacLagen says that in England only one-half as many heart complications are noted in rheumatic cases that have been in bed from the beginning of the attack as in those who have been up and around for some time. There is an old prejudice, and a most unfortunate one, that will-power may enable one to throw off disease, or at least to diminish its severity.

The treatment for rheumatism is rest, not alone during the active stage of the disease, but for weeks afterward if there has been any heart complication. The old indifferent treatment is a precious heritage which is uniformly too much neglected. There is no doubt that the deposit on the valves of the heart may in its early and plastic stage be much influenced by the resorbent properties of the iodids. Its careful administration for weeks after an attack of acute rheumatism, while the patient is kept absolutely in bed, would do more to reduce the mortality from heart disease, which is so striking a feature of modern life, than all the vaunted specifics that the manufacturing chemists turn out. Since the public generally have come to realize the value of the antipyretics in the treatment of painful conditions of any kind, many of the milder cases of rheumatism run their course without professional assistance. The result is the development of many an unsuspected heart lesion for which a few years afterward it is extremely difficult to find an adequate reason.

"Prevention of Heart Complications." This is the favorite slogan of the advocates of each new remedy and newest method of treating rheumatism. If it could be accomplished, rheumatism would be much less to be feared than any infectious disease we have. It would be a painful episode in life and nothing more. As a matter of fact, however, no method of treatment so far introduced seems to have any influence in limiting either the number or the severity of heart complications. It is doubtful even if the endocarditis and pericarditis which develop in the course of rheumatism are really a complication. There are undoubtedly cases in which either rheumatic endocarditis or pericarditis occurs and runs its course without accompanying arthritic lesions. When rheumatism appears in one joint, there is no method of treatment which gives any assurance of pre-

venting it affecting other joints. The heart and its serous coverings occupy a corresponding place in rheumatism to that of the joints. It is interesting to note that the rheumatic affection always appears on a particular side of the valves of the heart and is limited to the left heart. The rheumatic process always begins at the point where the valve leaflets touch one another, on the auricular side of the mitral valve, on the ventricular side of the aortic valve. When it appears on the ventricular endocardium it is at points where the valves touch it when they are drawn back. The rheumatic process in the joints occurs in serous surfaces that are also in contact with one another. It is only on the contact points, the joints of the heart, so to say, that the so-called rheumatic complication occurs. Rheumatism in the heart is really not a complication, but is as much of the essence of the disease as is its occurrence at contact points on the serous surfaces of the joints. Until we can get some remedy which will control rheumatism and prevent its spread from joint to joint, or act as a prophylactic against the development of the disease as soon as its preliminary symptoms are manifest, we can scarcely hope to prevent rheumatic heart complications.

THE HEART IN ACUTE RHEUMATISM.*

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As long ago as 1870, Sir Thomas Watson, in his wonderfully clear lectures, one of the greatest works on medicine published, says: "In truth, acute rheumatism is a blood disease. The circulating blood carries with it a poisonous material, which by virtue of some mutual or elective affinity, falls upon the fibrous tissues in particular, visiting them and quitting them with a variableness that resembles caprice, but is ruled, no doubt, by definite laws, to use, as yet, unknown."

In our actual knowledge of the materies morbi of this particular disease we have made no material advance in the last thirty years. Flint, in 1881, said: "A special predisposition is requisite; in other words, the disease involves a rheumatic diathesis. This predisposition may be congenital and inherited, or it may be acquired. Statistics establish conclusively the hereditary transmission of the disease. When we recall, however, that at that time statistics also "established conclusively the hereditary transmission" of tuberculosis and that in the light of modern science these conclusions have been shown to be erroneous, we are justified in doubting the "conclusive establishment of the hereditary transmission of rheumatism."

Lyman, in Pepper's "System," says: "Hereditary causes exert an important influence upon the occurrence of articular rheumatism—so far as statistics have been collected, it seems probable that from one-quarter to one-third of those afflicted are the descendants of rheumatic ancestors." The same author says: "The question of an infective cause for acute rheumatism has not been decided. Many of the symptoms of the disease and its mode of prevalence seem to be indicative of an infective cause. There is, however, no satisfactory

evidence of the transmissibility of the disease from one person to another, nor has any infective micro-organism been discovered that can excite symptoms of rheumatism."

In Allbutt's system, Dr. Church, in the article on acute rheumatism, says: "Although no satisfactory evidence has as yet been procured of the constant presence of any single specific micro-organism, yet in not a few of its features the whole course of rheumatic fever resembles an infective disease." In the course of his review of the etiology of acute rheumatism, Osler says: "In the character of the fever, the mode of involvement of the joints, the tendency to relapse, the sweats, the anemia, the leucocytosis and, above all, the great liability to endocarditis and involvement of the serous membranes, acute rheumatic fever resembles pyemia very closely and may, indeed, be taken as the very type of an acute infection."

After a careful study of the various hypotheses as to the nature and cause of acute rheumatism, MacLagan, in the "Twentieth Century Practice," says: "It is in connection with the pathogenesis of rheumatic fever that we have been led to consider the nature and mode of action of malaria. We believe the rheumatic poison to be malarial in nature. If it be so, it is a minute parasitic organism whose morbid action, like that of other malarial poisons, is dependent on its growth and reproduction in the system."

Thus we see from this brief review that the trend of opinion is toward the infectious nature of the disease, as Packard says, in his résumé of the subject, in *Progressive Medicine*, for March, 1900: "Rheumatism is a disease produced by external agencies. While in many instances it seems to result from exposure to cold or wet, alone or in combination, there is no way by which we can explain the action of these factors, except by their lowering the vitality and permitting the invasion of the body as is held to be the case with other well-known infections." Of the specific infectious nature of acute rheumatism the writer has no doubt. One of the peculiarities of this infection is that it invades the heart, and particularly the valves of the heart, with much greater frequency than any of the other acute infections, with the possible exception of chorea and pyemia. The possible etiological relation of these three diseases is most interesting, but it is not my function to discuss it.

As to the frequency with which morbid changes occur in the heart in association with acute rheumatism, a review of the literature of the subject, together with my own experience, brings me to the conclusion that endocarditis occurs in fully 60 per cent. of the cases, pericarditis occurs in about 10 per cent. Statistics and observations as to the occurrence of myocarditis are lacking and must always be a subject of doubt, as the data of its occurrence are dependent almost entirely on clinical observations, as so few cases of acute rheumatism come to autopsy during the acute stage and the myocardial changes associated with old endocardial deformities may be dependent on so many other concomitant causes as to be thrown out of consideration. Moreover, the recognition of myocarditis during life is exceedingly difficult. Nevertheless, it is the opinion of the writer that myocarditis occurs in conjunction with all cases of pericarditis and in conjunction with many cases of endocarditis, is present in not a few cases where neither endocarditis or pericarditis is present, and sometimes is wrongly diagnosed as endocarditis.

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All observers agree that the younger the patient the greater the liability to the cardiac involvement, and if we limit our statistics to the first thirty years of life the percentages of cardiac involvement are much greater and the statement of Sir Thomas Watson, that "with perhaps two exceptions he never knew the disease to occur in an unequivocal form before puberty without its being attended with inflammation of the lining or of the investing membrane of the heart," can be corroborated by most of us.

The interesting fact that the endocardium, the myocardium and the pericardium are attacked so frequently in acute rheumatism can only be satisfactorily accounted for by recognizing the infectious nature of the disease and that these morbid changes are the result either of the direct action of the infecting organism or of that of the toxins produced by it during its metabolism or of both.

The morbid changes in acute rheumatism are found to begin in the fibrous structure of the joints and in the muscles and extend thence to the contiguous structure. In the heart we find the morbid process beginning either in the fibrous structure and extending thence to the muscular and serous, or beginning in the muscular structure, to which it may be limited or from which it may extend to the fibrous and serous structures. Confining our observation to the endocardium we find that the mitral valve is the most common seat of disease and the morbid changes present are thickening of the fibrous layer—between the serous reflections—and the development on the auricular surface of the valve, a short distance from its free edge, of a roughening of the serous membrane and the outgrowth from this region of little verrucose bodies which are firm and fibrous at their bases but are capped with soft fibrin, leucocytes and usually some bacteria—most often those of the pyogenic nature. These substances are undoubtedly deposited from the current of the blood. On the aortic valve the thickening takes place on the ventricular side at that portion—as originally observed by Watson—where the fibrous structure ceases, beyond which there is only the reduplication of the endothelium, and here we have the roughened surface and warty developments as on the mitral valve.

It is seldom that other parts of the endocardium are involved in acute rheumatic endocarditis; but when it does occur, next in frequency to the valvular involvement is that of the chordæ tendinæ. Here, too, is observed thickening and occasionally the verrucose bodies. If other portions of the endocardium are involved it is usually at such parts as are roughened by contact with already diseased valve or chordæ tendinæ.

The right side of the heart is very rarely attacked by the rheumatic poison. When it is, the pulmonary valve is the most common seat of the disease, and next the tricuspid, in relatively the same places as the aortic and mitral.

As to the morbid anatomy of rheumatic pericarditis the disease is usually serofibrinous in nature and occurs in either a circumscribed or diffuse form, but even when occurring in the latter form it usually begins at one part and extends to the whole.

The parts at which the circumscribed pericarditis occurs are the base of the heart near the origin of the great vessels, the parts of the pericardium lying beneath the 4th and 5th ribs and the interspace between and the cardiac layer opposite and that portion of the pericardium upon and opposite the apex of the heart.

From any of these points the inflammation may

become diffused and in most cases does so. The anatomical changes are hyperemia and serous exudation into the subserous layer of the pericardium, that is, the subjacent myocardial cells of the heart in the visceral pericardium, followed by dimming of luster of serous surfaces, denudation of the epithelium, exudation of plastic lymph and production of the so-called "battered" appearance and the adhesion of the visceral to the parietal layers, or the separation of the layers by the exudation of serum and its final absorption and the adherence of the two surfaces either in part or in whole by firm fibrous union. As to rheumatic myocarditis, the morbid change is one of parenchymatous degeneration, granular or fatty. It is usually associated with pericarditis or endocarditis as has been said, but does undoubtedly occur independently of either. Dr. S. West has reported instances of acute dilatation in association with rheumatism, one of which came to autopsy revealing marked fatty changes in the muscle-fibers.

Dr. Poynton has shown that the myocarditis which accompanies pericarditis is not an extension of the inflammation from the pericardium to the myocardium, but that there is granular and fatty degeneration of the cardiac muscle due to the toxic effects of the rheumatic poison, as well as actual destruction of muscle-fibers by inflammatory exudation.

Broadbent says that it occurs with all classes of endocarditis, and Flint believes that it occurs with all cases of pericarditis. Senator says that a certain degree of myocarditis is associated with all cases of rheumatic endocarditis and pericarditis. The late Dr. Sturges said that carditis is the proper term to apply to the cardiac inflammation accompanying rheumatism, for always two, and generally all three of the structures are involved. Excepting in cases associated with pericarditis—and even in some of these—the part of the myocardium to be first involved is, in the opinion of the writer, the musculi papillares to which the chordæ tendinæ are attached. The grounds on which this opinion is based are clinical and inferential, as I have never, unfortunately, had a case of acute articular rheumatism come to autopsy.

Myocarditis.—In proceeding to the consideration of the clinical phenomena of the cardiac manifestations of acute rheumatism I shall call your attention first to that which I believe to be the most common, viz., myocarditis. A careful observer who examines the pericardium every day while in attendance on a case of acute rheumatism, will discover any cardiac involvement from the physical signs before any symptoms show themselves. I shall therefore first call attention to the physical signs indicative of acute myocarditis.

From inspection and palpation, we generally learn nothing until the disease is far enough advanced to interfere with the muscular activity. Then the signs are, decided weakening, advancing to disappearance of cardiac impulse. On careful daily percussion of the precordium, even before the preceding signs show themselves, there can generally be marked out a slight increase of cardiac dulness to the left, at about the level of the nipple or a little below it, even before the apex is materially displaced.

But the chief reliance is to be placed on auscultation, and I firmly believe that the soft systolic murmur heard at the apex and over the body of the ventricle, generally not transmitted very far toward the axilla, is due to the myocardial change in the musculi papillares to which the chordæ tendinæ are attached.

Permit me here to relate the following case:

M. L. entered the Buffalo General Hospital Jan. 25, 1891, suffering from acute articular rheumatism, involving the joints of both hands, both wrists and one elbow. His temperature ranged between 103 and 105 F. Examination of his chest revealed a blowing systolic murmur heard at the apex and transmitted to the axilla. His treatment was rest in bed, milk diet, salicin and alkalies. His fever had subsided in a week, and his joint pains persisted for a while longer. The murmur disappeared February 22. He was kept in bed for ten days longer, however. March 4, examination of the precordium showed normal heart-sounds of good strength and proper rhythm.

I have five other cases of mitral insufficiency occurring in acute rheumatism in which, under rest, sodium salicylate and, eventually, iron and strychnin, the murmur has entirely disappeared and remained absent.

My grounds for the belief that this murmur is myocardial and not endocardial in origin, are as follows: In order that a systolic murmur may be produced by endocarditis involving the mitral valve there must be enough deformity of valve to allow of regurgitation. This deformity must come either through the interference with the closure of the valve by the verrucose bodies on the leaflets or through deformity of the leaflets from irregular swellings or contraction of the fibrous tissue entering into their structure or that of the chordæ tendinæ. These last are late developments in the structural changes that go on in the valves, and may, I think, be dismissed without further consideration.

The development of the verrucose bodies presupposes an inflamed surface of valve on which the fibrous deposit takes place from the blood. Moreover, these verrucose bodies must attain sufficient size to interfere with the proper closure of the valve. Now, if we remember that these bodies are developed, not on the free edge, but a little back of it on the auricular side of the valve, it is readily understood that they must attain considerable size before they interfere with the closure of the valve and in all probability must have developed the fibrous structure of their bases or, in other words, have become organized. Now, it seems to the writer that it is more rational to suppose that the systolic mitral murmur which appears so early in rheumatism is really dependent on a yielding of the valve because of lack of power to hold the valves in place through the weakening of the fibers of the musculi papillares to which the chordæ tendinæ are attached.

We have abundant evidence that a mitral systolic murmur can arise in this way if we will turn our attention for a few minutes to the mechanism of this cardiac murmur occurring in anemia and in some of the other acute infections besides rheumatism. The study of the heart in pernicious anemia and in the graver secondary anemias show, as a rule, no morbid change in the endocardium, but marked degenerative changes in the myocardium. These changes, according to Balfour, are always decidedly more advanced in the musculi papillares to which the chordæ tendinæ are attached. That we may have a mitral regurgitant murmur due to acute fatty degeneration, the result of infectious toxemia, is illustrated by a case of typhoid fever which came under my observation several years ago, in which a mitral regurgitant murmur developed in the third week, and continued to be heard until the patient's death, a week later. The autopsy showed

no valvular or endocardial disease whatever, and no dilatation of the ventricular cavities, but did show a markedly fatty condition of the heart muscle. In this case there was no way of accounting for the murmur except that just indicated. If we may have a mitral regurgitant murmur resulting from myocardial change the result of anemia or of acute infectious toxemia we can rationally believe it to be present in rheumatism in which there are present the toxemia of the disease and the anemia that is invariably associated with it.

The further evidences of progressive myocarditis are weakening of the first sound, which loses its muscular quality and becomes short and high in pitch. At the same time occurs accentuation of the pulmonary; then disappearance of the aortic and usually at such time disappearance of the murmur also, and finally disappearance of the pulmonary, so that no heart sounds are heard at all, or only occasionally, and when they are heard the first sound is not to be distinguished from the second in length, pitch or quality. The distinction can sometimes be made from the points of greatest intensity of sound.

The following case illustrates the fact that aortic murmurs may arise even when not due to the actual valvular deformity:

On Feb. 3, 1891, E. McD. entered the Buffalo General Hospital, suffering from an attack of acute articular rheumatism. The joints involved were one hip and the joint of one arm. He gave a history of previous attacks. Examination of the precordium revealed an enlarged and dilated heart, an aortic obstructive and mitral regurgitant murmur and occasionally an aortic regurgitant and a mitral obstructive murmur.

On March 2, four weeks later, the examination revealed the heart somewhat enlarged, the mitral regurgitant murmur still present, and, on rapid movement of the arms or rapid respiration, the mitral direct murmur also, but both of the aortic murmurs had disappeared.

Evidently aortic murmurs that could disappear in four weeks could not be due to any actual deformity. The mechanism in this case too can be rationally attributed to the weakened heart muscle. Normally at the systole, the blood is driven with such force through the aortic orifice that the semilunar valves are flattened back against the aortic wall and offer no obstruction to the outflowing blood. When, however, as in this case, we have a weakened ventricular contraction and a mitral regurgitation too, the force with which the blood is driven through the orifice is diminished, the aortic valves hang out into the lumen of the vessel and form obstruction sufficient to produce the murmur. Regurgitation through the aortic orifice is prevented in the normal condition, by the fact that the semilunar valves fit exactly together when they clap back during the ventricular diastole, provided that the musculofibrous ring to which they are attached at the aortic orifice gives them the necessary support. If, however, as I have no doubt was the condition in this case, the musculofibrous ring is weakened by albuminoid or fatty change, it does not give the necessary support and when the back pressure is produced by the rebound of the column of blood in the aorta, it allows the valves to give way and permit regurgitation into the ventricle.

Endocarditis.—As regards symptoms, the statement made in regard to myocarditis is likewise true in regard to endocarditis. Symptoms of this condition usually

develop only after the condition has already been discovered by physical signs.

A systolic murmur heard at the apex, as I have said, I believe usually to be due to myocarditis, but undoubtedly many times we have endocarditis associated. Under these circumstances the murmur is apt to be harsher in quality and to be transmitted farther into the axilla and heard behind in the left interscapular region and about the lower angle of the scapula. Moreover, the murmur persists and maintains its intensity, while the myocardial murmur varies in its intensity and with improvement in the case usually disappears. Occasionally we have a diastolic murmur at the apex or a little above it, indicating mitral obstruction. It is usually associated with a systolic murmur and, so far as I know, has not been observed as a primary lesion in any case of acute rheumatism. When this lesion is present a faint thrill can usually be felt in a limited area above the apex and a little to the right of it.

A systolic murmur heard in the aortic area in acute rheumatism I believe is almost always due to obstruction at that orifice either from thickening of the valve or from the presence of the verrucose bodies on its ventricular surface, though, that it may occasionally occur without an organic change is illustrated by the case just related.

Aortic insufficiency may also occur, but it is rare in the acute stage and is usually associated with obstruction. There is always some cardiac enlargement associated with this lesion and usually dilatation of the left ventricle. The signs are diastolic thrill felt over the sternum at the junction of the manubrium and gladiolus and over the third and fourth left interspaces near the left edge of the sternum. A diastolic murmur is heard in these same regions; it can also usually be heard in the second right interspace and sometimes at the apex of the heart. It is usually decidedly harsh in quality, though occasionally is soft. The capillary pulse and the peculiar water-hammer characteristic of the pulse in the arteries should, of course, always be mentioned as associated with this lesion.

Lesions of the right side of the heart are so rare that mention of them could very well be omitted. Proof is lacking, to my mind, that the right-sided endocarditis occurring in intrauterine life is rheumatic in origin. The diagnosis of endocarditis of the right heart is made by the recognition of the murmurs originating at the tricuspid and the pulmonary valves respectively. I mention them here only to call attention to the fact that sometimes the murmur resulting from aortic obstruction is heard with greater intensity on the left than on the right side of the sternum, but that it is always transmitted to the carotid arteries, whereas, the murmur arising from obstruction at the pulmonary orifice is never so transmitted, and the murmur of mitral insufficiency is sometimes heard at the pulmonary orifice or a little to the left of it.

Aside from physical signs the only symptom of acute endocarditis worthy of mention as diagnostic of this condition is embolism, which sometimes results from the sweeping off of the film deposit from the verrucose bodies on the valves. These emboli are usually carried to the head, but may go to any part of the body. To even refer to the symptoms of embolism would carry me beyond the scope of my part of the discussion.

Pericarditis.—This, simply from the relative infrequency of its occurrence, I think should be classed among the complications of acute rheumatism. Its

diagnosis is often exceedingly difficult, while more often it is very easy. As the symptoms are so varied in different cases and in some cases are very severe, while in others they are entirely absent, I shall call attention first to the physical signs, especially as on them we ultimately depend for diagnosis in all cases. The first of these to appear is usually a soft to-and-fro friction-sound usually heard best at the base. Often it is difficult to say whether an abnormal sound is endocardial or pericardial in origin, but I have learned to be very suspicious of sounds arising at the base of the heart during the acute stage of rheumatism. Almost invariably—even when heard with only one sound—they are pericardial in origin. This is particularly true of that heard with the second sound and of that heard in the pulmonary area systolic in time and not transmitted to the carotids.

The next most common place for the friction-sound to be heard, is over the left third and fourth interspaces near the edge of the sternum, where it may be mistaken for tricuspid murmur or for that of aortic regurgitation.

Occasionally it can be heard at the apex itself or along the left edge of the heart above the apex. In this region it may be mistaken for mitral murmurs. The evidences of effusion by physical signs are first a weakening of the first sound of the heart, next the occurrence of dulness in the semilunar space. This dulness is sometimes present with the patient in the upright position, disappearing two or three minutes after the patient lies down on the back. Sometimes before, more often shortly after, the occurrence of dulness in the semilunar space, dulness appears at the base of the heart, sometimes most pronounced on the left side in the second and third intercostal spaces, more often on the right of the sternum in the second and sometimes up into the first intercostal space. While this dulness is pronounced in the recumbent position, it sometimes disappears shortly after the upright position has been assumed. This movement of the fluid in pericarditis is always slow and takes two or more minutes for its accomplishment. Finally, when there is considerable fluid present, the area of dulness assumes the oft-described pyriform shape with the base at the diaphragm. Sometimes the amount of fluid is enormous; more often it is only 100 or 200 c.c. I have never observed the separation of the left clavicle from the first rib, as described by some observers.

With the increase in the amount of fluid the physical signs obtained by inspection, palpation and auscultation change materially, as well as those obtained by percussion.

We notice the apparent elevation of the apex-beat and its gradual complete disappearance from view and touch. We notice the disappearance of the friction sound, generally leaving the base of the heart last, and sometimes persisting there throughout the entire stage of effusion. The heart sounds become fainter and gradually disappear, the second sound being usually the last to go. In addition to these distinctly cardiac signs we sometimes get broncho-vesicular or distinctly bronchial breathing in the left interscapular and scapular regions. While the vocal resonance is also somewhat increased in these regions, it is usually not so pronounced as we would be led to expect from the character of the breathing sounds. There is sometimes a hyper-resonance, tympanitic in quality, to be elicited on percussion in the left infrascapular and lower axillary region. Sometimes there is a decided dulness in these regions. The signs of the so-called third stage are

simply those of the gradual absorption of the fluid and the return of friction sound, coarser in quality than in the first degree. Symptoms of acute pericarditis are partly local and partly constitutional. Pain and tenderness in the precordial region are sometimes quite marked. The pain is sometimes decidedly acute and stabbing in character; more often it is a vague and distressing sense of oppression, especially during the stage of effusion. The breathing may be decidedly interfered with; orthopnea and cyanosis may occur. Dysphagia may occur in the first stage, if there is marked posterior inflammation, from the pain induced by the passage of food through the esophagus, and in the second stage from the actual pressure of the fluid on the esophagus. Aphonia may occur from pressure on the recurrent laryngeal as it winds around the aorta. The nervous symptoms may be limited to restlessness; more often they are quite pronounced, especially in children: restlessness, sleeplessness, crying out and wandering in the sleep, delirium sometimes noticeable only on first waking, sometimes becoming very marked, occasionally developing maniacal or suicidal tendencies. Indeed, so marked are the nervous symptoms at times that cases of rheumatic pericarditis have been mistaken for meningitis. Involuntary passage of urine and feces sometimes occurs, and the patient passes into a state closely resembling collapse. "Whenever in acute rheumatism," says Watson, "you find your patient flighty or wandering or more distinctly delirious or afflicted with any form or degree of convulsions, examine carefully the conditions of his heart." Vomiting may occur, and is always a most serious symptom at whatever stage it comes on, and not infrequently it means that the end is not far off.

There is usually increased frequency of pulse, its volume is small and tension low. It sometimes becomes irregular, especially toward the end, and occasionally the pulsus paradoxus develops. The patient's face may be pale, flushed or cyanotic, and often bears a distressed and anxious expression. The temperature is usually slightly elevated, though it rarely goes above 103, and sometimes does not rise at all.

But as said at the beginning, sometimes all of the symptoms are lacking, and we must depend on our physical signs for diagnosis, and while in some cases, seen late in the course of disease, it is exceedingly difficult to differentiate between pericarditis with effusion and dilated heart, if daily examinations of the precordium are made this difficulty will not be encountered.

The prognosis in acute rheumatic endocarditis is usually good so far as immediate results are concerned, except that there may occur central embolism. The serious element is the ultimate resulting valvular deformity and its effect on the musculature of the heart and on the general or the pulmonary circulation and on the general nutrition. In pericarditis there is a distinct element of danger in the effusion. This may become so great that the heart is unable to continue in action, thus causing death, or, even if the effusion is not great enough for such a result, it may still so embarrass the heart's action as to interfere with proper circulation in brain or lungs or kidneys, and thus indirectly lead to serious results. The chief immediate danger in the cardiac manifestations of acute rheumatism is dependent on the extent and character of the myocardial disease. While in the majority of cases of cardiac involvement the myocardial changes are slight, and may be confined to the columnæ carneæ to which the chordæ tendinæ are attached, "in the severe cases of endocarditis, as said by

Dreschfeld, "the myocardium shows indurative changes, which may be looked on as due to an extension of the inflammatory process, the fibrous septa and the lymphatic spaces being chiefly involved; even the muscular fibers may show changes partly due to compression and partly to myocarditis." In those cases where pericarditis and endocarditis are both present, there is always, as shown by Sturgis, myocardial involvement. As well said by Broadbent: "It is to the accompanying myocarditis that we must attribute the cardiac dilatation, which is so marked a feature in pericarditis. Probably the chief danger in rheumatic inflammation of the heart, of which pericarditis is a part, lies in the damage to the cardiac muscle." Recognizing the fact that the myocardial involvement is so important an element in the prognosis, it behooves us to do our utmost to diagnose the condition when present. It is not necessary to go over again the points in this condition.

As to the treatment of the cardiac manifestations of acute rheumatism, it does not differ materially from the treatment of the disease on which these manifestations depend. If the salicyl treatment is good for the joint manifestations of the toxemia called rheumatism, it certainly should be just as useful in the cardiac manifestations of the disease. In practice we find that it is, and that to the use of these drugs the cardiac manifestations usually yield as rapidly as do those of the joints. In those cases in which there has been apparent failure I believe it has occurred because the dose was not large enough and the interval between doses was not short enough. Even in cases where there is old valvular disease and marked cardiac hypertrophy with dilatation, the salicyl compounds are most useful and do no harm. This is well illustrated by the following cases.

CASE 1.—In December 1899, there entered the Buffalo General Hospital an Italian carpenter, 24 years of age, who gave a history of acute rheumatism when 7 years of age, and every winter and nearly every June since then; of gonorrhœa two years before entrance and of pain in the precordium radiating to left shoulder, arm and hand for the preceding two months. Examination of the precordium showed an area of cardiac dulness from the third left intercostal space, half an inch left of nipple line, upper border of seventh rib, ensiform cartilage, right parasternal line, third right costal cartilage; palpation and auscultation revealed a markedly dilated hypertrophy with double lesions of the mitral valve and double lesion of the aortic valve.

During his stay in the hospital, he developed on January 25, an attack of acute rheumatism, involving the joints of both arms and hands and the right knee and ankle. He was given sodium salicylate in 0.25 gm. without any benefit. He was then placed on methyl salicylate (oil of wintergreen) in 0.6 gm. doses t.i.d. His pulse increased so much in frequency that the medicine was stopped in forty-eight hours. On February 2, he was placed on sodium salicylate in 0.6 gm. doses every four hours and steadily improved. On February 10, his temperature was normal and by the 14th the joint pain and swelling had disappeared. On the 18th he had a slight return of the joint pain and swelling, which disappeared in twenty-four hours. The sodium salicylate was kept up in the 0.6 gm. dose t. i. d. until March 1, when it was changed to 1 gm. daily. His general condition was looked after by the use of baths, carefully selected diet and the administration of iron pyrophosphates and sulphate of strychnin, with the occasional administration of digitalis. On March 26, he was discharged from the hospital; the condition of his heart was better than when he entered, in spite of the fact that he had had an attack of acute rheumatism and had been kept on one or another of the salicyl compounds for six weeks.

The case just related occurred in the service of Dr. Stockton. The next case occurred in my own service at the Sisters of Charity Hospital.

CASE 2.—Walter W., laborer, age 20, American by birth, was admitted to hospital Feb. 15, 1900. Family history was good. Patient had one previous attack of rheumatism four years ago and gonorrhoea two years ago. One week before entrance the present attack began. At time of entrance both knees and ankles and right shoulder were involved and patient complained of pain in chest, especially on deep inspiration. Temperature at time of entering was 102.2, pulse 104, respiration 26.

Examination of the chest revealed a heart reaching the left anterior axillary line, the apex in the sixth intercostal space; on the right side dullness extends to a point a half-inch beyond the right border of the sternum. Cardiac impulse is weak and apex-beat is diffused in sixth interspace from anterior axillary line to nipple line.

There is a decided mitral insufficiency; the pulmonary closure is markedly accentuated and the aortic closure is scarcely audible. Heart was a decidedly dilated heart with mitral insufficiency. Patient kept absolutely still in bed; after a preliminary dose of calomel followed by Rochelle salts, sodium salicylate was administered in 1 gm. dose every two hours and a salicylic-acid ointment 10 per cent. was applied to the inflamed joints.

February 18 the patient complained of severe pain in the precordium; no pericardial friction was noticeable. Treatment was continued and salicylic ointment rubbed into precordium.

February 18, as the pain, swelling and fever persisted the salicylate was increased to 1.25 gm. every two hours through the day, and four hours through the night. This was continued until February 22, when temperature reached 99 and pulse had fallen to 92, when the same dose was given *t. i. d.* On the 24th, it was made 0.75 gm., and on the 26th 0.50. At the same time he was given an alkaline mixture *ante cibum*, and tinct. ferri chloridi *i. e. c.* *post cibum*. On March 3 the salicylate was discontinued and tinct. nucis vomicee was given in 1 *e. c.* dose *ante cibum*.

Examination of the chest March 5 showed the area of cardiac dullness decidedly less, the apex being in the fifth interspace, half an inch to the left of the nipple line; the impulse was more powerful and the aortic closure was distinctly audible though still not as loud as the pulmonary.

When I went off duty, April 1, he was sitting up and in very good shape, the pulmonary and aortic sounds balancing each other very well. In this case, although there was greatly dilated heart and possibly the superposition of a pericarditis, the salicylate was given in large doses and was kept up for seventeen days with the very best of results.

Of course, all such cases are to be kept absolutely still in bed, and are kept on liquid—preferably milk diet—150 to 250 *c. c.* being given at intervals of two to four hours. The bowels are kept open with salines and the sodium salicylate is given in doses of from 1 to 3 gm. every two hours until improvement takes place, and the interval is then gradually extended to three and four hours and then the dose gradually reduced.

In some cases where there are old endocardial lesions not compensated, strychnin should be administered, preferably hypodermically. No case of pericarditis should be allowed to die on account of the amount of effusion present. In a given case of acute rheumatic pericarditis the effusion has generally reached its acme by the sixth day and should then begin to subside. If it does not, or if before the time pronounced symptoms of cardiac disturbance show themselves, paracentesis pericardii should be performed. With physical signs of effusion of some size present, the symptoms which call for the performance of this operation are: marked change in the volume, frequency or rhythm of the pulse, particularly the occurrence of the *pulsus paradoxus*; marked increase in the frequency of respiration, dyspnea, orthopnea, cyanosis; cough, hicough or vomiting; difficult or painful swallowing; and the supervention of

pronounced nervous symptoms. The operation itself is not difficult to perform. There are one or two things to be said, however, in regard to this operation. First, and most important, it should never be done with a needle, as there is always thus danger of wounding the heart itself, but should be done with a trocar and canula. If the exudate is purulent, aspiration is a mere waste of time, an incision should be made and the pericardium drained and very carefully washed with sterile water. The point of election for the operation should depend somewhat on the preceding signs. If there has not been marked friction-sound at that point, the fourth intercostal space about one inch to the left of the sternum, is the point of election; but if there has been marked friction sound there, there is danger of adhesions having occurred at that place, and this point should not be selected, for fear of wounding the heart. Under these circumstances the fifth or, if the dullness warrants it, the sixth or seventh space should be chosen.

In all cases of acute rheumatism in which has occurred cardiac involvement, whether endocarditis, pericarditis or myocarditis, it is of the utmost importance that rest in bed should be persisted in until the heart sounds have returned to their normal condition and have persisted so for at least a week. During this period of convalescence the restoration to the normal is often greatly hastened by carefully regulated massage, Swedish movements, and sometimes the use of the Schott baths.

By this persistence in rest the murmurs which have appeared often disappear under the improvement in muscle tone, thus maintaining the position taken that many of them are myocardial rather than endocardial in origin, as illustrated by the cases reported.

In concluding the part of this subject allotted to me, I desire to call particular attention to the following points as of the utmost importance and worthy of thorough discussion:

1. Acute rheumatism is an infectious disease.
2. Endocarditis is an integral part of the disease and not a complication.
3. Pericarditis is a complication, just as much as inflammation of any of the other serofibrous membranes, meningitis, pleuritis or peritonitis is, although it occurs more frequently than any of them.
4. Myocarditis is an integral part of the disease, not a complication; occurs much more frequently than is usually supposed; is frequently unrecognized, and is the most serious feature of the disease.
5. The occurrence of endocarditis, pericarditis or myocarditis, or the previous existence of a valvular disease, whether compensated or uncompensated, is no contraindication to the use of the salicyl compounds, but rather an index to push their administration to overcome the toxemia of the disease. Whatever one is chosen, it should be given in sufficiently large doses at sufficiently short intervals.
6. Rest in bed for a sufficiently long time is the most important part of the treatment of the cardiac manifestations of the disease.

CRISTIANI, of Geneva, announces that he has succeeded in transplanting entire lobes of the thyroid body in young rats. The grafts not only retained their vitality in the new conditions, but increased in size by epithelial sprouts from the thyroid alveoles.

EAR DISEASES IN INFANCY AND CHILDHOOD.*

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The statistics which show an infant mortality of from 20 to 25 per cent, before the end of the first year of life are a woeful and terrible comment on the ignorance or carelessness of some one, be it parent, family physician, modern circumstances or environment. Wherever the blame belongs it must soon be known, and a remedy applied which will stop such a sacrifice of human life. Such a record does not comport with modern achievement and advancement, and can not long be tolerated as one of the failures of medicine. In this percentage there is a large, too large, ratio of ear conditions presented as a causal or complicating element in the cause of death.

The ear conditions which are most frequently met with in infancy and childhood are acute middle-ear suppuration with or without its more or less severe and serious complications, impacted cerumen, foreign bodies, furunculosis, granulations, eczema, necrosis, polypi, meningitis, extradural abscess, cerebral abscess and traumatism.

Of these, it is well known, acute and chronic middle-ear suppuration are by far the most frequent and most important. It occurs much more frequently than all the others combined, if we exclude those conditions which arise as a direct result of the middle-ear difficulty. The differential diagnosis of each of these conditions is largely a matter of general knowledge; I will hence refer to the symptomatology only as may be necessary to elucidate the discussion.

In many localities a discharge from the baby's ear is looked on as about of the same importance as the eruption of the teeth. It is not unusual to see cases of ear discharge which have been so long neglected by parents that their very odor drives them to seek relief. Too many deaf victims are thus deformed because of this neglect for the aching or "running" ear of childhood; nor is the fault always with the parent. Too often indeed the attention of the family physician has been called to the condition only to be told by him that "it is not a serious matter;" "the use of a little warm water will soon cure it."

Fortunately, however, it is fast becoming a matter of general recognition that these little patients with suppurating ears live constantly under the perils possibilities of Damoclean swords. We have come to know and realize that when a child complains bitterly of earache it should be put to bed and given a good cathartic, with a hot foot-bath; we know that middle-ear trouble is usually more severe in children than in adults, both because of the weaker resisting powers of the tissues and because of the axiomatic fact that in children the reflexes are more prominent and frequent than in adult life, and with this knowledge we may be able to realize why our diagnoses in these cases are inversely important as they are difficult to make.

As of great importance, and separate from the detail for treatment, I wish to emphasize the value and desirability of establishing in each case, as far as possible, a satisfactory etiological basis for that case. In cases

of exanthemata or adenoids this is, of course, a simple matter, but there are cases which are so clouded as to appear quite idiopathic in character, and we are sometimes almost forced to shield ourselves under that gauzy justification "taking cold." In no case in our efforts at cure of any condition of the ear, should we by carelessness allow our treatment to become an etiological factor in any complication of the condition. Traumatism of the ear, both slight and serious, must always be a class unto themselves, and are amenable to such treatment as the circumstances of the case and the ingenuity of the attending surgeon may suggest.

The classifications of the causes producing prominent ear troubles in children are numerous, but necessarily bear a close resemblance. To Logan's two classes I would add a third, in the following manner:

1. General, as exposure, climatic influences, etc.
2. Exanthemata, typhoid, diphtheria, postnasal pathologies, etc.
3. Traumatism and foreign bodies in the tympanic cavity.

Hinkel, in concluding a valuable paper on this subject says, 1. earache, however slight, may signify disease of a serious nature; 2, recurring earache in children indicates lymphoid involvement; 3. acute inflammations may be aborted with proper treatment early applied.

Ear pathologies following or resulting from nasal conditions or the acute infectious diseases being the most frequently met with, will be considered briefly.

Phillips, in a study of 350 ear cases, claims that 83 per cent. were complicated by some form of nasal disease. In 72 cases occurring in children, 6 were caused by measles, 25 by adenoids and 4 by scarlet fever. A number of complications, some of them much larger than this, practically corroborate this estimate.

The matter of percentages, however, is not so vital as is the recognition of the fact that the conditions, as adenoids and nasal pathologies generally, as well as the exanthemata, are likely to lead to serious conditions in the ear. This being admitted, and the further axiomatic statement granted, that these cases can be in a large measure controlled or cured, the natural corollary follows that early, proper treatment, surgical or medical, of these conditions will practically prevent complications.

The careful and extensive researches of competent and careful pathologists, as Rohrer, Zaufal, Bezold, Kyle, Randall, Randolph and others, all seem to agree that in the fetid variety of middle-ear suppuration the bacilli are abundant, and also that there is much greater danger of mastoid involvement and severe symptoms in those cases in which the streptococci are found. It is but reasonable, consequently, to urge that the physician having demonstrated the existence of such conditions in the ear, or even in the absence of microscopic proof, having tangible evidence of the probable existence of the streptococci, he should be as solicitous and careful of the case as he would were the same infection existent in some other more accessible or more vital organ of the body.

Streptococcus pyogenes must be acknowledged as one of the most important bacteriological elements in the etiology of acute middle-ear disease. "It has been well established that we often get a mixed infection with this germ in scarlet fever, diphtheria, typhoid, tuberculosis and pneumonia, and hence I think it is an important agent in the production of acute middle-ear troubles."—Allen.

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Invasion of the Eustachian tube is so frequently the result of infection pneumatically produced as to be beyond question a matter of prophylactic control. Purulency in any part of the nasal passage or upper pharynx should direct the physician at once to prophylactic measures.

A careful compilation of almost 1000 cases of middle-ear disease in children, apparently demonstrates that not less than 70 or 75 per cent. will give a history of nasopharyngeal disease. Frankenburg, in an examination of 158 deaf-mutes, found 51 who had a marked adenoid condition. As a rule with the exanthematous and nasopharyngeal diseases of infancy and childhood, the more serious the affection and the younger the child, the more certain is there to be ear disease present.

Hereditary and other diatheses must not be overlooked in the ear diseases of childhood; and while syphilis and tuberculosis are, fortunately, seldom seen as primary ear infections, in childhood, as hereditary factors they may become important in almost any case.

It is well to remember that extensive middle-ear involvement may be present with but little or no evidence in the drum membrane.

Foreign bodies in the ear need not be a source of much trouble if properly treated. Always remember if it be an inanimate object, that it should be removed as easily as it was introduced. A simple syringe will in almost every case remove the trouble. If there be present an insect, a drop or two of ether or chloroform will make it an inanimate object and easily washed out. Cholesteatoma of the ear is not an unknown condition in children. For a most complete histological and pathological discussion I would refer to a paper by Dr. Panse, published in Vienna, in 1897, and translated by Dr. Alderton.

When there is present a correlative inflammatory condition in other contiguous tissues or cavities, then treatment of that condition becomes imperative, lest additional etiological force be added to the primary pathology. In 358 post-mortems of internal ear diseases in children, only 62 were found to be unaffected (Rumbold).

A well-known member of this Association in commenting on these statistics, predicts that practically every one of them came from an infected Eustachian tube, the infection being forced there by a nasal or pharyngeal stenosis.

It would seem quite unnecessary in this connection to intensify the importance of adenoids as a cause of ear trouble, and the absolute necessity for their complete removal when present. More than a double score of recent contributions to medical literature unanimously endorse the statement just made. It would seem that we have quite enough conclusive demonstration of the effect of adenoids and that every physician would now make the presence or absence of adenoids one of the first points in his diagnosis.

It will be generally admitted that few conditions of disease require a more careful, tactful, scrutinizing and intuitive capacity for diagnosis, than do the complicated ear diseases of childhood. This very fact consequently opens for us a field in the way of a more perfect technique in operating, and a more exact detail in diagnosis, which is most inviting. But we must not once overlook the importance of the constitutional, dietetic and hygienic conditions of these patients. Measures for the relief of irregularities in these particulars are most important in many cases. The very

fact that frequent cases of purulent ear disease in children do of themselves recover without much treatment is perhaps responsible for some of the neglect which is countenanced by physicians. I am, however, forced to the conclusion that a large part of this absence of exact, positive and reliable knowledge, or this misinformation as is more frequently the case, is due to a lack of correct and detailed anatomical and physiological knowledge on the part of physicians generally. True enough we can not all be expert anatomists, but the practice of to-day demands that each one shall have a more exact idea of the ear and its anatomical relations than merely that it is "a hole in the head through which we hear." This knowledge is all the more important in the case of children, for with them a satisfactory and thorough examination is often quite impossible.

Our prognosis in the ear diseases of children should never be hasty or unwarranted. It will depend on the following conditions:

1. The age and physical condition of the child.
2. The severity of the attack, and if it be a purulent condition, on the seriousness of the concomitant disease which gives rise to the purulency.
3. Whether or not there be brain or sinus involvement pending or threatened.
4. The extent of bone necrosis present when first seen.
5. Nursing.

Treatment.—In the ear troubles of children, and nowhere else so markedly, the rule holds good that the earlier the treatment is begun the better. Surgery will not cure all conditions, nor will it always prove a prophylactic blessing; so also will local applications or constitutional treatment prove an ignis fatuus if always depended on.

If the case be an acute middle-ear involvement, as it is in far the largest percentage of cases, what shall be our method and means of treatment? Much will depend on the circumstances and conditions surrounding that particular case, modified indeed by all of those circumstances which were named as governing our prognosis, and principally in addition will it depend on the causative factors acting in the condition.

Earache in children is always a condition of sufficiently serious import to demand the close attention of both parent and physician. The use of opium in these cases is rarely or never to be advised. It certainly serves to mask the symptoms so that it is often impossible to recognize the approach of a serious condition. The application of heat or cold will usually give quite as much relief from the pain. In the use of the douche care must be taken not to use too much pressure in the stream entering the ear lest the infection be forced into parts previously uninfected; for the same reason the greatest care should be exercised if any remedy of the H_2O_2 series be used for cleansing after the formation of pus.

Ordinarily if the pain is not much relieved within twenty-four hours by the application of heat or cold, then heroic measures must be adopted. Usually there will by such time be present sufficient indications to warrant a paracentesis. That such operation should be done as soon as there is any bulging noted in the tympanum, is now the unanimous verdict of otologists. It would seem that the relief which is almost always afforded by this operation would be a most convincing demonstration of its value even to the most conservative practitioner. Yet we frequently see these cases

only when they have finally burst through and largely destroyed the tympanic membrane, and perhaps also, on account of late or insufficient drainage, impacted the mastoid cavity.

Randall's indications for paracentesis are:

1. Great pain, with bulging of the membrane from contained pus.
2. When the tension of the membrane is high and the bulging even slight.
3. Insufficient drainage through a membrane already ruptured, and danger of extension to the antrum.
4. Excessive and continued pain which is not relieved by hot applications, especially if the tension be very high.

I fail to find any reliable record in recent medical literature of any unfortunate results attributable directly to the operation of paracentesis. I do not maintain that it is as simple and as easy of satisfactory accomplishment as is the opening of a whitlow, nor that it should ever be attempted by one who can not through a speculum get a view of the drum membrane, yet rare, indeed, must be the circumstances in this day when a competent man who has the necessary instruments could not quickly be obtained.

"The good that we are able to accomplish by this operation is simply immeasurable, when we contrast the little patient operated on and restored to its parents with little or no impairment of hearing with the one who has received improper treatment and is suffering from a purulent discharge that seems to bid defiance to every form of treatment: we can not refrain from being enthusiastic over a procedure which marks another advancement in this, the grandest surgical era the world has ever known." (Allen.)

As if in contradistinction to the rules of Randall just referred to, Pierce has given us the negative indications for paracentesis as follows:

1. Presence of fluid in the middle ear without pain or fever.
2. Pain for twenty-four hours with congestion, but without fever or demonstrable presence of fluid.

Either of these conditions I can not but think are met with very rarely, and even when seen, as in the second indication, it is open to question whether or not a paracentesis would not be advisable, if only as a means of depletion for the congestion.

Many of our best authorities urge in this class of cases, and particularly those which tend toward an idiopathic etiology, the use of leeches in order to deplete the congestion so frequently present. I believe, however, that their repeated application will be more frequently necessary than will be the performance of a secondary paracentesis. On the other hand, the leeches will be much more appropriate in a certain number of cases where it may be for any reason difficult or impossible to secure a satisfactory examination of the drum membrane, as it sometimes is in young or intractable children, or where the services of a competent aurist can not be easily obtained.

It would seem that nature herself had given us a valuable endorsement of paracentesis; since by the almost ever-present bulging of the membrane, the presence of a fluid or suppurative process is quite unerringly indicated. In corroboration of this the post-mortem reports of Ponfick and others, made on a large number of children in whom there was middle-ear infection, shows that in a large proportion the drum membrane had not been ruptured, and that in many

cases the tympanum was more resistant than was the tympanomastoid partition, thus again arguing the necessity of an early paracentesis.

The paracentesis operation is one so well known to the members of this Section that I will not describe the technique in detail, only to express my approval of the direction and extent of incision as was suggested, I believe by Dr. Myles, that is, the cut being made from the lower edge of the posterior-inferior segment of the tympanum should be extended for some distance upward and outward into the cartilaginous canal, where very frequently there is some bulging of the tissues.

Attempt at politizerization in any of the ear diseases of childhood is mentioned only to be condemned as impractical in almost every conceivable case. So, also, though not so universally, is to be avoided the application of poultices, as tending to produce a soft and spongy condition, or even furunculosis of the soft tissues.

Very much of our success in the treatment of ear diseases in children will depend on the thoroughness with which we examine and treat the nasopharyngeal or pharyngeal pathologies so frequently present as distinct etiological factors in the ear condition. Whether it be some one of the exanthemata, typhoid, purulent rhinitis of childhood, adenoids or tonsillitis, it demands our care and attention as imperatively as the ear condition itself. The appropriate prophylaxis so opportune at this time has already been referred to as most important.

I do not wish to discuss in this connection the comparative merits and objections to the so-called "wet" and "dry" treatment of ear diseases, only to admit that neither is applicable to every case. This much, however, will be unanimously admitted—that pus having formed within or about the tympanic cavity, from whatever cause it may, must find a sufficient means of escape or there will be trouble for the child. As a matter of fact it requires but little inflammatory action to close the Eustachian tubes in a child and when such closure does occur in a condition of middle-ear purulency, then the pus will go either through the membrane or into the mastoid cells.

It is not because of the proportion of fatalities that occur in suppuration of the middle ear that I would urge its particular importance at this time, but rather because of the number of suppurative ears with which we meet in any practice, any one of which is apt to go on to mastoid involvement with sinus or brain complications and death; in addition also should not be forgotten its tendency to recurrence. Furthermore, the disease process may continue for a long time and work irreparable injury before any well-marked symptoms of the seriousness of the condition are made manifest to the degree of forcing the patient to seek the advice of his physician.

Parents should be impressed with the fact that any considerable impairment of the hearing is a most unfortunate condition for a child, and that it is a handicap which can usually, though not always, be prevented. It is a most judicious provision that in many schools the teachers are expected to look after the hearing as well as the eye-sight of the children, and to report to the proper authority any case which gives evidence of ear affection or infirmity.

It is only by a combination of the forces just referred to that we can secure any very marked results in the way of preventing ear infections in children from becoming serious and oftentimes fatal conditions. If it

were possible in each of these cases to have skilled nursing, I am convinced that the proportion of mastoids and brain involvements would be vastly reduced. And while I would not underrate a mother's interest and care, as we ordinarily see it exhibited, yet we know that a severe case will often not get that thoroughness at the mother's hands which is so essential to recover without the major operation.

The diet should at all times be a limited and mild regimen; while the bowels and eliminative functions generally should be exercised to their fullest capacity short of producing weakness.

When we have succeeded in impressing on physicians and parents the relative importance of a discharge from the baby's ear; or of the portentous nature of a continuous earache, and that early and thorough cleansing and antiseptics are always and ever a necessity, then will many of the serious conditions and the unfortunate results of the ear diseases of children be aborted.

A delicate touch and a deft hand and the ability to control and properly and thoroughly examine children are more the gift of nature than possible acquirement; yet much in the way of skill can be acquired which will aid us wonderfully in our efforts at the relief of these little sufferers.

DISCUSSION.

DR. EDWIN PYNCHON, Chicago—I have been very much interested by the Doctor's paper. I might call attention to one little point in regard to the removal of foreign bodies. Injections of warm water are more often recommended than anything else. I will say that I have been infinitely more successful by the discharge of compressed air in the external auditory canal in the removal of foreign bodies than by any other method. I use a very fine-tipped Eustachian catheter which I enter into and press against the roof of the auditory canal so as to allow the air to enter. Any hard body, like a button or little stone or piece of coal can be almost instantly removed in this way. Next as to the dry treatment. Of course it is theoretically all right, and if we can get the bacteria in an absolutely dry place they will die. But I do not believe we can get the ear sufficiently dry to cause them to die, so I use the wet treatment. I furnish a printed sheet of directions, so the patients meet with no difficulty in the use of the wet method. In the treatment of suppurative diseases of the ear, after the drumhead is broken and the discharge is free, my usual direction is that with a fountain syringe, a pint of fluid be used in the treatment of each ear, and it must be as hot as can be comfortably borne. In case there is an odor to the discharge I use a one per cent. carbolyzed solution. In case there is no odor my custom is to use bicarbonate of soda in strength of one teaspoonful to the pint. Using the douche once or twice a day will not do as much good as when it is repeated six or eight times a day. It is my habit to impress a few things on the patient: 1, that the fall of the fluid must not exceed 4 feet; 2, that a small tip must be used and gently introduced into the opening of the ear, but must not be pressed in with any force, or so as to close the opening or prevent a free escape of the fluid. By this method I have had very fine results. Prior to the rupture of the drum-head I want to call attention to a treatment that I have found to be of value, namely, the filling of the external canal with glycerin whereby the fluid in the tympanum is withdrawn by osmosis, as suggested by Dr. A. H. Andrews, of Chicago. It is usually better to use a 12.5 per cent. solution of phenol in glycerin. I have also used a one per cent. solution of the alkaloid atropia in castor-oil with very good results.

DR. F. J. QUINLAN, New York City—In acute cases where adenoids are present where you can not get an opportunity to remove them by surgical procedures, I know of no better method than to take a Eustachian catheter, wrap the end with cotton saturated with sterile suprarenal extract, and rub the fossa of Rosenmüller and that part of the vault. This acts much like applying leeches to the external structures. Subse-

quently the zinc chlorid and the silver nitrate is rubbed into the parts and the process subsides. Going on to paracentesis, a few years ago we made the dot, and then we made the puncture and then the incision, and in later years we have found the incision is insufficient since it fills up with the exudate so that within possibly twenty-four hours we have to repeat the procedure. The old incision was made at the point of greatest resistance, regardless of the segment.

DR. L. J. LAUTENBACH, Philadelphia—I wish to speak of this matter of adenoids. You may recall the elaborate measures which have been so commonly adopted. The chief thing to do is first to relieve the adenoids as well as the general symptoms in these cases, and the simpler the method of operating the better. You may do it without telling the patient what you are going to do. The method I stated on this floor last year is the one I have been using since. The reason I began the use of that method is that I believe many of these cases are killed by the anesthetic. Many of us would hesitate to report our most remarkable and unsuccessful cases. Last year I reported my method of removing the adenoids with an artificial finger nail. I clean the parts thoroughly and then do the operation, asking the consent of the parents if I think it wise, and doing the operation without asking their consent if I think it better.

DR. J. H. COULTER, Chicago—Dr. Quinlan and Dr. Pynchon have very kindly completed my paper, and more eloquently than I could have done. I have only used this operation for about two months. Dr. Quinlan informs me that he has used it for over a year. The operation as just described by Dr. Quinlan has given me excellent results, such as I never obtained from the old method making the incision. The incision should, I think, depend somewhat on the prominence of the mucous membrane. A good, free, ample, incision, making a distinct flap is demanded. In that way you will get results that will be surprising to you. With open drainage at the point indicated everything is usually ideal and the results are much more permanent.

I hesitate to say a word at this time concerning adenoids, since I expressed myself perhaps too plainly last year and the year before, on the use of the finger nail in the pharynx. I will only say that no surgeon could use his finger nail in the pharynx of my child with my consent. The man who does the operation in that way must have cultivated a more acute tactile sensibility through his finger nail than I have been able to acquire, or his finger must be of double-jointed construction to accomplish the operation satisfactorily. In find that the introduction of the finger into the nasal pharynx of the child always gives pain. The operation, if such term may be so applied, is, to me at least, unsurgical, and is unsatisfactory. Now, whether it be due to plain awkwardness or want of a cultured and skilful tactile sensation I do not know, but I do know that I can not differentiate, with my finger-end in the pharynx of a small, struggling, gagging child or infant, between the impression given by adenoids and that produced by the folds and soft convolutions of the infantile mucous membrane; nor do I believe the ordinarily skilful operator can do so.

TREATMENT OF SKIN CANCERS WITHOUT OPERATION.*

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It is my purpose to consider plans which have given me satisfactory results in treating the more superficial epitheliomata of the skin. I have no new remedies to offer, but desire to add my endorsement to that of Robinson, Gotthel and others, to the advantages of caustics, properly employed, and to give somewhat in detail the manner of carrying out the treatment. In doing this I do not wish to be understood as disparaging excision as the

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best method in many cases, but having seen both plans often employed, I am convinced that for the more superficial skin cancers the treatment by the caustic method is equal and in many cases superior to that of operation.

It has been clearly shown by microscopical investigations that the outlying pathological epithelial cells may often be found considerably beyond the apparent border of the disease, and are, therefore, often missed by the surgeon's knife. In the caustic method such cells are usually destroyed or weakened by the products of cauterization or by the marked inflammatory action resulting, and a reappearance of the growth is thereby rendered less probable. Further, if the parasitic view of the cause of these growths be accepted, and I doubt not that this will finally be demonstrated, it can readily be understood why the caustics usually employed may have a very positive influence on the parasitic agent. Moreover, the resulting inflammatory action on the surrounding tissues, and the ensuing suppuration have an influence antagonistic to outlying morbid cells.

Another important consideration which is often overlooked in the management of these cases is that the secret of the successful and permanent removal of an epithelioma is to get the case in its earliest stage, before there has been chance for an invasion into the surrounding tissue. It is often just at such times that these patients first apply for advice, but the suggestion of the knife, or even of the curette, is followed in many instances by a postponement of treatment, and in consequence a greater growth of the lesion and less probability finally of permanent removal. A cauterization at this time, against which there is rarely opposition, would result in permanent cure. The antipathy of the average person, and even of the surgeon himself when he is the patient, to the knife, must be recognized. If an operative method is only held out to such patients, it means either a postponement, which is detrimental, or not infrequently a transference to some cancer quack, who may do damage to the patient, or who may perchance be quite successful in removing the growth.

Irrespective, however, of the natural objections of many of these patients to operative measures, I believe that the caustic method properly followed out lessens the chances of recurrence. There is no damage done with caustics if they are judiciously and boldly used; it is the temporizing treatment with mild caustics or the hesitating treatment with active caustics, which may often do harm. The mild caustics, in fact, of which silver nitrate is an exponent, should have no place in the treatment of these growths. The pain of the caustic application is often spoken of as reason for its non-employment, but patients themselves do not find this an objection, and often commend the method to friends or acquaintances likewise afflicted. Moreover the pain may be considerably lessened by the incorporation of cocaine, and if necessary by the administration of a moderate dose of an opiate.

There are many caustics which have a very positive action, but I desire to speak only of those which have been most useful in my hands, and with which I have successfully treated many cases of skin cancer of the superficial type. These are four in number: arsenious acid, caustic potash, zinc chlorid, and pyrogallol. The first three are those which are most commonly employed by those who have had the largest experience in treating cutaneous epitheliomata by the caustic method. Many other caustics have, it is well known, been used, some of which still have an occasional advocate, but a large experience usually narrows the choice to the three

active ones here named. I have not the slightest hesitation in stating that of these four the most valuable by far, and the one most frequently to be employed, is arsenious acid, in this respect, as well in others, thoroughly agreeing with Dr. A. R. Robinson, who has probably done more than any other physician to bring this method before the medical profession of this country.¹ The other three named have, however, a field of usefulness. As an adjuvant of no mean value to these several caustics—with the exception of the caustic potash—I have been in the habit of employing salicylic acid, in the proportion of 5 to 10 per cent. This addition, as a rule, does away with the necessity of any preliminary preparation of the surface in those cases in which the skin is as yet but slightly broken or ulcerated. As a rule, however, in all those cases of epitheliomata over which the epiderm is, in places at least, still comparatively intact, and in which arsenious acid, zinc chlorid or pyrogallol is to be used, it is best to apply momentarily a weak solution of caustic potash of about 5 to 10 per cent. strength; this removes the outer epidermic surface and makes the action of the applied caustic much more rapid and thorough. This potash solution should not be allowed to have a caustic action, but merely a superficial effect, and then washed off. In those cases in which the central part is ulcerated, but the outlying portions still covered with skin, this application should only be made to the latter. In most cases, of course, the surface is already an open one, and the selected caustic may be applied without the preliminary application of the potash solution. If crusts are adherent they should be gently removed with the curette or with oil soaking or soap and water washing before the caustic is applied.

In the selection of one of the four caustics named, one fact is to be remembered, and that is that pyrogallol and arsenious acid have practically an elective action, destroying the pathologic tissues and having, when properly employed and not too long applied, but little influence on healthy structures. This so-called elective action is doubtless due, in part at least, to the feebler resisting power of morbid tissue. Moreover, pyrogallol is, as a rule, a painless caustic. Now as the caustic to be employed in a given case it may, I think, be said, that in small lesions, it is a matter of indifference whether either arsenious acid, zinc chlorid, or caustic potash be used. In large-sized lesions, if the epitheliomatous area is curetted first, a measure to which some have recourse, then the pyrogallol ointment is best for destroying what pathologic tissue and cells may have been left after the curetting. A momentary application of a 50 per cent. or stronger caustic potash solution may also be used for this purpose. It is in very superficial types, in which the tendency is to run along the surface rather than deeply, that pyrogallol ointment may be employed to advantage. It has its special field, however, in cases similar to the last named, when the patient is advanced in years, or in a depressed condition of health. Its painlessness, or comparative painlessness, especially commends it for such cases, in which stronger caustics or operative measures could not well be employed. In extremely sensitive women this remedy can also be used.

Pyrogallol is, however, it should be stated, the weakest and probably the least certain of the several named. It is also slow in its action. I have never been able to get sufficient destruction in five or six days as some

¹ Internat. Jour. Surg., 1892, p. 179; 1893, p. 161.

writers suggest; it requires from ten days to three weeks for satisfactory results, and may later need a repetition for a shorter period. The formula employed should be one of 25 to 33 1/3 per cent. strength, made up with three parts vaselin to one part simple cerate; or with three parts resin cerate to one part resin plaster. The proportion of the simple cerate or the resin plaster is to be varied according to the season, whether warm or cold. The ointment may be made more effective by the addition of 10 per cent. of salicylic acid; if this should give rise to pain, a small quantity of cocain, 5 to 10 grains to the ounce, can be added. The method of applying it is as follows: It is spread thickly on the woven side of patent lint or on a piece of kid, to the thickness of 1/8 to 1/4 inch. It is applied to the diseased area, extending beyond the edges 1/4 to 1/2 inch. Depending on the region involved, it may be advisable to bandage it on or to fasten with adhesive strips; as a rule this is only necessary during the night. The dressing is renewed every twenty-four hours, the surface being gently wiped off at each renewal. At the end of three or four days a certain amount of slough is produced; this is, so far as possible, gently rubbed or picked off, or the part may be poulticed for several hours to a day. The ointment is immediately reapplied as before for three or four days more, and in this manner it must be continued for ten days to three weeks, according to circumstances; finally, after removing the slough, a mild indifferent ointment may be used, and healing permitted to take place. For this purpose an ointment of resin cerate, or zinc oxid, with a few grains of carbolic acid to the ounce, will answer well; it is changed two or three times daily, according to the amount of discharge, and the parts washed at least once daily. If complete healing should not ensue, or should a recurrence subsequently show itself, the same plan is to be repeated.

Zinc chlorid has been employed for the removal of morbid growths for some years, and had in former days, probably, a greater number of advocates than at present. It destroys healthy and morbid tissue alike, the former possibly somewhat less rapidly than the latter. Its action is a peculiar one, in that it seems to mummify the tissue. The same preliminary preparation should be made for its use as with the application of pyrogallol; the overlying skin, if intact, being softened with the potash solution. While this is not so necessary with this caustic, it hastens its destructive action. It is rarely used pure, but is most commonly employed as a paste with flour. It is a painful caustic, and as its painfulness is evidently lessened by the addition of cocain, this may be incorporated to the extent of 5 to 20 per cent. Probably the best paste is that known as Bougard's, the composition of which, as usually given, is as follows: wheat flour and starch powder, each 4 drams; arsenious acid, 4 grains; cinnabar and ammonium muriate, each 20 grains; corrosive sublimate, 2 grains; zinc chlorid crystals, 4 drams; boiling water, 6 drams. The first six ingredients are thoroughly mixed and the zinc chlorid dissolved in the water, and then the two mixtures rubbed up together secundum artem. It is difficult to have this paste made with the amount of water as given; it is advisable, however, to use as little water as possible, so that the paste may be of stiff-dough consistency, and then to add at the time of application a sufficient quantity of a saturated solution of cocain hydrochlorate to bring it to working consistency. The paste is spread on any suitable ma-

terial and applied to the growth, extending slightly beyond the border. The depth destroyed is usually equal to two or three times the thickness of the layer of paste. There is a variable amount of inflammatory swelling in the course of twenty-four hours; but this is rarely so marked as from the arsenical application to be spoken of later. At the end of twenty-four to forty-eight hours, according to the intensity of the inflammation, the plaster is removed. If the destruction is deemed insufficient, the mummified tissue is to be gently pared away, which can be done without pain, and a fresh application made. In lesions of superficial character rarely more than one application is necessary. The dead tissue is removed by paring it away and by poulticing; or instead of poulticing an ointment may be kept constantly applied and the slough permitted to come away gradually. The separation of the slough requires usually from five to twenty days. The subsequent treatment is the same as with the use of the other caustics. This paste is a good one, and it has given good results. It will hold its power several weeks or longer if kept in an air-tight receptacle. I have employed it two months after it was made and it was still active. It is, of course, necessary, as it becomes dryer, to add a greater proportion of the saturated solution of the cocain.

A paste made extemporaneously, consisting of one part zinc chlorid and three parts flour, using the saturated solution of cocain hydrochlorate to make it up into a paste, will also act satisfactorily. Zinc chlorid is of special service when the growth is seated over a vessel, as, for instance, over the temporal artery, as its mummifying action prevents any hemorrhage from destructive action. On a few occasions I was tempted to try a larger proportion of arsenious acid in the Bongard paste, but the resulting action was much more destructive than desired, and the mummifying property of the zinc chlorid was considerably lessened. Salicylic acid may, however, be added to advantage, in the proportion of 5 to 10 per cent.

As before stated, however, arsenic is undoubtedly the best caustic to employ in many of these cases. It certainly has, relatively speaking at least, an elective action. Marsden, Robinson, Gottheil and others, including myself, who have employed it frequently, have never seen toxic absorption from its cautious use. It may be employed in several strengths, according to the case and the effect required. Marsden, who was the first to emphasize the value of this caustic in these cases, advised a paste made of two parts of arsenious acid and one of mucilage acacia. Robinson recommends two strengths, one of equal parts of arsenious acid and powdered acacia, and one of two parts of the arsenic and one of the acacia, using sufficient water at the time of application to make into a paste of the consistency of stiff butter. I have employed it, in most cases, in about equal proportions; in small and somewhat deep-seated lesions, using two to three parts of arsenious acid and one part of acacia, and in slight and very superficial cases, using it as weak as one part of the arsenic to two of acacia. I have always used a saturated solution of cocain hydrochlorate to make it into a paste, as this has to some extent lessened the pain of the application. Marsden advised against applying the remedy to a larger surface than one square inch at one time. If the area is somewhat larger than this, and it is desired to treat it all at one time, satisfactory results can be obtained by using zinc chlorid paste centrally and the arsenical paste peripherally. I have usually

observed this precaution. Robinson and Gottheil state that they have employed it over much larger areas than a square inch, and have never observed dangerous action from absorption, the cases of course being kept under surveillance at the time. The paste is spread over the diseased area, well overlapping the edges, spreading to about the thickness of $\frac{1}{4}$ inch; over this is placed a piece of patent lint; in five to ten minutes the paste has hardened somewhat and the edges of the lint, if necessary, may be trimmed. This may usually be left on for twenty-four to forty-eight hours; poultices are then to be applied and the slough is gradually removed. If for any reason poultices can not be continuously applied, they may be applied during the daytime and a simple ointment dressing at night. In some instances, in which the constant application of poultices is not feasible, an ointment dressing is applied until the slough comes away, and in fact until complete healing takes place. The slough clings for some time; with poultices it usually comes away in five to ten days; with ointment it takes considerably longer. Robinson advises that the application be left on not longer than twenty-four hours, there being a possibility that too much action will have taken place if kept on longer, and that dangerous absorption might ensue. In cases of any extent, when the action seems sufficient, I am of the same opinion; if, however, the growth is small, its removal in this time has not seemed necessary. The effect of the application is that in ten to twelve hours a good deal of inflammatory swelling and edema have taken place; if at the end of twenty-four hours there is no evidence of such action, the plaster should be removed and a fresh one applied. Ordinarily one to two days' application will suffice to show sufficient destruction and inflammatory action.

In weaker proportions, arsenious acid may be used with great advantage in the superficial spreading epitheliomata, such as mentioned when speaking of the use of pyrogallol. For this use the application much employed by the late Professor Hebra in the treatment of lupus vulgaris can be used. It consists of arsenious acid, one part; artificial cinnabar, three parts; rose-water ointment, twenty-four parts. This may be used over palm-sized areas and without risk of bad results from absorption. It is spread on patent lint, to the thickness of $\frac{1}{8}$ inch or more, and applied to the whole diseased patch; this is covered with some impermeable material and fastened on with adhesive strips or with a bandage. It is changed every twenty-four hours. At the end of the first day slight swelling and some pain are noticed, which increase during the next twenty-four hours. This application is to be continued for three days, sometimes four; at the end of this time if the action is insufficient a further application is to be made. The subsequent treatment is the same as with other plans. If there are still evidences of disease after the slough comes away the treatment can again be repeated. The incorporation of cocain in this ointment will render its action less painful.

Caustic potash is a powerful caustic and must always be used with care. It is rapid in its action, one thorough application usually sufficing to destroy the entire growth. It has its special field in small and beginning cutaneous skin cancers, and in those in which time is important and in which the patient can only remain under observation a short period. The stick should be employed; or the strongest possible solution. The former is preferable. If the surface of the growth is crusted this should be removed, and the parts outside of the diseased area

protected with a layer of vaselin, after which the caustic is applied. If the lesion is small and superficial, the desired effect is usually sufficiently attained in a minute or two, and then further action is to be prevented by the application of dilute acetic acid or vinegar. The free use of caustic potash without restraint with this acid application means unnecessary pain and often unnecessary destruction and disfigurement. This caustic is painful, but only at the time of application. If the growth is somewhat large, injections of a weak solution of cocain may be made at first, or moderate obtunding may be secured by the cataphoretic introduction of cocain. Subsequently the parts may be poulticed until the slough comes away, which may require several days; or when this can not be followed out, an ointment similar to that prescribed after the use of the pyrogallol ointment may be continuously employed. In the latter event the slough is slow in coming away.

The proper use of this caustic constitutes an extremely valuable method of treating these growths, and has, as already remarked, the great advantage of rapidity. It might even be satisfactorily used in larger epitheliomata, if applied under anesthesia. The reactive inflammation which always follows the application of this caustic is in itself an element of some value.

The several methods here briefly described are, I think, worthy of much more extensive use. Their employment should no longer be left to charlatans. With a proper appreciation of their value, I believe the number of advanced skin cancer cases would be materially diminished.

DISCUSSION.

DR. SHERWELL.—I would like to endorse this paper of Dr. Stelwagon. But he has not mentioned another caustic which deserves more commendation than arsenious acid. While I have used all the other caustics named, still the acid nitrate of mercury is used ordinarily in conjunction with cauterizing. Of course, the curettage is painless, for the diseased tissue of the ordinary cancer is scraped out like old cheese; then an application of a 30 per cent. solution of acid nitrate of mercury is made in about from five minutes to sometimes thirty minutes. In the first moment the pain is intense, but easily borne. Arsenic is claimed to have an elective force, and I believe it does, by its inflammatory action in killing these specifically diseased cells. I claim that the acid nitrate of mercury has precisely the same influence.

I believe the knife is quite as well used where the tissues are free, as in the lobe of the ear, the penis, the lips, etc., where a full and free excision can be made; but ordinarily, in skin cancers, I believe the three caustics which the Doctor names, and my own as well, are best employed.

DR. W. T. CORLETT, Cleveland—I wish to add my testimony for treatment of cancer without operation with the knife. For eight or ten years my habit has been to treat cancers without resorting to cutting. I have not had the extensive experience with local applications which Dr. Stelwagon has, but I have used electrolysis in all cases of cancer presented to me. I do not wish to boast about results, but during eight or ten years, I have never had a case of epithelioma return. The advantage of electrolysis is that it can be done at a single time and can be done thoroughly. You know just where you are, how far to go and so on, and the resulting cicatrix is very satisfactory.

DR. CHARLES W. ALLEN, N. Y. City.—One might suppose by the papers and discussion which have recently appeared that the members of the profession were just beginning to appreciate the great advantage of treating skin cancer without the use of the knife. I think that in point of fact most of the men in this country who have practiced dermatology for a number of years have been treating cancer in that way for a long time; and it is only because we have had a number of excellent papers—one of which appeared some time ago at the hands of Dr.

Gotthel, a very finely illustrated article, afterward published in book form—that we have become more active possibly in reporting cases and speaking about it.

I have employed for the past fifteen years various known surgical measures, and beginning with pyrogallol have continued to arsenic, going through them all, including electrolysis, which has been mentioned. I believe all are good in some cases. I have used electrolysis about the eye on small epitheliomata with excellent results, with very little scarring, and as far as I know now without return. I can say with Dr. Corlett, that those which I operated on to a finish with electrolysis have not up to the present time returned to my office. Whether they remained cured or not I can not say absolutely. Where the disease has gone deeply, arsenic is the best remedy, for the reason of its elective influence.

DR. W. S. GOTTHEL, New York City.—I am glad to hear Dr. Stelwagon take the position that he does with reference to the treatment of cutaneous cancers, and so admirably defend a position which I believe to be absolutely correct. Entirely too much deference has been paid to the opinion of surgeons on these points. We have no excuses or apologies to make at all. We believe that we can prove that better results, both as regards permanent cure and cosmetic effect are gotten from the caustic treatment of the very great majority of cutaneous carcinomata than obtained with the knife. I can recall cases treated as long as fifteen years ago, and still under occasional observation, in which the results have been absolutely satisfactory, and in which the scarring is so superficial that a close inspection is required to see it. Some of these were quite extensive; and while I have never hesitated to use the various caustic agents over the necessary area, however large, I have never seen a case of arsenical or other poisoning result.

Arsenic is the most appropriate agent in the great majority of cases. Near the natural openings, or on the mucous membranes, nitric acid or the acid nitrate of mercury, or the potash, etc., is preferable. Only in a very few cases, where for any reason the chemical agents are inapplicable, should the knife be employed. The notoriously large number of returns after its employment should lead us to restrict its field as much as possible. I am a firm advocate of the principles of treatment that Dr. Stelwagon has laid down.

DR. R. A. McDONNELL, New Haven, Conn.—The use of caustics on the skin is generally prefaced by an apology for not using the knife. If we have once made up our minds to use a caustic, then it seems to me that the caustic selected should be one that will act deeply, promptly, and without too long-continued pain. Caustic potash has those qualities. After the use of caustic potash in a very considerable number of cases of skin cancer, I wish to add my testimony to its excellence for this purpose.

TENIA FLAVOPUNCTATA.

WITH DESCRIPTION OF A NEW SPECIMEN.*

FREDERICK A. PACKARD, M.D.

PHILADELPHIA, PA.

The patient from whom the specimen that forms the basis of this report was obtained was a woman aged 40, born in Syria, and admitted to the ward of Dr. A. V. Meigs, at the Pennsylvania Hospital, on Jan. 11, 1899. Owing to her inability to speak any but the smallest amount of English, her past history could only be obtained with great difficulty. The complaint for which she was admitted was a pain in the right side of the abdomen, dating back about three years. This pain was found later to be due to a suppurating hydatid cyst of the liver, from which she finally died. There is nothing in the history in connection with the parasite that I show except that shortly after admission she passed a segment of a tapeworm measuring 16.5 cm.

in length. This was given me for identification by Dr. Meigs, and it is through his kindness that I report the case.

The specimen was handed to me in 70 per cent. alcohol, and presented the characteristics which will be described later. The patient died from septic poisoning on February 4, and I had the opportunity of performing the autopsy. The only point of interest in connection with the specimen was that on opening the intestines there was found a second specimen of parasite 2.5 cm. above the ileocecal valve. The parasite was living when found, actively moving, and with a small knot quite tightly tied 15 cm. from its lower extremity. The head was plainly seen. On examining both specimens it was evident that we had to deal with a cestode differing from those ordinarily seen in this country.

The total length of the section of worm passed during life was 16.5 cm. The smaller segments, at what appeared to be a point near the neck, measured 3 mm. transversely by 2 mm. in length; at the larger end the breadth of the segments is 7 mm. and the length 1 mm. In most of the segments there is seen at one edge a little elevation extending in from the edge about 1 mm., corresponding, apparently, to what has been spoken of in some specimens as the yellow spot. These little elevations do not form a complete series, as occasionally there is found a segment where the elevation is on the opposite side of the segment. There is no appearance about the worm of a true yellow spot. On dehydrating segments in absolute alcohol and clearing in oil of cloves there is seen in each of a series of 7 segments a dark line less than 1/10 of a millimeter in thickness extending inward toward the center of the segment to a length of 3 mm. These dark lines have a rather brownish color in contrast to the yellow color of the rest of the segment. Even with a low power it can be seen that there are no branching uteri, but that running up to near the periphery of each segment there is a dark area, which on magnification proves to be an egg sac. The dark brownish line spoken of does not always run inward from the corresponding side of neighboring segments; thus in the 7 segments spoken of it extended inward from one side in 5, from the opposite side in 2. Thus, beginning at one end in the first segment the line ran from the left-hand edge as the specimen was held; in the second from the right-hand edge; in the third from the left-hand edge; in the fourth from the right-hand edge; in the fifth, sixth and seventh from the left-hand edge. With a higher power this brownish streak is found to be evidently a canal. In some specimens this is more clearly defined than in others, and in some the inner extremity seems to terminate in a bulbous enlargement. The main portion of the body of the segment is seen to be made up of a thin-walled sac filled with eggs. In many of the segments the brownish streak mentioned above can not be seen, either with the naked eye or under the microscope.

The specimen obtained after death was 27 cm. long and different in its appearance from that passed during life in no way except for the presence of the head and of a short neck, and for the difference in color. The specimen passed during life was of a brownish-yellow color, while that found at autopsy was almost pure white with a faint-yellow tinge. A closer examination shows that this specimen consists of a head and of a short neck separated from the former by a slight constriction, and of a segmented body. The head is distinctly black at the tip, the color being shown to have

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a distinctly purplish tinge on a magnification of 10 diameters. It is flattened from side to side and measures 1 mm. by 0.5 mm. The disposition of the pigment in the head is rather peculiar, it being arranged somewhat as are the leaves of a four-leaf clover, as though each division represented the sucking discs seen in other tenia. No distinct cupping can, however, be seen. Just below the head there is a distinct constriction. The neck is short and broad, measuring about 1 cm. in length by 1.5 mm. in breadth. At a distance of 1.5 cm. from the head distinct transverse striations can be seen with the naked eye, the markings evidently indicating division into proglottides. The segments differ in no wise from those described above that were taken from the specimen passed during life, except for the fact that the brown transverse streak is visible in very few of the segments. On clearing with oil of cloves after dehydrating in absolute alcohol, there is seen to be the same arrangement of the egg sac that is present in the other specimen. In none of the segments of either specimen is there present any branched arrangement of the egg sacs, nor is there any central clumping, such as is seen in the bothriocephalus latus. It is evident, therefore, that this is not a variety of tenia ordinarily seen in this portion of the world, nor is it an example of bothriocephalus. In trying to identify this specimen I have come to the conclusion that it must be an example of the rare parasite, tenia flavopunctata. This has been described but six times as occurring in the human subject.

Weinland¹ describes a specimen which was supposed to be bothriocephalus, which was voided by an 18-months-old child, and came into the possession of Ezra Palmer, Jr. He describes a yellowish spot clearly visible to the naked eye situated about the middle of each joint. Six different specimens were comprised among the segments examined by him. No specimen showed the presence of either head or neck. The whole worm measured between 200 and 300 mm. in length. The segments full of eggs were oblong in shape with the transverse diameter longer than the longitudinal. The yellowish spot was found to lie near the middle line in the anterior part of each joint. It was found to be the testicle, which appeared under the microscope as a globular gland with a long, slender canal reaching out to the side of the joint. He states that the genital openings were situated all on one and the same side of the worm, a condition that is not present in the specimens that I report. The description of the uterus is as follows: "There is no main stem in the midst with lateral branches, but on the contrary the eggs are crowded over the whole joint. It sometimes appears as if they were arranged in straight lines along the joint, but this is certainly owing only to the regular lines of muscular contractions." "From a careful dissection of the young joints we should judge that it—the uterus—consists of globular blind sacs, located here and there in the joint, connected by fine tubes terminating finally in the vagina." The eggs are said to be very large and under a low power to appear as transparent balls with a yellow dot in them, while with a higher power three distinct egg shells were to be made out. He suggests the possibility that the cystic form of the tapeworm dwelt in an insect which had been swallowed by the child.

Loucart examined segments of Palmer's specimen, which were sent him by Weinland, and figures of the segments accompany the article on this parasite in his work on the parasites of man. In the segments

which he examined he could distinguish nothing but a large number of eggs with their clear enveloping wall, and a club-shaped organ occupying a transverse position near the anterior border of the joints.

The second specimen was that described by Leidy.² In this case the worm was obtained from a 3-year-old child after the administration of santonin. The child was a native-born citizen of Philadelphia. The specimen is described as consisting of a dozen fragments which reached the length of about a foot or fifteen inches, or more, and were supposed to belong to three separate parasites. No head was present. The widest portion of the body of the specimen was 2.5 mm. in diameter. The joints or proglottides were described as being proportionally short, and the breadth was said to exceed the length several times. The pair of longitudinal vessels was said to be extremely well marked. The ripe joints were of a pale-brown color from the presence of contained eggs. Other joints smaller than those of the ripe ones were seen mingled with the others. The egg-cavity is described as being a simple sac bounded by thin walls of the joints. In the segments containing eggs nothing could be made out in regard to the structure of the generative apparatus, but in those without eggs he describes a narrow, clavate organ which he suspected to be the seminal receptacle. This organ is described as lying near the fore part of one side of the joints, commencing with its thick end near the median line and proceeding outwardly, somewhat tortuous and tapering, along the anterior border of the joints. The joints without eggs also showed scattered here and there from two to five rounded or oval bodies which were supposed by Leidy to be testicular. The longest fragment among the specimens examined by Leidy was 13 inches in length. This was supposed to represent a nearly complete worm, as the joints were very much smaller than the main portion. Leidy made a careful study in regard to the proportions and relations of the segments. All the segments were without eggs. The description of the eggs in his specimen was that they were raw-sienna colored, mostly spherical, and usually measuring .072 mm. in diameter. Embryos were described as oval and measuring .04 by .032 mm., and were provided with six hooks, arranged in three pairs. He states that previous to the specimen described by him the only example of tenia flavopunctata was that of Weinland. Leidy's specimen did not exhibit the yellow spot. In his specimen, as in that described by Weinland, the parasite was found in this country, and in both cases voided by children. In the latter respects my specimen differs from these two, inasmuch as it was found in an adult and in one who was a Syrian and had been but a short time in this country.

In the same year Parona³ described an instance of the occurrence of this same parasite in the fecal matter of a child aged 2 years. He found a few eggs of the ascaris lumbricoides and some resembling those of *T. solium*. After the administration of a dose of oil, two specimens of cestodes were obtained and a like number after the administration of flix mas. The four specimens were identical in character and measured from 12 to 20 cm. each. They looked like a small tenia with head, neck and body. The head was very small, the neck short and terminating after 3 or 4 mm. in the body, in which appeared distinctly the lines between the proglottides. The cuboidal head measured .5 mm. in diameter, with four oval cups of a diameter of 112 by 88 microns, and were placed above and obliquely. There was no rostellum and no ring of hooklets. The head passed

into the neck with a slight constriction. The length of the neck was 2 to 3 mm. The strobiles were short, trapezoid and with rounded angles. The proglottides are described as always broader than long and measured at least .5 mm., while the largest were 3mm. in length. The width of the proglottides varied from .5 mm. near the neck to 4 mm. at the lower extremity. The mature proglottides were rich in eggs accumulating in the end of the segment and partly hiding the course of the ovarian duct. This duct was described as being somewhat club-shaped with its most slender part toward the margin of the proglottis. Parona states that it was always on the same side of the worm and appeared to be of a yellowish color. He notes the absence of a branching uterus. He describes the eggs as being found freely in the feces of the child, and as of oval shape and intense yellow color, and measuring 58 by 68 microns. The proscelics were of a distinctly oval shape, possessing hooklets and showing active movement. The eggs were described as being like those of the *T. solium*, the shell of double contour and one-third thicker than that of the last-named parasite. The description of Parona's specimen would apply almost precisely to the specimens that I present. These specimens described by Parona were made the subject of an article by Grassi⁴ in which he notes the resemblance between the specimens of Parona and the *T. leptocephala* of the mouse and rat. He explains the variation of Parona's specimens from those mentioned as being due to the changes occurring after the death of the parasite. He states that the arrangement of the genital organs, length of the tenia and the size of the proglottis are similar in the two worms. Grassi has advanced the view that a parasite so rare in the human species might be looked on as not having the human body as its regular host and its identity with ordinary parasites of other hosts should be in each case carefully investigated.

Adolf Lutz⁵ mentions the fact that Blanchard had collected only four cases, those of Palmer, Leidy, Parona and Grassi, the first mentioned being that described by Weinland. Lutz had brought to him in 1893 a specimen of tenia voided by a child after the administration of santonin. The specimen included the head. Four somewhat large sucking discs and a poorly developed rostellum without hooklets were present. The segments numbered 960, among which some were sterile. There was most resemblance between this and Weinland's specimen. Owing to the statement made by Grassi that a similar parasite infests the rodents he investigated the intestinal contents of the rats and mice in San Paulo, and found that frequently there was present a cestode which corresponded on the one hand to the *T. leptocephala* and on the other hand to the specimen obtained in the human subject. He therefore agrees with Grassi that the rat is the usual host of the *T. flavopunctata*. While making his investigations he found in the examination of the feces of a child aged 2½ years, born of foreign parentage but growing up in San Paulo, the eggs of a cestode resembling those of *T. nana*. In order to still further study the question as to the identity of the *T. flavopunctata* and the parasites found in the rat, he made a more complete study of the parasitic contents of the rats found in St. Paulo, examining the excrement from time to time for eggs, and found in one animal kept a long time after the discovery of eggs in the excrement two examples of the *hymenolopis diminuta* (*T. flavopunctata*), and a larger number of small tenia corresponding to the *hymenolopis nana* (*T. nana*). In a 4-year-old girl born in San Paulo examina-

tion of the stools discovered the presence of somewhat numerous eggs resembling those of *hymenolopis nana*. After the administration of an anthelmintic he found a very large number of small tapeworms, about 10 per cent. of which showed a head. These evidently were examples of *hymenolopis murina*.

It would seem from Lutz's article that there is little if any connection between the various parasites found by him in the rat and the supposed *T. flavopunctata* derived from his first patient. His description of the parasites found is quite brief, but in that of the parasites found in the rat there is not sufficient description to identify his specimens with the *T. flavopunctata*. The specimen that I present herewith is of such a size that it is inconceivable that the mouse or the rat could share with man the privilege of being the host of this parasite, unless in these animals the worm attains a far less size than is the case in the human being. It may be that the supposition of Grassi is correct and that the rare examples of the *T. flavopunctata* in man are in reality instances of infection by one of the parasites having as its usual host one of the lower animals, and showing different developmental characters when dwelling in the human intestine. Proof of this is not definitely furnished in Lutz's article.

Zschokke⁷ has described a specimen which he found preserved in a museum of the veterinary school at Alfort. It consisted of two pieces measuring 18 and 20 cm. in length, and of numerous shorter fragments and separate joints. The preparation had been for a long time in the Alfort museum and was supposed to have been obtained in the latter part of the last century. The parasites were very opaque, hard and fragile, and it was difficult to investigate their internal structure.

Choledkowsky⁸ has described a tenia (*T. Brandti*) found by him in the intestines of hogs and cattle which bears some superficial resemblance to the *T. flavopunctata* as regards the relative length and breadth of the segments and the arrangement of the genital outlet. There is, however, a totally different arrangement of the egg-sacs, which in the specimen described by him form a branching organ resembling that of the beef and pork worm, whereas all authors agree in stating that the eggs of the *T. flavopunctata* are contained in a large thin-walled sac.

It seems to me that the specimens presented herewith must be looked on as examples of the *tenia flavopunctata*. The rarity of this parasite in the human being makes it, I believe, worthy of report, especially in order that others may be on the watch for other instances. Whether it is merely an accidental parasite of the human being and has its ordinary habitat in the intestine of some other animal during its sexually mature period can not be definitely stated.

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Pathogenesis of Sympathetic Ophthalmia.—I. W. Selenkowsky has established that toxins generated by bacteria in one eye may be carried to the other eye and induce a sympathetic inflammation. He injected filtered toxins of the staphylococcus aureus into one eye of numerous animals with positive results of inflammation in the other eye in every case. —*St. Petersburg Med. Woeh.*, October 6.

A COMPACT OPERATING-CASE FOR MILITARY SERVICE.

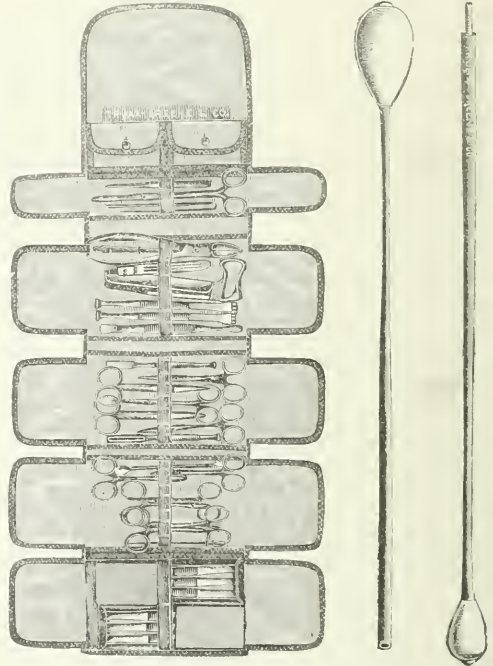
WITH A DESCRIPTION OF SEVERAL NEW INSTRUMENTS FOR THE SAME.

NICHOLAS SENN, M.D.
CHICAGO.

The surgical work of the military surgeon in the field is limited almost exclusively to the treatment of accidental wounds. He seldom is called upon to perform major operations for any other indications. His success as a surgeon depends largely on his proficiency in guarding against wound infection, and his mechanical skill in the treatment of compound fractures. During an active campaign he will often find himself thrown on his own resources with a limited supply of instruments and dressing material, and often without skilled assistance, and under these trying circumstances has often to perform difficult operations which can not be postponed. Military surgery is in every sense of the word, emergency surgery. A quick perception of the nature of the case, and prompt, intelligent action are necessary to perform the many life-saving operations during and after all engagements, when often without warning and with limited preparations hundreds of wounded plead at the same time for surgical assistance. The military surgeon must possess the necessary knowledge and manual dexterity to perform at a moment's notice, and with the simplest instruments and limited assistance, all life-saving operations, in all cases demanding timely intervention to meet the urgent indications. Aseptic surgery has necessitated a great change in the manufacture of surgical instruments. All attempts at ornamentation have been abandoned. The beautifully carved handles and blades that adorn the pages of ancient works on surgery have become objects of curiosity, and are to be found only in the shops of dealers in antiquities. The modern surgical instruments are made as plain and smooth as possible. Knives and retractors are made of one piece of metal, and niches and crevices are avoided whenever this can be done, and scissors and forceps are constructed so that the two parts can be readily separated and joined together again, to facilitate thorough cleansing and sterilization. Another great improvement noticeable in the instruments in use at the present time is their smaller size and more delicate construction. The old-fashioned, sword-like amputating knife is seldom seen now, as any amputation can be done with a medium-sized scalpel, since surgeons have abandoned transfexion methods. The best surgeons need the fewest instruments. Very few instruments are required to perform any operation, provided the selection is made with the requisite care, and the surgeon is familiar with their use.

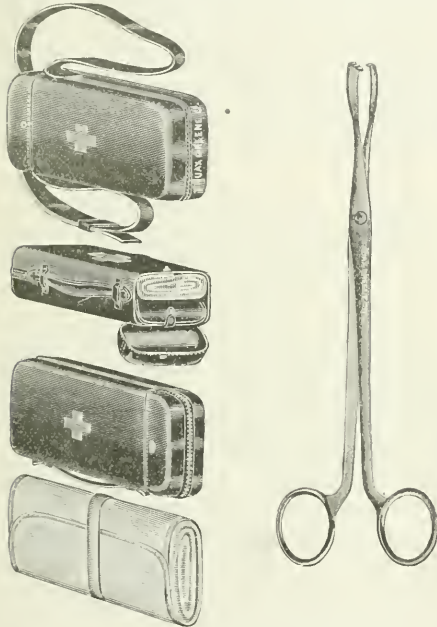
The military surgeon should from the very beginning of his professional career endeavor to do his surgical work with as few instruments as possible. For field service the instrument case as well as the instruments should be well adapted for emergency work. Aseptic surgery has made it necessary to make a radical change in the construction of instrument cases. Within the memory of nearly all the older military surgeons the method of packing, storing and transporting of surgical instruments has undergone a somewhat rapid succession of notable changes, and while each has marked an advance in the mechanics employed, it is evident that the inventive skill of the instrument-maker has not kept pace with the rigid demands of aseptic

surgery. The old-fashioned velvet-lined instrument box and pocket-case very fortunately disappeared some time ago, and were replaced by wooden boxes with carved spaces for each instrument, devoid of any lining, and the so-called aseptic pocket-case. In due course of time, the wooden boxes had to give way to another improvement—the metallic cases, which for some time appeared to answer the modern requirements. In the metallic cases the instruments were held in their places by hooks, loops and cross-bars, and it was not always easy after their use to return them to their proper places, to say nothing of the damage inflicted upon the instruments in the transportation of the cases and the disagreeable rattling caused by the instruments not held firmly in position. An instrument case for field use must contain all the instruments necessary



for emergency operations; it must be compact, and so arranged that the case and its contents can be sterilized by the simplest and quickest method, and the instruments, after use, can be replaced without any difficulty and unnecessary loss of time. Cases made of wood or metal are entirely out of place in the field. They are apt to get out of order by hard usage, and add unnecessary weight and bulk. For a number of years the writer has made an extended study of the contents and case for surgical work in military and emergency surgery. He has found by observation and ample experience that the instruments used in emergency work can be safely carried in roll-up, washable, canvas rolls, in which each article is held securely in place by non-elastic loops. If the name of each instrument is stamped with indelible ink in the place it should occupy, there will be no difficulty experienced in replacing properly and quickly the entire set after use. This plan constitutes an ideal method, for it makes pro-

vision for changes that might appear desirable in the set, and discarding such as might be regarded as unnecessary, and additional patterns may be included from time to time. A second and similarly stamped roll, properly sterilized, should be in readiness in a separate compartment of the outer leather case, so that the instrument may be transferred to it after each exposure to infection. The form and character of the outer wrapping of the canvas roll holding the instruments is of the greatest importance. It should be light, soft and flexible, without any sharp corners, and, if possible, small enough to be carried in a hand-bag or overcoat pocket. The outer cover of the author's field-case is made of soft leather, with rounded ends and corners, with a double compartment, one for the roll of instruments, the other for the empty canvas roll. A slip-handle, also of leather, is provided,



so that the case can be carried like a hand-bag. For military service a leather strap is attached, so that the case can be carried over the shoulder.

The instruments selected for this case are the following:

One combined metallic male and female catheter; 11 Kocher's hemostatic forceps; 1 Abbe's hemostatic forceps and needle-holder combined; 1 small scalpel; 1 large scalpel; 1 straight bistoury; curved, sharp-pointed bistoury; 1 small tenotome; 1 tenaculum; 1 straight scissors; 1 scissors curved on the flat; 1 MacLean's folding amputating knife; 1 bone-cutting forceps; double-end retractors, with guards; 1 author's saw, with guard for blade; 1 plain dressing-forceps; 1 ligature-carrier and retractor; 2 author's tissue forceps, with 3 and 5 teeth and catch slide; 1 bone chisel; 1 bone gouge; 1 sharp spoon and periosteal elevator; 1 author's bullet forceps; 1 author's bullet probe; 2 ordinary probes; 1 exploring trocar; 12 silk-worm-gut sutures; 12 surgical needles (assorted); 2 skeins of braided silk; 1 coil of silver wire; 6 needles for intestinal suturing.

The six knives are included in two protecting metallic plates that rest side by side, forming one fold of the canvas roll.

The knives are made of one piece of steel and the handles are corrugated, ensuring a firm grasping surface. The most important feature of the list of instruments is the large number of hemostatic forceps. Besides the eleven Kocher's forceps, the Abbe's and tissue forceps are available for hemostatic purposes. The Kocher pattern is given preference because it combines the artery crushing power of the serrated designs with the delicate adaptation of the mouse-toothed variety. With this double hold on the tissues there is very little risk of losing its grasp. If a deep vessel requires to be tied and the ligature does not readily slip into place, two instruments are applied close together, and by separating the locked handles a cone is made by the grasping ends of the forceps over which the ligature readily glides away from the instruments into its proper place. Although the author never uses anything but an ordinary scalpel in performing any amputation, he has included in the set MacLean's folding knife, which may prove a convenience to many surgeons who are in the habit of using larger knives. The retractors, two in number, are each provided with blunt and sharp retracting blades. The latter are three-pronged, and are furnished with guards that permit of safe use of the sharp end as a handle when using the blunt end. The bone-cutting instruments comprise a cutting forceps, the author's saw, a sharp spoon and periosteal elevator, a chisel and a gouge. A mallet is not included, as a substitute for this instrument can be found almost anywhere. The bone-cutting forceps will answer an excellent purpose if only a limited amount of chiseling is to be done.

The smaller instruments are of the author's patterns, and will be described below, while the small instruments are of the usual forms.

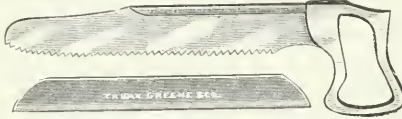
The canvas cover is eight inches in width and, including flap, 31 inches in length. The whole is encased in a flexible leather cover, 9 inches in length, 5 inches in breadth, and 5 inches in thickness, and weighs, complete, 4½ pounds. One of the principal advantages of the instrument case is that after removing the canvas cover from the leather case, the cover, with all its contents, including needles and suturing material, can be sterilized at a moment's notice by boiling for a few minutes in a soda solution.

After the operation the instruments are to be thoroughly cleansed, dried and transferred to the second aseptic canvas cover. The author made use of one of these cases during the Spanish-American war, and his experience with it during that time has convinced him that it possesses merits which should entitle it to the careful consideration of military authorities. To make this case useful for military service, the author found it necessary to devise a number of new instruments, which it contains, in order to meet the demands made necessary by the small-caliber, jacketed bullet, and others to adapt them for emergency work. These instruments require a brief explanation.

BULLET PROBE.

The metal encased bullet has made the famous Nélaton bullet probe almost obsolete, as the test for lead which it yielded by rubbing the porcelain tip of the probe against the leaden bullet will no longer be of any diagnostic value in searching for modern bullets. The tip of this probe is likewise too small in following the tubular wounds made by bullets. The author's bullet probe consists of a soft metal, flexible rod, pointed in the center and tipped at both ends with porcelain bulbs, as at this time the old-fashioned leaden bullet has not

been entirely abandoned in warfare, and remains in common use in civil life. The porcelain tips are made to correspond in size to the caliber of the bullets commonly used; that is, one corresponds to the 22 and the other to 38, French scale. Probing for bullets in recent gunshot injuries is seldom justifiable as a diagnostic resource, but in cases in which it is deemed advisable by the nature of the wound and the probable location of the bullet the bulbous end of the probe should correspond as nearly as possible to the caliber of the bullet, as false passages are more likely to be made with a small instrument than one which corresponds approximately to the size of the bullet. In the old porcelain-tipped probe some risk always attended exploration by the porcelain bulb becoming detached and remaining as an additional foreign body in the wound. Heretofore, in the construction of probes with this class



of tips, the porcelain bulb has been attached to the rod by boring or moulding a perforation in the bulb, which the wire rod would fit, and fastening the two parts together with cement. This procedure was a well recognized defect, and resulted not infrequently in losing the bulb in the wound, an accident which occurred in the writer's own practice. After much experimenting, a probe has been made with a perforation through the whole thickness of the bulb, the rod passing through the whole length of the perforation, its distal end being riveted in a small depression on the surface of the bulb.



This modification in the manufacture of the probe renders the instrument perfectly safe, and without detracting the least from its value as a diagnostic instrument. The diagnostic value of the probe has been greatly enhanced by furnishing the ends with porcelain tips which in size more nearly correspond to the caliber of bullets in most common use. The full length of the pointed probe described is nine inches.

BULLET FORCEPS.

Since leaden bullets have largely given way to a core of lead surrounded by a hard metal mantle, it has become necessary to change the construction of forceps intended for their extraction. At the time when the leaden bullet was used exclusively, it was possible to remove them with the aid of forceps with short, tenaculum-shaped jaws, because with even a light force it was easy with such an instrument to penetrate the lead, thus securing a grasp sufficiently firm for its extraction. Such instruments are, however, practically worthless in attempting to extract a steel or nickel-cased bullet. The American bullet forceps, which retained its well-earned fame as long as its use was limited to the extraction of leaden bullets, must now give way to instruments with a better grasping power. It is evident that forceps with concave serrated jaws would answer in such cases, provided the grasping surface would correspond in size with the metal jacket. To use efficiently a forceps of such construction would necessitate several forceps with different grasping capacities and a previous knowledge of the exact size of the bullet to be extracted. An in-

strument to be of use in all cases must be one that is so constructed that it will grasp securely bullets of any size. This object is gained by forceps with concave jaws, the terminal margins of which are provided with two short, strong teeth, sharpened to a fine point. A third shorter and stouter tooth, interposed between the two lateral teeth, would form in each jaw a third point of contact in case of smaller bullets. The forceps terminates in a blunt cone, which makes the instrument available when closed as a bullet probe in the absence of instruments specially adapted for this purpose.

MINOR OPERATING SAW.

This instrument consists of a slender blade provided with a lifting back and attached to a small, solid handle of such shape as to admit of a firm grasp of the instrument. The fenestrum in the handle reduces the weight of the instrument and increases the grasping surface.

RAT-TOOTHED TISSUE FORCEPS, WITH CATCH SLIDE.

This forceps is of the spring-blade type, with slide catch. These forceps can be used for dissection and hemostasis, and can be made useful as retractors. The jaws are of the rat-tooth variety, the smaller size with three and the larger with five teeth.

SARCOMA OF VERMIFORM APPENDIX.— SARCOMA OF THE EXTERNAL URETHRAL ORIFICE.

THEO. G. DAVIS, M.D.

BRIDGETON, N. J.

I. H., male, aged 51 years, blacksmith, had for more than a year recurrent attacks of pain in the right iliac fossa, becoming more severe, so that five weeks before entering Bridgeton Hospital, for operation, he had been confined to the house for three weeks by an attack. The question of malignancy was considered, because his father had died of "cancer," and on tracing history of father's case, I find that the cecum was much thickened and softened, but no microscopic examination was made. I mention this because Hollender has recently stated that "cancer of intestine is apt to recur in families." Having opened the abdomen, by the usual incision, we found the appendix lying posterior of cecum, pointing upward and slightly outward, firmly adherent and bound down by results of previous inflammation. It was severed near the cecum, and peritoneum closed over stump by mattress sutures; the cecum did not appear to be invaded. The abdomen was closed in layers. The appendix was about 1½ inches in length, firm, thickened, lumen almost obliterated. Sections examined microscopically proved it to be a small rounded sarcoma. Five months have passed and patient seems perfectly well, has gained fourteen pounds, and is at work.

This is the third case of sarcoma of the vermiform appendix to be reported; the others have been reported by Glazebrook,¹ and by J. Collins Warren.²

R. A., female, age 47, was annoyed by pain, irritation and bleeding. On examination, a dark-red, somewhat eroded mass was found, with base at urethral orifice. Free dissection of vestibular space and removal of anterior half of urethra was made. The mucous membrane of urethra was attached to the skin by silkworm-gut sutures. A catheter was placed in the bladder, and the vagina packed with gauze.

Recovery was uneventful, and now, five months afterward, she appears well. Microscopic examination proved it to be a small round-celled sarcoma.

This is the fifth case to be reported in surgical literature—one each by H. Beigel, E. Ehrendorfer, Galabin and C. A. L. Reed.³

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THE USE OF ALCOHOL IN TREATMENT OF CARBOLIC ACID BURNS AND POISONING.

HERMAN A. KLEIN, M.D.
CHICAGO.

Having used alcohol in the treatment of carbolic acid poisoning and burns with most gratifying results, I venture to give my observations for the benefit of those who have had no experience with this antidote. It not only enables us to save many lives that are threatened by the accidental or intentional misuse of carbolic acid, but it widens the field of use of one of the most powerful germicides, for it enables us to use the full germicidal properties of the acid without any dangerous caustic effect. I believe that the following cases justify my statements:

CASE 1.—Some one threw about two ounces of carbolic acid on the face and hands of a woman, and when I arrived, about fifteen minutes after the occurrence, I bathed the injured parts freely with alcohol for half an hour. Marked improvement took place at once; pain was diminished, and the skin assumed a healthier color. I also applied carron-oil. In about a week the patient had fully recovered without any mark on the face.

CASE 2.—A woman, aged 29, drank 2 ounces of carbolic acid. I saw the patient ten minutes afterward, and gave alcohol internally, 4 ounces every half-hour until three doses had been taken, then 1 ounce every hour for four doses. I administered $\frac{1}{4}$ gr. morphin hypodermically, followed in two hours by another injection of morphin. After this there was little medicine given. The patient was discharged in six days.

CASE 3.—A man, aged 45, received a serious injury in the arm; subsequently infection took place. I applied 95 per cent. carbolic acid to the infected wound for a minute, followed by alcohol. After four applications infection disappeared and the patient made an uneventful recovery.

DISCUSSION ON DR. EVANS' PAPER.*

DR. FREDERICK HOLME WIGGIN, New York City.—My experience coincides with the statements made by Dr. Evans, that following end-to-end anastomosis there is little danger of cicatricial contraction. I prefer this method of joining the bowel in all cases where it can be accomplished. I have been fortunate enough to have been able to watch several of my patients on whom this operation had been performed and to follow them up for a number of years, and in no instance has there been any reason to believe that any stricture of the bowel had resulted.

Years ago, when we were beginning to perform operations for intestinal anastomosis, I performed many operations of this character on animals, using both the Maunsell method of suture and the Murphy button. Some of these animals I kept for a number of months, one or two for nine months, and had great difficulty after death in finding the point or points of union. During the last few years I have given up the method of invagination preliminary to suturing, advised by

Maunsell, as I have found it to be unnecessary. The suture which he advised was one beginning on the inside of the bowel, passing through all the coats of the gut, then passing through all the coats from the outside into the interior of the other segment of the bowel in order that it may be tied on the inside, thus drawing in the edges of the divided gut and joining the peritoneal surfaces together.

The suture material which I have found to be the most satisfactory in this work is horse hair because it is fine enough to thread in a milliner's needle No. 6 or 7; because it can be easily tied, and also because it is elastic and there is little or no danger of the sutured part becoming strangulated.

While I occasionally use the Murphy button, especially in cases where time is an important factor, yet, as a rule, I prefer the suture method. The objections which I have to the button are the following: 1. Because it places in the intestine a foreign body which is occasionally therein retained, and which also serves as an anchor to hold the anastomosed portion of the bowel in a fixed position allowing the uninjured portion to kink about it, which has resulted in intestinal obstruction. 2. Because it makes the patient dependent on the craft of the cutter rather than on the skill of the surgeon, the spring of the button being made at times too strong, and at other times too weak. 3. Because there is the trouble of being obliged to keep buttons of various sizes constantly on hand. 4. Because there is some danger of the lumen of the button becoming plugged with fecal mater, causing thereby obstruction, which has resulted in death. 5. Because there is danger of the holes, placed at the ends of the button for the purpose of drainage, causing perforation of the mucous and muscular coats. They have been, and may be, cut through, unless great care is used, by the intestine being pressed into the holes and against their edges when the segments of the invaginated button are pushed together.

DR. W. A. EVANS, closing.—I did not go into a consideration of the different devices for operation. In looking up the objections to intestinal anastomosis I found that some stress had been laid on the danger of secondary stricture after nearly every kind of operation. In some articles this objection has been brought very prominently forward. Jacobson's "Surgery" gave secondary contraction a prominent place among the objections to the Murphy button. I believe that in all cases where we do either suture anastomosis or a button anastomosis the element of danger from the development of secondary connective tissue in the intestinal wall is slight.

Therapeutic Application of Methyl Salicylate.—When the sound skin is painted with methyl salicylate and an airtight bandage applied, the salicylate is absorbed and eliminated in the urine as rapidly as in case of sodium salicylate taken internally. It relieves the pain in all affections accompanied by local pain, neuralgia, gonorrhéal arthritis, colic from gallstones, etc., as well as in articular rheumatism. These assertions by S. Barski (*St. Petersb. Med. Week.*) are based on an experience of 122 cases of various affections in which methyl salicylate was applied in this way, with most gratifying results.

Injury of Ureter During Laparotomy.—N. Fenomenoff relates in a Russian journal quoted by the *Sen. Méd.* of November 14, that he had the misfortune to excise a small portion of one ureter during a tedious operation for removal of cystic tumors in the broad ligament. Instead of suturing the ureter to the abdominal wound and abating the kidney later, he resolved to exclude the kidney at once, as *restitutio ad integrum* was impossible. He, therefore, drew the proximal stump of the ureter down as far as possible to prevent a diverticulum, and threw two ligatures around it, then replaced it in its normal position and sutured the abdominal wound, draining through the vagina. The patient made an uninterrupted recovery, complaining merely of a few dull pains at times in the lumbar region at first. She left the hospital in a month, and during the year since the operation has been in good health, with no indication of abnormal function even on analysis of the urine.

* This discussion was accidentally omitted last week, when the paper appeared.

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INTRA-ABDOMINAL TORSION OF THE OMENTUM.

The diagnosis of intra-abdominal disease is at times surrounded by so many difficulties that the clinician can not too securely fortify himself against error; but even the most careful and well-informed observer may occasionally be forced to exploratory operation in order to determine the exact nature of the conditions present and to afford the relief that seems urgently necessary. It is well-known that the bowel may become not alone incarcerated in natural or adventitious openings or loops, but also twisted on itself. The omentum, likewise, alone or together with the intestine, may be herniated and, like other organs with a pedicle or analogous attachment, it may undergo torsion, which, if not relieved, must terminate in gangrene and fatal peritonitis. The literature of such twisting of the omentum seems to be scanty, and the difficulty of recognizing the condition apart from operation is almost insurmountable, by reason of its apparently constant association with some form of hernia.

Not alone may the omentum be twisted on itself, but it may also be doubled up on itself once or oftener in a hernial opening. To this latter condition the designation retrograde incarceration has been applied. Both phenomena may be associated, or each may exist independently.

To the small number of cases in the literature Dr. Joseph Wiener, Jr.,¹ adds the report of another, which illustrates the essential features of the disorder. A man, 79 years old, with a right-sided reducible inguinal hernia of thirty years' standing, was suddenly seized with pain in the right iliac region, which subsided in the course of twenty-four hours. Three weeks later a similar attack occurred, the pain being cramp-like in character but unattended with vomiting or fever. The bowels had moved regularly. The abdomen was soft and tympanitic. A round tumor as large as an orange, tender to touch, of doughy consistency and dull on percussion, was found midway between the right anterior superior iliac spine and the free border of the ribs, between the axillary and the mammillary line. The sac of a right inguinal hernia was found empty. The temperature rose to 101.1 F., the pulse to 100, and the respiration to 31. A diagnosis of intra-abdominal abscess was made. On opening the abdomen by an incision over the tumor,

a piece of omentum as large as the palm of a hand, infiltrated and dark-blue in color, was found, with its distal portion adherent to an epiploic appendix of the ascending colon and the proximal portion continuous with the remainder of the omentum by a narrow pedicle, which was twisted on itself five or six times.

The condition under consideration has hitherto occurred only in patients suffering from hernia, though it was not always found in relation thereto. It has not been recognized prior to operation. Manipulation in attempts at reduction of hernia is thought to be a predisposing etiologic factor in some cases; circumscribed peritonitis with adhesions may act in a similar way. Violent abdominal movement may be the exciting cause in bringing about the twisting. The possibility of the existence of this condition should be borne in mind in operations for hernia attended with symptoms of strangulation, in which only a strand of omentum is found in the inguinal canal, and investigation should be made to determine that there is no torsion of the intra-abdominal portion of the omentum.

REQUIREMENTS FOR ADMISSION TO MEDICAL SCHOOLS.

Laxity in the requirements for admission to medical schools is one of the most serious shortcomings of American medical education. In the classes of too many of our medical colleges will be found those who are not fit for the medical profession because of lack of training and education, but who yet go away with medical degrees. The proportion of unworthy men, it is feared, is much larger in some schools than it is in others. Such men should not be admitted to the study of medicine. Once admitted they are dragged along with the classes and eventually a diploma is thrust on them. We read in the catalogues of the medical schools that students are admitted by diploma, certificate and examination; but in the majority we fail to find that any control is exercised as to the source and authority of the diploma or certificate. If the certificate is from a high school there is nothing to show that the high school is controlled and approved by some authoritative body capable of doing it, as, for instance, a state or other university. There is also good reason to believe that in many instances the entrance examinations to which the applicant is subjected in lieu of certificate or diploma are of the most perfunctory character. The general scope of the preliminary education by schools that do not demand college degrees for admission is stated often in the most general and indefinite terms.

The new requirements for admission to the medical department of the University of Michigan, copies of which have just been received, are a refreshing exception to the vagueness generally characteristic of such statements. The branches that must have been pursued successfully, and other conditions for admission, are stated clearly and explicitly. A schedule is submitted showing as exactly as such a thing can be shown what

¹ Annals of Surgery, Nov. 1900, p. 648; THE JOURNAL, Nov. 24, p. 1376, abstract 58.

the applicant shall have done in English language, history, mathematics, natural sciences, modern languages and Latin, and certain possible substitutions, before he is admitted to the medical courses. This is a good step in the right direction. Instead of relying implicitly on certificates and diplomas the student must show that he can fulfil certain fundamental requirements that experience and reason proclaim as absolutely essential. In this way the work of the preparatory schools is controlled and brought into better harmony with the work of the medical schools.

The medical department of a great state university can well afford to take a decided lead in all matters appertaining to raising the standard of medical education. It ought to be wholly independent of the number of students admitted. The larger the number of applicants the greater reason to stiffen the requirements. Numbers may flatter the board of regents, but they do not make of necessity great universities.

ENDOCARDITIS IN ITS RELATIONS TO OTHER DISEASES.

In an exhaustive report on endocarditis before the German Congress for Internal Medicine,¹ Litten reaches certain conclusions, which seem to represent fully our present knowledge of this interesting affection. Litten's report appears to have met the approval of the Congress, as many of its members expressed their satisfaction with it.

With the exception of the atheromatous or arteriosclerotic form, endocarditis is almost always a complication in the course of an infectious disease and is caused by micro-parasites. The current designations "verrucous" and "ulcerative" do not carry with them any precise significance as to the origin and cause of endocarditis, which from the clinical and prognostic standpoint may be divided into benign and malignant. Benign endocarditis causes only slight changes without much if any clinical disturbances, but it may lead to chronic valvular disease. It always—or nearly so—involves the left side of the heart and may give rise to aseptic infarcts in the systemic circulation. Pulmonary infarcts in such cases usually result from venous thrombi or thrombi in the right heart.

Malignant endocarditis is always dangerous, develops in either side of the heart, and assumes at one time the verrucous, at another the ulcerous form anatomically. The emboli given off may act mechanically or in an infectious manner, depending on the nature of the underlying condition. Hence malignant endocarditis may be divided into two groups, one without, the other with, suppuration.

Trauma may cause inflammatory disease of the valvular endocardium, terminating either in healing or in chronic valvular disease. Secondary infection may transform this benign endocarditis into a malignant and septic-pyemic.

According to its secondary nature, endocarditis is classified by Litten as follows, on the basis of etiology: I. Endocarditis benigna, which includes the following variations: rheumatica, peliötica, choreatica, gonorrhoeica, scarlatinosa, morbillosa, variolosa, diphtheritica, typhosa, pneumonica, tuberculosa, e. influenzae, and traumatica. II. Endocarditis maligna; this is divided into, 1. e. non-suppurativa, which includes e. rheumatica, e. choreatica, and e. gonorrhoeica; and 2. e. suppurativa, septic-pyæmia—primary or secondary in any of the above forms. Benign and malignant gonorrhoeal endocarditis are caused by the same agent, the gonococcus, the difference being merely one of degree dependent on the virulence of the bacterium. The nature of the cause of rheumatic endocarditis is not known any more than the cause of typical articular rheumatism is known: rheumatic endocarditis may be assumed to be caused by similar agents of varying virulence.

This summary may be regarded as the most comprehensive and most successful of all the efforts at classifying endocarditis in its various forms. The more it is studied the better does it satisfy the demands on a scheme of this character. Its basis is essentially etiological. The old anatomic subdivision into ulcerative and verrucous long proved insufficient and confusing. The clinical subdivision into benign and malignant is helpful provided the line of distinction between the two be drawn not too sharply, as the difference is but one of degree. It is needless to say that benign here refers to the type of the disease.

ECLECTICS, HOMEOPATHS AND REGULARS IN CHICAGO AND THEIR OFFICIAL RECOGNITION.

An interesting document has been prepared by the regular attending staff of the Cook County Hospital, of Chicago, for the purpose of inducing the Board of Cook County Commissioners to readjust the ratio now in vogue at the hospital of distribution of the patients among the regular, homeopathic and eclectic services.¹ It appears that 16.66 per cent. of all patients now entering the hospital are assigned to the eclectic service; 20 per cent. to the homeopathic; and 63.33 per cent. to the regular. This apportionment, originally based on the number of students in the different "schools," does not now fairly represent the attendance of the various colleges. In 1899-1900 there were 101 eclectic students in Chicago, or 3 per cent., 659 homeopathic, or 19.3 per cent., and 2648 regular, or 77.7 per cent. During the past six years there has been a diminution in the number of eclectic students, a slight growth in the homeopathic, and a steady and enormous increase of students in the regular schools. Similar results are obtained by comparison of students graduating each year from the different schools. The "Chicago Medical Blue Book" for 1900 gives the following as the number of physicians in Cook County and Chicago: eclectic 191, or 5.64 per cent.,

¹ See editorial Cook County Hospital and Politics. THE JOURNAL, Dec. 1.

homeopathic 558, or 16.53 per cent., regulars 2633, or 77.87 per cent.

The present system of distribution of patients in the Cook County Hospital is consequently not a just one—a more liberal share should be accorded the regular service. Placing the basis of distribution on the number of students in the colleges professing the different "systems" of medicine here recognized would give, on a scale of 33: eclectic, 1 patient; homeopaths, 5 patients; regulars, 26 patients. A similar disproportion exists in the number of the three distinct attending staffs. Last year 27.7 per cent. of the eclectic graduates became internes, 3.8 per cent. of the homeopathic, and 2.6 per cent. of the regular—the eclectic "school" having over ten times as many internes as the regular in proportion to the graduating classes from which the internes are chosen by the respective staffs.

It is asked that such a reapportionment of patients be made as would be in accordance with the representation of the various "schools" of practice in the county; or that the annual competitive examination for internes be thrown open to any graduate of any medical school in Cook County, a committee of four, one eclectic, one homeopath and two regular attending men, chosen by the respective staffs, to examine on every subject usually examined in; in materia medica and therapeutics a separate examination is suggested by committees from attending staffs of the three schools, the markings being added to the other averages in order to determine the relative positions of the successful competitors from each "school"; the number of successful candidates from each "school" shall determine the ratio of patients to be assigned to each "school" for that year. i. e., the scale shall represent the total number of internes and the allotment of patients to each staff shall bear the same ratio as the number of internes from each "school" to the total number of internes admitted. The last proposition ought to appeal to those interested in higher medical education; a healthy competitive spirit would arise among the various schools; and the men best qualified would be chosen for internes, irrespective of the "school" in which they happen to have taken their medical degree. It is hoped that the governing body will canvass thoroughly the situation and that a full discussion of this matter may be had by representatives from the institutions that are interested in the outcome.

Incidentally this document, evidently prepared with much care, brings to light valuable information concerning the relative status of different "schools" in this medical center in which there were, during 1899-1900, no less than 3108 medical students. From 1894-95 to 1899-00 the number of regular students gradually increased from 1681 to 2618. Surely a city that draws so many students has placed upon it a responsibility of the most important nature; demanding the serious attention of its citizens. If it shall continue as one of the great medical centers such questions as the one

touched on in the foregoing must receive a solution which is strictly a fair one to those directly concerned. Aside from the scientific aspects of the question, on which much might be said, the economic interests involved are of themselves alone of no mean importance to the city. Will the members of the medical profession join in an effort to secure their rights?

THE ENGLISH LANGUAGE AND MEDICINE.

The recent order of the Emperor of Germany to have instruction in the English language, instead of the French, made compulsory in the higher public schools of that country is significant in several directions. It may be taken for granted that the order was inspired by policy and that sentiment had no agency in its issuance. The world is becoming more and more Anglicized in a linguistic point of view, and the prescience of the Japanese statesman, Mori, who some thirty years ago advised the adoption of English by his countrymen is yearly becoming more manifest. Wherever commerce goes the English speech follows; it is the language of business throughout the world. This pre-eminence has been gained not altogether through the expansion, commercial and otherwise, of the English-speaking people, but also from its own advantages of conciseness, copiousness and general adaptability to all the needs of human intercourse. A German merchant is quoted by a Washington diplomat as saying that he uses it for his correspondence because he can say in a page of English what would take three pages of German, and say it more clearly and exactly.

Another evidence of the fact is the way that English supersedes other languages among immigrants in this country; not only do these languages disappear in the second generation, but the immigrants themselves often begin soon to use English either wholly or in part, by preference in their intercourse with each other. It is only in isolated communities and where particular effort is made to that end that the foreign language holds its own. The medical bearings of these facts are, if not at once obvious, easily pointed out. Until a very recent period the international language of diplomacy, science and culture has been French, and even yet it holds its position to a certain extent. In medical literature, international congresses, etc., French is still the official favored language, as it is in diplomacy, though English is coming more and more to the front. The recognition by Germany that it is the coming international tongue is an important step, in which, however, it has been anticipated in some degree by one or two Hollandish societies that have for some time printed their transactions in English. In 1890 27 per cent. of the civilized world used English as their common speech, a larger proportion than that of any other tongue. At the present time it would undoubtedly be found that this percentage has materially increased, if the statistics were available. It is the present language of the future and there is no reason why it should not be the

international language of medicine and science wherever and whenever such a language is required.

It would seem, therefore, to be the duty of English-speaking physicians to insist on the recognition of these facts, not necessarily to the prejudice of other languages, but simply to do all in their power to make their tongue the universal language of medical science. In time this will be brought about by its own merits; its advantages will be appreciated in scientific as it has been in business communications between man and man. The extension of the English language is, from present signs, likely to be more rapid in the future than in the past, especially on this continent and in those parts of the world coming under the influence of European and American civilization. English is already the mother tongue of the great majority of the white race in the two Americas; it is spoken throughout the Orient more than any other European language; its medical literature is proportionately greater in volume than any other, and the fact that it is largely overlooked by continental writers should inspire us to more firmly demand its recognition. Medical knowledge should use the language which is destined to be foremost of all.

ALCOHOL IN CRIMINALITY.

Alcohol is generally assumed to accomplish its work in the production of crime, and to lead to acts of violence, especially in this country; in the well-policed regions of continental Europe we do not look for such effects, at least not to so great an extent. It is commonly said moreover that in Germany the universal custom of beer-drinking is not attended with the social dangers experienced here from the common excesses in the stronger alcoholic beverages and that if we could imitate them it would be better for us. A little medical testimony on this point may therefore not be out of place. In a recent article published in the *American Journal of Insanity* for October, Dr. Emil Kraepelin, the corypheus of German psychiatry at the present time, gives incidentally the results of a study of the newspaper reports of criminal acts committed during 1898 by persons under the influence of alcohol in the district from which his clinic drew its patients. The population of the district in 1898 was 640,673, and of these 237,770 lived in towns, the majority of which were small. From the newspaper clippings he gathered the following: 11 murders were committed by alcoholics and 47 severely injured, 9 of whom subsequently died of their wounds; there were 25 brawls in which a number of persons received minor injuries, and 2 riots in which the police were overpowered, injured and even besieged while bands of young ruffians terrorized the town. Besides these, arson, robbery, and theft were committed by alcoholics; 13 persons were injured, 6 fatally; 2 persons died of acute alcoholism, and 2 committed suicide. These data he considers are only the more startling facts reported in the papers consulted by him and do not in his opinion at all completely represent the actual effects in this particular line of alcoholism in the district. If, as he says, the sum of the homicides

and woundings due to alcohol is as great as that attributable to all the other forms of insanity in a non-metropolitan German district, "one can hardly dispute the truth of the assertion that alcoholism is the form of mental disease which above all threatens the community." His article is not devoted to the subject of alcoholism; it is a general consideration of the relation of the state to insanity. These incidentally mentioned statistics of alcoholic criminality are, however, of interest in comparison with similar data from like regions in this country. We are here apt to consider ourselves as especially afflicted in this regard, but the fact is that conditions are not so very different where alcoholic habits are common, not even in Europe, as we have perhaps been inclined to think.

THE METRIC SYSTEM.

A bill is passing through the various stages in Congress which, if it becomes a law in its present form, will encourage the adoption in the United States of the metric system of weights and measures on Jan. 1, 1903. The bill has been reported favorably by the committee on weights and measures, and therefore there is a probability of its becoming a law. The friends of the measure, however, are not over sanguine, knowing that much opposition is still to be met. It is not to be denied that changing from the present cumbersome and complicated system, with its variety of units, to the simple one used by all except English-speaking people, will upset business and cause confusion in the commercial world. Substituting the meter for the yard alone would play havoc in our dry goods stores. But all this confusion would soon subside and a little preparatory education would remove much of the difficulty when the time came to meet it. It is a change that will not be made all at once, but will be done by degrees. The sentiment for this change may be a growth. In medicine, the system has already been more or less in use, as the AMERICAN MEDICAL ASSOCIATION, in 1879, passed a resolution looking to its adoption. Other scientific bodies have also taken similar action and in various ways have encouraged its use. It has not been as readily accepted as it was hoped, but each year the number using it is increasing. All first-class pharmacists are familiar with the metric system and can fill a prescription written in it as well as one written in the old apothecaries' measure. Hence, if Congress should authorize the adoption of the system on Jan. 1, 1903—and we certainly hope it will—the medical profession will be ready and more than willing to adopt it.

UNDESIRED NEWSPAPER NOTORIETY.

Newspaper notoriety is very acceptable to some, of unconcern to a few, and extremely objectionable to the great majority of the members of the medical profession. When a physician's name is printed in the newspaper every time he leaves his home to be absent a few hours, or when he performs some operation out of the ordinary, or whenever he reads a paper before his local society, there is generally good reason to believe that he comes under the first of the classes mentioned. As a rule, the

name of a physician does not get into a newspaper unless the owner of it is at least willing that it should get there. On the other hand the names of those who come under the third head get in the newspaper occasionally and, of course, without sanction or permission. Newspapers are always searching for the sensational and the mysterious, and if a reporter can find the slightest foundation for an article that will bear flaming headlines he will not hesitate to write up an operation, a supposed new discovery or anything else of a sensational or mysterious nature in medicine, and use in connection with it the name of a member of the medical profession without regard to the wishes of the one whose name is so used. This is illustrated in the case of Dr. W.W. Keen, of Philadelphia, whose name and photograph were used in connection with a most sensationally worked-up article on an operation under cocain anesthesia. Those who know Dr. Keen appreciate the fact that he would under no consideration allow his name to be used as was done on that occasion, and he took such action that it will probably not be repeated. Recently, in Chicago, a sensational report of a discussion in the local medical society was printed in an afternoon paper, and a more elaborate and probably more sensational report was to have appeared in various morning papers, had not certain prominent physicians acted quickly and suppressed its publication through personal interviews with the editors. Another instance of undesired publicity is referred to in our correspondence column in this issue. No one who knows Dr. Babcock would for a moment suspect him of wishing for newspaper notoriety, particularly such as that of the syndicate article to which he refers. It is to be regretted that there are some connected directly or otherwise with the medical profession who, perhaps for pecuniary reasons, are willing to aid newspaper reporters in thus outraging professional courtesy, for it is evident that at least occasionally some one possessed of a little medical knowledge must have had a hand in the performance. It impresses upon one the conviction that ethical principles ought to be among the first conveyed in medical instruction, and that no student should be graduated who is not thoroughly grounded in them. If more attention was given to the higher morals of our profession in our medical colleges there would be fewer of these violations in this particular way.

CANCER INVESTIGATION.

We now have in the United States at least two centers for the systematic investigation into the origin of cancer, namely, the New York State Pathological Laboratory, at Buffalo, under the direction of Roswell Park, and supported by public funds, and in Boston, where a committee from the Harvard Medical School through the generosity of the late Caroline Brewer Craft has been enabled to plan systematic work. This is a very satisfactory beginning. The first annual report¹ of the cancer investigation committee of Harvard Medical School shows in a general way the scope of the work which is in charge of the department of surgery, of which J. Collins Warren is the head. Analysis of the statistics for Massachusetts, by W. F. Whitney, is stated to show

a marked increase in the death-rate from cancer, the curves being remarkably similar to those of the British registrar-general. This goes to confirm the impression that there is a general increase in the frequency of this disease. Edward H. Nichols reviews the general reasons for and against the theory that cancer is due to the action of a parasite. Nothing new is presented. He found the so-called cancer bodies in certain types of cancer, especially of the breast, but not in epidermoid cancer. Animal inoculations and culture experiments with human cancers were all followed by negative results. Inoculations of animals with the blastomycetes of Sanfelice and Plimmer resulted in nodules of granulation tissue, but no tumor like cancer was produced. R. B. Greenough studied the presence of the so-called "Plimmer's bodies" in cancer; they were found in twenty-three cancers of the breast, being most numerous near the periphery of the tumors and in the metastases. Three epidermoid cancers did not contain any such bodies. E. E. Tyzzer writes about tumors and sporozoa in fishes, but the facts given relate wholly to sporozoa, which do not seem to cause tumors in fishes. Edwin A. Locke describes the reconstruction in wax of a nodule of cancer, a very interesting task. The model shows the relations of the tissues and the manner of growth. Each column is an outgrowth, all parts of the nodule being united with other portions of the tumor. Such models will form a valuable means of instruction. Oscar Richardson reports on a number of faultless culture experiments with carcinomatous tissue, the general result being that no organism that could be regarded as in any way specific was found. This résumé shows, as stated in the report, that the work is in its preliminary stage; no definite conclusions of any sort can be drawn in regard to the main problems at issue. It is a matter for congratulation that well-trained and well-organized groups of investigators may find such favorable opportunities for original research in such an inviting field as the origin of cancer.

THE PRESENT STATUS OF HYDROPHOBIA.

Modern scientific medicine is under heavy obligation to Louis Pasteur, not only for many original and illuminating observations, but also for the healthful impetus he gave to careful, painstaking investigation; and in this material age not the least tribute that can be paid his work is the acknowledgement of its intensely practical value. His studies in fermentation and in parasitology opened new avenues of thought and activity, and have led to results far exceeding the most sanguine expectations of his time. His method of treating hydrophobia was long regarded with doubt and suspicion, but the lapse of time has only tended to place it on a firmer basis and secure for it the recognition it deserves. It was, in some respects, next to vaccination for smallpox, the first of the biologic methods of treatment. The evolution of our knowledge concerning hydrophobia is traced in a most interesting manner by Babes² in a recent communication. As he points out, it is really only within the last twenty-five years that correct notions on this subject have prevailed, and it

1. Journ. Boston Soc. of Med. Sc., 1900, v. 31:80.

2. Berliner Klin. Wochenschrift, 1900, Nos. 42 and 43.

is now generally agreed that hydrophobia, or rabies, is a specific infectious disease transmitted between animals and man, although the hypothetical micro-organism has not yet been isolated. The medium of communication is usually the saliva of a rabid animal, either through a bite-wound or other solution in continuity of structure, and the central nervous system is the principal seat of the morbid process. Inasmuch as dogs are the most common agents for the transmission of the disease, the use of muzzles and the impounding of these animals serve to diminish greatly its prevalence. In the nervous system nuclear hyperplasia of the adventitia and miliary accumulations in the vicinity of the vessels have been found, and more recently attention has been called to the presence of marked inflammation of the gray matter, especially of the oblongata and the spinal cord, the infiltration assuming a peculiar nodular form. The period of incubation of hydrophobia is long, and considerable time elapses before the effect of protective inoculations becomes manifest, but it has been found that cauterization of the wound of infection prolongs the period of incubation and thus may prove a useful adjunct in treatment. However introduced, the virus of rabies reaches the central nervous system. A stage of premonitory fever has been observed preceding the outbreak of the actual symptoms, and these also may be attended with fever. It is suggested that the anti-rabic inoculation results in a neutralization of the virus before this reaches the nervous system, while when once the nervous system is actually involved the outlook is much less favorable. It seems almost certain that rabies is dependent on the action of a micro-organism, with the identification of which it can be hoped that an anti-toxin will be secured capable not alone of conferring protection against the disease, but also of effecting a cure after symptoms have developed.

Medical News.

CALIFORNIA.

DR. ALFRED E. REGENSBURGER, San Francisco, has resigned from the faculty of the College of Physicians and Surgeons.

THE HEALTH OFFICER of Oakland discovered four cases of smallpox in that city November 24 and 30; all the patients are colored and are employes of the Pullman Company as cooks on dining cars or porters.

IN LOS ANGELES writants were issued, November 28, for the arrest of three women and one man charged with practicing medicine without having obtained certificates from the State Board of Medical Examiners.

THE DIRECTORS of the Institute for the Deaf, Dumb and Blind at Berkeley are about to appeal to the state legislature for an appropriation of \$12,000 with which to erect and equip a hospital building for the institution.

THE TRUSTEE of the Garcelon estate transferred to the Meritt Hospital trustees, Oakland, November 28, stocks and bonds aggregating \$75,000. This is the first payment on the \$400,000 bequest of the late Mrs. Catherine Garcelon for the establishment of a general hospital at Oakland.

THE PRESENCE of smallpox in Grass Valley has been confirmed after investigation by Dr. H. H. Look, of the State Board of Health. The disease is of a relatively mild type, resembling that which has been and is prevalent in Jackson, Rio Vista, Marysville and other towns in the state.

SANTA ROSA, Cal., has passed a quarantine ordinance which provides that whenever the board of health shall ascertain that any person is sick with smallpox, scarlet fever, diphtheria or any other disease dangerous to the public health, the board shall at its discretion have full control of said person or

premises, and shall if it deem proper order the premises vacated.

A SANATORIUM FOR CONSUMPTION.

A number of gentlemen of Southern California have formed an organization which is building a sanatorium in Strawberry Valley, to be known as the Idylwild Sanatorium, for the care of invalids, particularly of the tuberculous class. The company owns more than a thousand acres of land extending to the mountains on either side of the valley, the altitude of which is slightly over 5000 feet above sea level. The scenery is grand and picturesque, resembling that of the White Mountains. The air is dry and clear and never unpleasantly hot in summer, while in winter the temperature occasionally falls below freezing point, and has been known to touch 18 F. There will be a few cottages and tents to rent near the sanatorium, the company furnishing light, water and sewerage connections for those who desire to keep house. Pure water has been piped to the sanatorium from a mountain stream.

ILLINOIS.

THE FAIR for the benefit of St. Joseph's Hospital, Joliet, will result in a net gain to the beneficiary of nearly \$5000.

DR. LESLIE M. HOYT, Sycamore, who sued the city for \$20,000 for injury to an eye from the overhanging limb of a tree, has settled for \$1800.

AN EXAMINATION for physicians, midwives and other practitioners will be held in Chicago by the State Board of Health, January 9, 10 and 11.

Chicago.

DR. GEORGE F. FISKE has returned from his European trip.

DR. NICHOLAS SENX leaves Tuesday, December 18, for Central America, to be gone about four weeks.

INFANT MORTALITY increased for the week ended December 8 in a marked degree, the deaths of children under 1 year being 91, while during the previous week only 56 were reported.

THE NOVEMBER mortality was 1746, equivalent to an annual death-rate of 12.49 per 1000, which compares favorably with the average mortality per mille for the previous ten years, which was 14.87.

IT IS NOW announced that the coroner-elect has appointed Dr. George Leiminger, as coroner's chief physician at a salary of \$2500. The new appointee is recorded in Polk's Directory as the "Inventor and Proprietor of Formaldehyde Generator."

SINCE the close of November the increase of mortality among the aged has been unprecedented. Last week, out of a total of 447 deaths, 104, or more than 23 per cent., occurred in those over 60 years of age.

THE FIRST CASE of smallpox since June was imported from Ashland, Wis., and detected November 30. The federal health reports show an increase of 350 per cent. in the prevalence of smallpox throughout the United States and the Health Department urgently recommends a general and individual resort to vaccination.

KANSAS.

THE EXHIBIT made by the State Board of Health at the Paris Exposition has been awarded a silver medal.

SMALLPOX is prevalent in the state. There have been reported to the State Board of Health 37 cases in 11 different localities. Wichita leads with ten cases.

THE PHYSICIANS of Topeka must register in a book provided for the purpose in the office of the city physician, giving their names, addresses, schools from which they graduated and other information, and this must be done before December 20.

THE NEW MEDICAL BILL prepared by the legislative committee of the State Board of Health is liberal. It does not interfere with "Christian Science," osteopathy or any other "cures" so long as each system of practice is confined to its "school" methods.

LOUISIANA.

THE GRADUATION exercises of the Charity Hospital Training School for Nurses, New Orleans, were held December 12.

THE NEW ORLEANS Board of Health has again been disappointed by the city council. Instead of \$51,000, the sum asked for, the board is budgeted for the small and manifestly insufficient sum of \$3000.

THE BOARD OF ADMINISTRATORS of the New Orleans Charity Hospital decided at its last meeting to add 100 nurses to the present corps, and thus to provide trained nurses for the male medical and surgical wards. It was also decided to erect a special building for the accommodation of the nurses, to cost \$25,000. Plans for this building, which will be 40x120 feet, with dormitories, lecture room, library and sitting room, etc., will be submitted at the next meeting.

SHIPS COMING from plague-infected ports will now be detained only five days at New Orleans provided the new rules of the board of health are observed. "The vessels are to be disinfected in midstream, will anchor 100 feet from shore at night and forty-five feet from shore in the day time. Metal funnels will be used on the hawsers attached to the shore to prevent rats from leaving the ships, and men armed with shot-guns will be stationed on shore and in skiffs to shoot any rodent that may attempt to get away. All dead rats are to be handled with rubber gloves and cremated. Long gangplanks closely guarded will be used to get the cargo ashore."

MARYLAND.

THE BOARD OF MEDICAL EXAMINERS of Maryland has granted license to practice medicine and surgery to 20 of the applicants who were recently examined by it.

Baltimore.

THE HEBREW CHARITY fund now amounts to \$10,415.

THE LAENNEC SOCIETY has been organized at the Johns Hopkins Hospital. It is the fourth society to be organized there and is devoted to the study of tuberculosis.

HEALTH COMMISSIONER BOSLEY has made the following appointments, to take effect December 15: Dr. Alan W. Smith, inspector of throats; Dr. Samuel A. Keene, medical examiner, vice Drs. Charles B. Canby and Albertus Cotton respectively.

A SUIT for \$5000 damages has been brought against the Johns Hopkins Hospital by two individuals who claim to have received personal injuries through a live electric wire while walking along the street in front of the hospital.

THE TOTAL DEATHS for the week ended December 1 were 157, 38 less than the previous week, a death-rate of 14.26 per 1000 for whites and 20 per 1000 for colored per annum. There were 3 deaths from typhoid fever, 6 from diphtheria, 24 from tuberculosis, 5 from cancer, 19 from pneumonia and 16 from Bright's disease.

A METHOD by which infectious diseases may be often distributed through a community, has been brought to the attention of the health department. The law requires funerals in case of death from diphtheria to be held within 24 hours. It has been found that the mother of the deceased, either from being too poor to procure mourning clothes, or because of the short interval, borrows them from a friend. After the funeral they are returned without any attempt at disinfection. Mourning goods are especially adapted for conveying germs, as they can not be boiled like linen, etc. Cases have occurred in this city in which there is every reason to believe that diphtheria was communicated in this way.

MASSACHUSETTS.

DR. ARCHIBALD J. RAMSEY, superintendent of the Massachusetts Almshouse Hospital, Tewkesbury, assumed charge of the Long Island Almshouse and Hospital, December 1.

DR. J. HOBART EGBERT, Holyoke, sailed for Honduras, November 28. He is to be chief surgeon for the New York-Honduras Mining Company, and will have his headquarters at San Juanito.

THE AUTOMOBILE AMBULANCE, which has now been in commission for four weeks at the Massachusetts General Hospital, gives entire satisfaction. It is especially useful in transporting patients from the hospital to the Convalescent's Home at Waverley, a distance of eight miles.

DAMAGES amounting to \$600 have been awarded Louise de Lisle, a dramatic aspirant, who sued Dr. Frank T. Brough, Boston, for \$2000, because, as she alleged, he so removed a crease in her left cheek as to distort the position of her ear, and thereby prejudiced her chances of dramatic success.

THE COMMITTEE appointed to consider the division of the Somerville schools into medical districts under constant supervision, has reported favorably on the project. The board of health has been notified that the school authorities will cooperate with them, and the board of aldermen have been requested to provide the board of health with the funds necessary for the expenses of medical inspection.

MICHIGAN.

MASON COUNTY has an epidemic of smallpox. It is reported that there are a hundred cases in Custer and Scottville. Custer township is under strict quarantine.

AT MUSKOGON, Dr. Augustus G. Reitz was found guilty of practicing medicine without a certificate. A stay of twenty days was granted, and the case may be taken to the higher court.

CEREBROSPINAL meningitis was reported present during November at 4 places, whooping cough at 20, measles at 20, smallpox at 37, diphtheria at 75, scarlet fever at 168, consumption at 174, and typhoid fever at 254.

MEMORINEE is alive to the fact that smallpox prevails in the upper peninsula, and has issued orders that after December 10 no child shall be admitted to the public schools without a certificate of successful vaccination within seven years, signed by a practicing physician.

MISSOURI.

THE SUIT of Dr. James W. Crewdson, Louisiana, for medical services to the late Fielden Estes, amounting to \$6900, was concluded November 24, when the jury returned a verdict of \$2375 for the plaintiff.

A RECEPTION was held in the new addition to the University Medical College, Kansas City, December 7. On December 5 the new demonstrating and clinical room of the college was dedicated by Dr. Jabez N. Jackson.

A MEETING was recently held by a number of the prominent physicians of St. Louis to organize a post-graduate clinical school and hospital. The intention was to associate those, as far as possible, who had no allegiance in other directions, and who would be ready to give their entire attention to post-graduate duties. It is hoped that the organization can take place in time to begin work in the spring, so that in 1903, with the increase of medical men in St. Louis co-incident with the World's Fair to be held here, the college may be well under way and in good working shape.

THE NEW BETHESDA HOSPITAL for Incurables at St. Louis, was opened December 1. It has facilities for the accommodation of 80 patients. There is an excellently fitted up operating room, and an isolated ward for the treatment of contagious diseases. The entire three-story brick structure, without furnishings, electric lighting and newest sanitary appliances was given free from debt at a cost of something over \$70,000 by Mr. R. M. Seruggs, of St. Louis.

THE CONSOLIDATION of two important medical colleges in St. Louis, under the name of the Marion Sims-Beaumont College of Medicine, which was effected November 22, is said to be preliminary to affiliation with the St. Louis University as its medical department. The Marion-Sims building at Grand avenue and Caroline street, with new additions already projected, will be used by the new college. The new institution will have abundant clinical advantages, the following institutions being under the control of members of the new faculty: Alexian Brothers' Hospital, Rebekah Hospital, St. Mary's Infirmary, Josephine Hospital and Grand Avenue Dispensary. In addition, the following hospitals will afford clinical material: City Hospital, St. Louis Insane Asylum, Protestant Hospital and Baptist Sanitarium. The governing faculty will include the following: Dr. Young H. Bond, gynecology and pelvic surgery; Dr. Leonidas H. Laidley, gynecology, pelvic surgery and clinical gynecology; Drs. Frank J. Lutz, Jacob Geiger, of St. Joseph, William A. McCandless and J. R. Dale, surgery; Dr. John T. Larew, surgical anatomy and clinical surgery; Dr. Thomas C. Witherspoon, operative surgery on the cadaver and clinical surgery; Dr. Clarence M. Nicholson, anatomy and clinical surgery; Drs. Carl Berek and Adolph Alt, ophthalmology; Drs. William G. Moore, Hugo Summa and George C. Crandall, medicine; Dr. Jacob Friedman, clinical medicine and chemistry; Dr. Joseph R. Lomen, chest diseases; Dr. Benjamin M. Hypes, obstetrics; Dr. Walter B. Dorsett, obstetrics and gynecology; Dr. Robert C. Atkinson, diseases of children; Drs. Charles G. Chaddock and Sidney I. Schwab, nervous diseases; Dr. Max A. Goldstein, otology; Dr. Hermann H. Born, anatomy; Dr. Remy J. Stoffel, therapeutics; C. D. Lukeus, dentistry, and Bransford Lewis, genito-urinary diseases.

MONTANA.

COMPULSORY VACCINATION has been ordered in Butte and Silver Bow county.

SMALLPOX was reported during November in Butte, Anaconda, Carbonado, Bridger, Missoula, Dillon and Walkerville.

A NEW pest-house has been rendered necessary by the number of smallpox cases in and around Butte, and a building 100x20 feet will be erected at once, near the present isolation hospital.

THE TEMPORARY or ad interim board of health project has been abandoned, as it has been discovered that the governor has no legal authority to make such appointments. The matter, therefore, must wait until the legislature meets, when a bill will be introduced to create a state board of health, defining its duties and powers.

NEBRASKA.

DR. J. CAMERON ANDERSON, Omaha, on the inauguration of Governor-elect Deitrich, will be made surgeon-general of the state.

KEARNEY AND NORTH PLATTE are afflicted with smallpox. At the latter place, the public schools have been closed, public meetings discontinued and many men in the railroad shops laid off in the attempt to conquer the disease. Nebraska has no state system of local health boards. The organization is dependent entirely on the will of individual communities, and there is necessarily great difficulty in enforcing quarantine regulations, except in the great cities, on account of this fact. Dr. Victor H. Coffman, health commissioner of Omaha, makes an earnest plea for the prompt report of infectious diseases to him, and says that if the physicians of the state refuse to co-operate with the health authorities by reporting and quarantining smallpox, a serious epidemic is certain to occur.

NEW JERSEY.

DR. HENRY J. F. WALLHAUSER, Newark, is suffering from an attack of appendicitis, and is seriously ill.

CLAYTON physicians have organized and determined to make no calls within town limits for less than \$1. or in the outlying districts for less than \$1.25. They have also instituted a "black-list."

DAILY MEDICAL INSPECTION of schools has been inaugurated at Paterson, and a force of four physicians is at work examining all children isolated by their teachers. The inspectors are, however, not allowed to prescribe for the children either at their homes or at the schools.

THE CAMDEN Board of Health has decided on plans for the new municipal hospital, which contemplate a main building to contain detention, inquiry and operating rooms, and two ward buildings, each having a capacity of 15 or 16 beds, together with annexes, etc. The buildings will cost about \$18,000.

THE BOARD OF EDUCATION of Orange has before it the proposition to appoint a competent physician who shall examine the pupils at all the schools at stated intervals, and also give instructions to the teachers in the detection of the first signs of disease. This system they aver, can be established at an expense not to exceed \$200 a year.

NEW YORK.

NEW YORK STATE HOSPITAL for the care of crippled and deformed children of Tarrytown, established under the laws of 1900, is now open for the reception of patients.

THE NEW PAVILION of the House of the Good Shepherd, Syracuse, which contains chiefly private rooms, operating, anesthetizing and sterilizing rooms, is now ready for use.

THE BOARD OF HEALTH of Batavia has been instructed to secure some method of fumigation which will cost the town less than \$5 a house, the amount at present charged by the physician who has this matter in hand.

THE SUPERVISORS of Erie county favor the erection of a consumptive pavilion to cost \$42,000 this year, and a building for the care of cancer patients next year, to cost \$32,000; the county architect has already submitted plans for the buildings.

THE TRUSTEES of the State Hospital for the Treatment of Incurable Pulmonary Tuberculosis report that after examining 26 sites they have selected one at the west end of Lake Clear, Franklin county, subject to the approval of the State Board of Health and the Forest Preserve Board.

THE OPENING of the new hospital at the Onondaga County House has suggested to Dr. Ely Van de Warker, Syracuse, a plan for utilizing the clinical material for the benefit of the students at the College of Medicine. To this end, he suggests the organization of a medical corps composed of the leading physicians of the city, who shall in turn give their services to the inmates free of expense to the county.

THE SEMI-CENTENARY of the founding of the Troy Hospital was celebrated November 28, at the Troy Club. Dr. David W. Houston presided; Dr. Solom E. Nichols, president of the hospital, gave a historical sketch of the hospital; Dr. William Osler, Baltimore, delivered an address on "The Influence of a Hospital on the Medical Profession of a Community," and Dr. William P. Mason, Troy, spoke on "Some Mediterranean Water-Supplies."

Buffalo.

A PUBLIC HEARING by the supervisors committee on charitable institutions was given to representatives of all charitable societies which desire appropriations from the county for the coming year. Among the institutions which receive annual appropriations varying from \$1000 to \$1500 are the Buffalo Eye and Ear Hospital; the Charity Hospital for Eye, Ear Nose and Throat; the dispensary of the German Hospital; the University Dispensary, and the Fitch dispensary.

THE EXECUTIVE COMMITTEE of the Alumni Association of the University of Buffalo, has in preparation a novel program for

the early part of the next year. An evening is to be devoted to the consideration of various features of medical education as it was, and now is in Europe. It is anticipated to illustrate these features by lantern slide views. The pictures to be shown will show the interior and exterior views of medical schools and hospitals ancient and modern, reproductions of paintings representing medical, pathological, hygienic and anatomic subjects, such as the school of anatomy by Rembrandt, etc.

New York City.

THERE ARE NOW 17 cases of typhoid fever in the state prison at Sing Sing. The supply of water is taken from the Croton reservoir, and this water is boiled before being used in the prison.

THE APPROPRIATION made for the Department of Public Charities for 1901, makes it necessary to reduce the payroll nearly \$15,000, and it is thought this will involve the discharge of about 300 employes from the city hospitals.

AN ANNEX to ward 23 in Bellevue Hospital was formally opened, November 24. It has 12 beds and an especially well-equipped operating room, and is for women only. The donor positively refuses to allow her name to be published.

AN AMENDMENT to the charter of Bellevue Hospital, which has been proposed, provides that on Feb. 1, 1902, the control of Bellevue Hospital and its subsidiary institutions shall be taken from the Department of Public Charities and be vested in a board of seven trustees to be appointed by the mayor, to serve seven years.

SO FAR there have been 47 cases of smallpox reported to the board of health since the outbreak of ten days ago. While there seems to be no reason for expecting an epidemic, the occurrence of a few cases in sections of the city far from the locality in which most of the cases have developed, points to the probability of occasional cases appearing here and there for some time to come.

DR. JOHN BYRNE, the venerable and widely-known surgeon of Brooklyn, has been driven by the ravages of consumption in his family, to leave the homestead in Clinton street, where he has spent forty years of his life. Although he is hale and hearty at 75, and his wife appears equally vigorous, he has lost four children by the "white plague." In order to save his remaining children he will leave the old home at once, and travel in France for a time.

THE NEW private patients' building of the New York Hospital was thrown open for inspection December 5. The building is ten stories in height, and is equipped in a most lavish manner. The first floor is for executive purposes, the second for the hospital staff, and the upper floors contain rooms for the patients and operating rooms. At the rear is a separate isolated department, with an independent heating and ventilating system. This new addition to the New York Hospital has been made without stint of money, and the splendor of its appointments suggests the thought that it represents a doctors' trust.

OHIO.

THE STAFF of the Lawrence Hospital for Women, Columbus, has been increased by the election of the following as associate physicians: Denman R. Kinsell, Jr., Henry W. Whitaker, Elmore E. Adel, James C. Lawrence, Clarence C. Ross, Will W. Homer, Andrew B. Nelles, Edwin A. Hamilton and Thomas A. Evans.

A physician of Cleveland, has caused the arrest of Dr. George F. Whitney, of the same city, and a graduate of the Medical Department of Western Reserve University, on the charge of practicing medicine without a license. He further alleges that Dr. Whitney is a spiritualist and gives prescriptions actuated by slate-writings.

DR. WILLIAM U. COLE, Columbus, Director of Public Safety, has already initiated experiments with germicides with a view to ascertain exactly what agent will suffice to disinfect a house effectually. He probably will order that all cases of tuberculosis be reported to the health department, that arrangements may be made for systematic disinfection at regular intervals.

PENNSYLVANIA.

BY A BEQUEST of Mrs. Pauline Auberle, a hospital for children will be erected in McKeesport. A total of \$250,000 was devised to Catholic charities.

JOHN MAGUIRE, mining inspector of the eighth anthracite district, has reported that within the past eleven months 30 fatalities and 98 accidents have occurred among the miners of that district.

THE BERKES COUNTY DAIRYMEN'S ASSOCIATION, at its recent annual meeting held in Reading, called the attention of Deputy

Inspector R. M. Simmers to the fact that adulterated milk was being sold in that county. About 100 dealers will be placed under surveillance.

THE COMMITTEE of the Pittsburg common council, appointed six months ago to look for a site for a municipal isolation hospital for infectious diseases, now consider the Point the best available location, as it is chiefly occupied by warehouses, and as there are few residences in the locality.

RECENTLY a conference was held at Harrisburg in the interest of the public health, game, fish, and forestry protection, of this State. A bill increasing the appropriation of the State Board of Health from \$6000 to \$12,000 was endorsed, and a further appropriation of \$50,000 was asked for to be devoted to the investigation of the pollution of streams supplying cities with water.

AT A RECENT meeting of the trustees of the State Hospital for the Insane located at Norristown, the position of resident physician occupied by Dr. Susan J. Tabor was declared vacant, and an advertisement for another resident ordered. The action of the board has stirred up a good deal of feeling, especially in Philadelphia, which is the home of Dr. Tabor, and since the complaint against her was "extravagance and wanton destruction of property" Dr. Tabor has demanded a complete investigation of the charges.

Philadelphia.

THE GERMAN HOSPITAL received \$8074 in cash and about \$1000 in other gifts, on its donation day, November 29. C. F. Rumm and Sons sent a check for \$5000 to endow a free bed for the use of employees of the firm.

A FRIEND of the University of Pennsylvania, whose name has not been made public, has recently given the sum of \$4000 for the equipment of a physical laboratory in that institution, and has presented a fund of \$550 to be devoted to prizes.

THE fourtenth annual dinner of the ex-residents of the Philadelphia Hospital was held last week, more than 50 members being present. The officers elected were: Dr. Edward L. Dwyer, president; Drs. H. C. Wood and J. K. Lineaweaver, vice-presidents, and Dr. E. R. Stone, secretary.

THE faith-healers, Sollenberger and Ezra Sheets, whose names have been mentioned several times in THE JOURNAL in connection with a "baby farm," were sentenced by Judge Audenried in the criminal court each to jail for a term of 3 months. They were charged with having caused the death of a child 7 months of age, by not calling needed medical attention.

THE HEALTH of the city during the past week has been unusually good, the total number of deaths being only 376. For the corresponding period of last year there were 412 deaths. The principal causes of death were: nephritis, 29; cancer, 14; tuberculosis, 57; heart disease, 38; la grippe, 2; pneumonia, 2; suicide, 2; diphtheria, 21; typhoid fever, 7, and scarlet fever, 1.

DR. RUSH SHIPPEN HUIDEKOPER has been commissioned as chief of a corps of veterinary surgeons provided by a recent act of Congress. The bill creating this department was introduced by Senator Penrose of Pennsylvania.

ON THE recommendations of Col. J. Lewis Good of the Health Department, Councils Committee on Fire and Health during the past week agreed to recommend the appropriation of \$15,000 to provide quarters at the municipal hospital for the treatment of pay patients. It is suggested that a pavilion to cost \$5000 be erected for patients suffering with diphtheria, and one to cost \$10,000 for scarlet fever patients. Each department should accommodate 15 to 25 persons and the charge for a private room should not exceed \$25 a week.

THE MEDICAL INSPECTORS of the public schools have effected an organization among themselves to be known as the "Society of Visiting Physicians of the Public Schools." A committee of this society has collected statistics showing that during the first eight months of the medical inspection 5876 cases of disease were found in the public schools, of which 3446 were contagious. Among the latter were 12 cases of diphtheria, 4 of scarlet fever, 112 of measles, 118 of mumps and 212 of poliomyelitis; contagious skin diseases, 116; ringworm, 753; conjunctivitis, 397; scabies, 8; whooping cough, 20; typhoid fever, 3; tuberculosis, 2; and scalp diseases, 8. More than 1000 cases of defective vision were found. A committee was appointed to present these facts before the sub-committee on Appropriations of Councils and to ask for an appropriation which has been unanimously endorsed by both the College of Physicians and the County Medical Society.

ANOTHER PHYSICIAN has been threatened with a lawsuit, which may in a measure have been due to the vigilance of a medical inspector of schools. It appears that a child attending

one of the schools became ill and remained away from school about one month. On his return he was asked as to his ailment and his reply was that he had suffered from "diphtheria." This was referred to the visiting physician of the school, who ordered the books of the patient to be disinfected, and the boy was further ordered by the school medical inspector to get a certificate from his family physician to the effect that there was no further danger from contagion. It is said that the boy returned with a certificate from the doctor reading somewhat as follows: "This is to certify that — has entirely recovered from diphtheria, and that there is now no danger of contagion." It is said this case had never been reported to the board of health and now the doctor has been prosecuted. The penalty is imprisonment, or fine of \$50, or both.

SOUTH CAROLINA.

THE MEDICAL COLLEGE of the State of South Carolina, Charleston, held its opening exercises, October 1. The dean, Dr. Francis L. Parker, delivered the address of welcome.

THE GREENVILLE SANATORIUM was opened recently by its inaugurators, Drs. Thomas T. Earle, Curran E. Earle, and Joseph B. Earle. The building is located on high ground, two stories in height and thoroughly equipped. It is now ready to receive patients.

UTAH.

THE SMALLPOX situation in the state is alarming. In Salt Lake City, there are more than 50 cases; in Provo, 14; in Payson, "several hundred"; in Lehi, 18, and in Ogden, 20.

DR. EVERETT O. JONES, Murray, has resigned as district health officer, because the county commissioners declined to allow his bill for services to smallpox patients.

CHAIRMAN WILSON of the Salt Lake City Board of Education is strongly in favor of the medical inspection of schools and school children, suggested by Dr. J. C. Elliott King, health-commissioner, and will support the measure when it is brought up at the next meeting of the board.

IN SALT LAKE CITY, 31 new cases of smallpox were reported for the last week in November, making the total up to that time, 58. Of these 15 were in the isolation hospital, and the remainder under quarantine, presumably at their homes. Only four of the patients had ever been vaccinated.

WASHINGTON.

THE SEATTLE General Hospital has moved into its new building, which was opened for public inspection November 30.

A SEATTLE DAIRYMAN was fined the maximum, \$99.99 for selling milk containing borax and other adulterants in the city. The case will be appealed.

THE PATIENTS at the Stellacoom and Medical Lake insane hospitals are increasing in number so rapidly that it will be necessary to enlarge the accommodations at both these institutions. At Stellacoom two new wings are to be built, one for male, the other for female patients, and at the Medical Lake institution a new wing for female patients is needed.

WISCONSIN.

AT THE COMING session of the legislature, the State Board of Health will endeavor to secure the passage of a law giving the established sanitary authorities more power to enforce vaccination.

THE PHU RHO SIGMA organized a Milwaukee branch on November 28. Dr. William F. C. Witte was elected president; Dr. Edward A. Gansel, vice-president and Dr. Edward W. Timm, secretary.

SMALLPOX is said to have broken out at Olanah among the Bad River Indians. The commissioner has authorized Indian Agent Campbell to institute quarantine and take such other measures as he may deem necessary.

THE MARRIAGE LAW, to be presented by W. L. Woodward before the next legislature, provides that a board of medical examiners be organized and maintained by the state, whose certificate that the applicants are free from "true insanity, in herited insanity resulting from vice; primary, secondary and tertiary affections of congenital organs; hereditary tuberculosis or consumption" must precede the granting of a license to marry.

GENERAL.

THE COMBINATION DIPLOMA MILL.

The long struggle between the regular profession as represented by the State Board of Health and the "diploma mill" which has been notorious for several years past under various names, such as the "Illinois Health University," "Independent Medical College," "Metropolitan Medical College," etc., has been apparently brought to a satisfactory conclusion. Hereafter when legal proceedings have been taken against the in

stitution it has promptly changed its name and continued the sale of diplomas without interruption under the same management. This time, however, the post-office authorities caused the arraignment of Dr. James Armstrong, who is set down in Polk's Directory as a graduate of the Curtis Physio-Medical Institute, Marion, Ind., in 1892. Thomas Armstrong, secretary, and Dr. John H. Randall, vice-president of the institution and a graduate of the Chicago College of Medicine and Surgery, a physio-medical institution, in 1894, on the charge of using the mails to carry on a scheme to defraud. They were put on trial December 4, before Judge C. C. Kohlsaat in the United States District Court. "Dr." C. K. Drumhiller, formerly "professor of anatomy" in the institution, said that he had found the methods of the defendants dishonest, and had left them. "Dr." Joseph De Barthé, Baker City, Ore., testified that he had purchased a diploma but had found it valueless in some states where he had attempted to practice. He was afterward engaged as "professor of medical jurisprudence." In his official capacity he made numerous trips to sell diplomas and quiet complaints of the "graduates" in various parts of the country. He acknowledged that he had sold a hotel proprietor a diploma for \$125, and he received \$20 from Dr. Armstrong for his services. They preferred to deal with out-of-town people, as they asked fewer questions. In case of annulment of its present charter, the institution had nine other charters in reserve which would allow it to operate for eighteen years at least. During his connection with the college, few of the "faculty" had appeared and fewer lectured. Occasionally a student would want to know something about medicine before being graduated, and such persons would be accommodated. Mrs. Eliza Fales, stated that she had obtained a diploma in dentistry for a young man, "in absentia" after four hours' effort and the expenditure of \$75. Former employees testified that they had signed the names of the faculty to diplomas which they also engrossed and mailed at the rate of about fifty a week. The prosecution then introduced a circular in which the "faculty" of the college attacked the old-school physicians and the "murderous surgical procedures of allopathy, homopathy and eclecticism," and plaintively exclaimed: "What criminal in justice is this which refuses these brilliant, successful, skillful men (graduates of the Metropolitan) the right to relieve pain, ameliorate suffering and cure disease?" Dr. James A. Egan, Springfield, secretary of the State Board of Health, testified that the institution with which the defendants are connected has been opposed by the state authorities from the start, and that the state had been instrumental in revoking the various charters under which the school operated. Having settled these points, United States District Attorney Bethea called witness after witness to testify as to what qualifications for the practice of medicine they had when awarded diplomas by the Armstrong brothers. Various diplomates of the institution also testified. One who is announced as "professor of surgery" was a veterinary surgeon and as a "side-line" peddled diplomas to barbers, laborers and others. Another had assisted at one dissection—of the heart of a hog—and was instructed to practice in Kansas. A third, who had paid \$128 for a diploma, was arrested when he attempted to practice in Chicago. The Armstrongs bailed him out and gave him 15 cents to pay his fare out of the state. He thereupon made complaint to Post-Office Inspector Gould. Evidence was then introduced that the requirements for graduation in the Armstrong school did not come up to those of any recognized medical college. For the defense, "Dr." Mary D. Barney testified that she had studied several months at the college, but was unable to recall the names or authors of text-books employed. She acknowledged that she was a lecturer in the institution. "Dr." Jarvis G. Haley, who secured a diploma in 1898, but had been "taking care of the sick for twenty years," testified that many lectures and clinics had been given. He said that the officials of the college considered the State Board of Health an illegally-constituted body. After arguments from counsel, the case was given to the jury, who found the defendants guilty under a statute which permits an extreme penalty of 18 months' imprisonment and a fine of \$1,500. The passing of sentence was deferred until to-day, December 15. James Armstrong was held in default of \$5000 bail and the other defendants were released on bail.

HAWAII is aroused because it is proposed to send certain California lepers, now confined in San Francisco, to Molokai. The Hawaiians assert that they are able to take care of their own lepers, but they object to their country being set apart as a perpetual leper lazaretto.

THE INTERIOR of Alaska is threatened with an epidemic of smallpox. Cases are reported along the Yukon from Dawson

to the lakes, the town of White Horse being among the last reported. It is stated that the Indians are alarmed over the disease and fear extermination. Strict quarantine has been established at Skagway, and White Horse is under control of officers.

SMALLPOX in 37 infected states and territories in 1900 shows 4834 cases as against 1076 in the corresponding period of five months in 1899. In 9 states where no smallpox was reported last year, 500 cases have been reported thus far. Ohio had in 1900, 1523 cases; in 1899, 57; Texas, 583 and 189; North Carolina, 516 and 105; Minnesota, 492 and 71; Colorado, 372 and 7, and Wisconsin 297 in 1900 and none in 1899. Illinois has had 121 cases this year—117 from Cairo and 4 from Chicago, as against 7 in 1899.

THE MARINE-HOSPITAL SERVICE has just sent to Cuba two floating disinfecting plants equipped with all modern disinfecting machinery, for service at the ports of Matanzas and Cienfuegos. In constructing these barges, the hulks of sailing vessels were purchased, the necessary alterations made to fit them for the reception of machinery, and they were then provided with steam chambers, formaldehyde apparatus, sulphur furnaces, biclilorid pumps, etc. A large iron steamer took the two vessels in tow at the port of Philadelphia, and they arrived at their destinations during the last week without any mishap, and are now anchored in convenient positions in the harbors, ready for immediate service. The barge for Matanzas is named the *Guardian*, that for Cienfuegos the *Scout*.

THE SAMUEL D. GROSS PRIZE.

This prize of \$1000 will be awarded on Oct. 1, 1901, no essay that was deemed worthy of the prize having been received on Jan. 1, 1900. The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding 150 printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens." It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page, it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery. The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 S. 13th st., Philadelphia," on or before Oct. 1, 1901. Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays, if reclaimed by their respective writers, or their agents, within one year. The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize. The trustees are: W. W. Keen, M.D., J. Ewing Mears, M.D., J. Chalmers Da Costa, M.D.

ANOTHER DECISION AGAINST MAGNETIC HEALERS AND MANIPULATORS.

A decision of the Appellate Court of the Third District of Illinois, filed December 7, on an appeal from the county court of McLean County, interprets section 7 of the medical-practice act of Illinois as including under the head of medical practitioners those who employ rubbing or manipulation of the parts affected as a healing agency. The only exception to the law, the court holds, is in when the remedy is exclusively mental or spiritual. A person giving massage treatment to cure diseases is therefore a medical practitioner under the law. This decision affects magnetic healers and a large number of operators who claim to cure ailments by manipulations of various kinds. The combination of "mental and spiritual" treatment with operative treatment is not exempted; the person must be an exclusive faith healer to escape the conditions of the statute. The appeal was made by the State Board of Health, and the decision of the county court is in the Board's favor, the case being remanded.

THE SPREAD OF BUBONIC PLAGUE.

Statistics on file in the Bureau of the U. S. Marine-Hospital Service show that during the year 1900 plague was transported into 22 ports and places by vessels arriving with the disease on board or with a history of its occurrence on the voyage. In the following named places it effected no lodgment and made no spread: Naples, Plymouth, Trieste, London, Cardiff, Bremen, Calais, Sio Thiago in Cape Verde; Beirut in Syria; New York

Port Townsend in Washington; Hamburg and Constantinople. In the remainder of the places the outbreaks were comparatively small, and did not assume the proportions of a great epidemic. This shows that a scientific knowledge of the disease renders it far less to be dreaded than formerly, and shows also a gratifying vigilance and alertness on the part of quarantine and health officers. The principal ravages of the disease have been confined to India, where from the last reports there have been 66,294 deaths during the year, and where it is notorious that the preventive measures undertaken by the British Indian Government have been seriously hampered by the religious fanaticism of the native population, and the difficulty of undertaking any epidemic suppressive measures without interfering with the laws of religious and racial caste.

CANADA.

CAUSE OF ARSENIC IN BEERS.

The recent report from Manchester, England, in connection with the deaths and illnesses which have occurred through beer-drinking, has directed some attention to the Canadian product and the vice. About twenty years ago legislation was introduced by Mr. Gladstone into the British Parliament authorizing the substitution of invert sugar for malt in the manufacture of beer, and the duty was removed from the malt and placed on the beer brewed. This change was known as the "Free-Mash-Tun" system. These invert sugars, as saccharin, glucose and maltose have to be treated with sulphuric acid, and it is when this is used impure, as it frequently contains arsenic, and the latter being soluble, is not separated, that the beer will contain arsenic. The two great countries which have adopted the "Free-Mash-Tun" referred to are England and the United States, whilst the two countries which have not adopted this system are Germany and Canada. In the latter the law provides that no substitute for malt whatever shall be used, the duty being imposed exclusively thereon, and no duties resting on the beer produced. In Canada no substitute is allowed under heavy penalties.

TUBERCULOSIS SANITARIUM.

The National Sanitarium Association has come forward with a more distinct and definite offer to build and erect near their Muskoka Cottage Sanitarium accommodation for the consumptives of Toronto. They will proceed with the work immediately and fully expect to have it completed in a year. No aid whatever will be asked from the city on account of capital account; and the institution will be available for the city's poor patients with free transportation to and from Gravenhurst on payment by the corporation of the City of Toronto of only the usual per diem allowance. The plans of the National Association also contemplate the erection of a suitable institution about five or six miles from the city for those advanced cases which have no hope of recovery. The National Sanitarium Association has already spent \$77,000 on capital account for the treatment of consumption.

MONTREAL MUNICIPAL HOSPITAL.

The proposed new Civic Hospital for Montreal is getting well under way. Four pavilions for hospital purposes will be erected with a central administration building. Each building will consist of two floors and will accommodate fifty patients, with twelve beds for private cases. The estimated cost will be \$100,000, which will be raised by means of a loan, repayable, principal and interest, within twenty years. The control of the institution will be in a joint board of nine members, made up as follows:—Five members, including the chairman to be appointed by the city council; two members to be named by the executive boards of the English general hospitals, and two members from those of the French hospitals. All matters of expenditure and finance will be subject to ratification by the city council.

FOREIGN.

FOURTEEN medical men have recently been elected, according to the *Lancet*, to the mayoral chair in England and Wales.

THE FRENCH minister of public instruction has notified the high schools—colleges et lycées—that anti-alcohol instruction should be given an official place on the program on a par with arithmetic or grammar.

THE FAMINE in India is nearly at an end. According to the correspondent of the London *Lancet*, those seeking relief are now only 1,250,000, and the Indian harvest promises to be a large one. The plague remains about the same, with a weekly mortality of about 2000.

THE ITALIAN physicians are endeavoring to have their parliament pass a bill restricting the issuance of licenses to foreign holders holding diplomas from countries granting a like priv-

ilege to Italy. A clause, however, is attached thereto which practically will shut out all foreign practitioners. The envious native practitioner desires the wealthy American and English patients who winter in his land.

DR. R. FIELDING-OWLS, Dr. C. Balfour Stewart and Dr. A. S. Grünbaum have recently been appointed lecturers in the Liverpool School of Tropical Medicine.

THE PARIS Faculty of Medicine have decided to establish a chair of tropical medicine for the purpose of teaching the parasitology and bacteriology of tropical diseases.

THE FRENCH chamber of deputies has unanimously adopted a resolution asking the government to prohibit the manufacture and sale of all alcoholic liquors pronounced "dangerous" by the Academy of Medicine. The resolution was aimed at absinthe. "The increase of the consumption of absinthe," said the mover, "marches arm in arm with the increase of cases of driving insanity, which will end in becoming a national disaster."

IN THE name of twenty university professors of Germany, Austria and Switzerland, Prof. Max Gruber, of Vienna, has written a brief, forcible appeal to university students pointing out the terrible increase in venereal diseases in general and also among students, and portraying in plain terms the dangers to self and the future family. The urgent warning is given to seek medical aid at once in case of infection. Every newly-enscribed student receives a copy of this pamphlet.

THE BRITISH CONGRESS OF TUBERCULOSIS, notice of which has already appeared in these columns, will be opened in London on July 22, 1901, a week previous to the meeting of the British Medical Association. The congress will last four days. Delegates are to be invited from foreign countries, and it will be international to a certain extent. It will transact business in four sections, viz., Human Medicine, Veterinary Medicine, State Medicine and Pathology. One hundred pounds has been appropriated by the British Medical Association toward the expenses of the concern.

THE *Deutsche Med. Woch.* of November 15 publishes the brief, final report of the malaria expedition in charge of Prof. Koel. The party returned by way of the Carolina and Ladrone islands, where numbers of children were examined for malaria, but no traces of it could be found. Many persons were brought to him suffering from supposed syphilis, lupus or leprosy, but investigation disclosed that the disease was frambesia—yaws—in every case; in some of the islands every child examined was found to have it. Several genuine foci of malaria were located in the neighborhood of Cairo. None could be discovered in Northern Germany suitable for the purposes of the expedition, not even in the formerly notoriously malarial marsh lands along the coast of the North Sea. Malaria seems to be rapidly diminishing in Northern Germany. The expedition, therefore, considers its task provisionally accomplished.

Correspondence.

Newspaper Notoriety—A Protest.

CHICAGO, Dec. 5, 1900.

To the Editor:—Have medical men no protection against "write ups" in the columns of the daily press? In the *Chicago Daily News* of to-day appears an offensive and grossly incorrect sketch of myself which was not only unwarranted and without my knowledge or consent, but which deals with my blindness in a way that is most degrading to my self-respect. My only consolation lies in the consideration that those colleagues whose respect I value can not read that article without appreciating the fact that it could not have emanated in any wise from me. I have many times been solicited by reporters to allow them to publish sketches of my professional career. In most instances I have flatly refused such permission. In a few instances, when told that the knowledge of my endeavors would stimulate other unfortunates to rise above their affliction and would thus prove a help to them, I have consented to the publication of a sketch of my life. I have always, however, scrupulously avoided any allusion to the nature of my special line of work lest I should be accused of unprofessional advertising. And now comes an article which violates every sense of decency in my nature and brings my name before the public in a manner that is brutal in its disregard of my feelings. I am humiliated and chagrined.

ROBERT H. BARCOCK, M.D.

The Physician-Druggist.

SPRINGFIELD, OHIO, Dec. 10, 1900.

To the Editor:—In issue of December 8, of THE JOURNAL, p. 1485, in the editorial entitled "The Physician-Druggist" you state that there seems to be no adequate reason why regular medical societies should refuse membership to a physician-pharmacist. Please allow me to disagree with you very decidedly on this point. I know of no pharmacist that is not a dealer in all forms of nostrums and patent medicines; they display advertisements in their windows and shelves, and use many means to increase their sale. Is not this sufficient reason that they should be rigorously excluded from all regular medical societies? Or should we affiliate with them and pretend to endorse such methods as they pursue? Very respectfully,
N. MYERS, M.D.

[Our correspondent evidently did not read the editorial right. Physicians can, and do have, drug stores in small villages all over the country, and yet are ethical and honorable. It is not necessary that they should "deal in all forms of nostrums," or that they should "display advertisements" and use other means to increase the sale of nostrums. If they did they probably would not make acceptable members of a medical society.—Ed.]

A Warning Against a Possible Swindler.

PHILADELPHIA, Dec. 10, 1900.

To the Editor:—I learn by inquiries addressed to me, and by a letter returned from the Washington (D. C.) postoffice, that some swindler has gotten hold of some of my notepaper, cards and envelopes. Probably while pretending to wait for me in my absence he has slipped into my office and gotten them from my desk. He has been writing himself letters of recommendation upon my notepaper, and using my cards as introductions. He calls himself by various names. Dr. Von Liebig, Max Weil, and Dr. M. Lobo, are three that I have heard of. Will you kindly let me say through THE JOURNAL that I have given no letter of recommendation to anybody, except special letters addressed to special persons, and recommending medical men for special positions for which they have been candidates. I never give a letter of general introduction or recommendation, and especially not a letter asking for charity. Anybody presenting any such letter purporting to be signed by me, should be arrested for forgery, or whatever may be the technical offense. Yours very truly,
SOLOMON SOLIS-COHEN, M.D.

Marriages.

G. MANNING ELLIS, M.D., to Miss Mary Loop, both of Chatanooga, Tenn., December 4.

OSCAR R. TOMLINSON, M.D., Tate Spring, Tenn., to Miss Blaud Wilson, of Sewanee, Tenn., December 8.

LOUIS H. ALLEN, M.D., San Francisco, Cal., to Miss Maud Allen, of East Oakland, Cal., December 5.

EARL V. ADAMS, M.D., D.D.S., Birmingham, Kas., to Miss Lena May Sharp, of Topeka, November 28.

P. H. MAYGINNES, M.D., Cushing, Okla., to Miss Anna Caterlin, of Sedalia, Mo., November 27.

MAX ROTHSCHILD, M.D., to Miss Lucie May Jackson, both of San Francisco, Cal., November 27.

GUY WATTS WAGNER, M.D., to Miss Mabel Letitia Standidge, both of Chicago, December 5.

BARTON J. POWELL, M.D., Stockton, Cal., to Miss Mabel Lyon, of Sacramento, Cal., November 21.

J. LYMAN BELKLEY, M.D., Sandy Creek, N. Y., to Miss Lena Weston Cox, of Ballston Springs, November 17.

HERMAN J. HUYETT, M.D., Milan, Ill., to Miss Jessie Perrine, of Livingston County, N. Y., at Davenport, Iowa, November 22.

WILLIAM COOPER EIDENMULLER, M.D., San Francisco, to Miss Goldie Jane Rounds, of Vallejo, Cal., at San Francisco, November 28.

Deaths and Obituaries.

LUDDER M. FINNEY, M.D., Tulane University, New Orleans, 1890, formerly assistant quarantine physician at the Mississippi quarantine station, and later sanitary inspector of the State Board of Health, serving in that capacity in several Central American ports, at his home in New Orleans, November 28, aged 38.

WALTER R. STEPHEN, M.D., University of Pennsylvania, 1872, an honor man in his class, who had practiced nearly 30 years in Reading, at his home in that city, from pleurisy, after a short illness, November 27, aged 49.

CLARENCE E. FOSTER, M.D., College of Physicians and Surgeons, New York, 1881, ex-coroner of Wayne County, at his home in Honesdale, Pa., November 26, aged 43.

WILLIAM W. DICKSON, M.D., McGill University, Montreal, 1858, at one time president of the Ontario Medical Association, and twice mayor of Pembroke, at his home, from typhoid fever, November 25.

WILLIAM N. BUSH, M.D., University of Georgia, 1857, a surgeon in the Confederate army, after declining health for several months, at his home in Lancaster, Ky., November 29.

WILLIAM G. HAY, M.D., University of California, 1895; assistant to the chair of dermatology in that institution, suddenly, at his office in San Francisco, November 26, aged 32.

FRANK A. CLARK, M.D., Jefferson Medical College, 1880, at his home in Shamokin, Pa., after an illness of two years, from paralysis, November 30, aged 59.

J. EDWIN MOSELEY, M.D., Vanderbilt University, Nashville, Tenn., 1898, after an illness of three weeks, at his father's home in Clarksville, Tenn., aged 25.

FREDERICK KEBLER, M.D., Ohio Medical College, 1875, at a sanatorium in Somerville, Mass., of which he had been an inmate two years, November 22.

ALEXANDER S. JORDAN, M.D., University of Pennsylvania, 1863, after an illness of four years at his home in Riegelsville, November 23, aged 61.

FRANK TUNSTON, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1864, at his home in Wapello, Iowa, November 25, aged 63.

THOMAS H. HOOD, M.D., Louisville Medical College, 1874, from apoplexy, at his home in Cynthiana, Ky., November 29, aged 58.

W. V. MARQUIS, M.D., New York University, a surgeon in the Civil War, at his home in Glenshaw, Pa., November 27, aged 67.

JAMES A. LORD, M.D., Rush Medical College, 1879, from Bright's disease, at his home in Edgerton, Wis., December 1, aged 42.

O. P. MCKAY, Jefferson Medical College, from pneumonia, at his home, Fayette, Pa., November 24, aged 56.

WILLIAM I. PAINTER, M.D., Jefferson Medical College, 1894, from typhoid fever, at his home near Double Springs, Ala.

WALTER C. PEASE, M.D., Jefferson Medical College, 1873, suddenly from heart disease at Cumberland, Wis., December 6.

CALEB W. PHARR, M.D., Missouri Medical College, 1851, recently, at his home, Clarksville, Mo.

GEORGE BURR BANKS, M.D., College of Physicians and Surgeons, New York, 1860, at Huntington, Long Island, N. Y., December 4, aged 67.

S. C. ANDREWS, M.D., at Newton, Ill., aged 62.

Miscellany.

Bogus American Diplomas.—From the report of a recent meeting of the General Council of Medical Education and Registration, as published in the English medical weeklies of December 1, we make the following excerpt, which is self-explanatory. Considering the action taken by the courts regarding the Armstrongs, as reported in this issue, it is also timely.

The following communication, remitted to the General Medical Council by the Executive Committee from the For-

engine Office in regard to the sale of false American diplomas, was received and entered on the Minutes:

FOREIGN OFFICE, SEPT. 24, 1900.

Sir:—I am directed by the Secretary of State for Foreign Affairs to transmit to you, for the information of the General Council of Medical Education, the accompanying copy of despatches from Her Majesty's Consul at Chicago, respecting the sale of false American diplomas.—I am, Sir, your most obedient humble servant.

F. H. Villiers.

The Registrar of the General Medical Council.

BRITISH CONSULATE, CHICAGO, July 3, 1900.

My Lord—I beg to report for your lordship's information that the Postal Inspector of Chicago has at last been able to arrest and to have held in heavy bail for trial Dr. Armstrong and his associates of the People's Institute, Van Buren Street, Chicago.

Armstrong and his partners, under various names, have been doing a very lucrative business in selling diplomas to persons in England, and their agent, Z. Wightman Van Appin, disposed of large numbers of useless diplomas in British India. I hope to obtain a list of the persons who purchased these diplomas in India from Mr. Van Appin, and will at once forward it to your lordship. From a postcard that has been held by the postal authorities, who have been so good as to communicate it to me, I see that Mr. Allan Fisher, who styles himself M.D. and Ph.D., writing on the 15th ultimo from "Mere," "Wiltshire," to Dr. Armstrong, "People's Institute, Van Buren Street, Chicago," states that he has delivered a Diploma of D.D. to a Mr. Johnson (no address given), who is very much pleased with it; and that he had hopes of selling two M.D. diplomas for the sale of which he was in treaty with persons whose names are not mentioned.

The postal authorities also hold return postcards showing that Dr. Armstrong and company are in treaty with the following parties, either to sell diplomas or have already sold them: diplomas: T. Rai Tharoda Kano Lahiri, M.D., 6012 Simla Street, Calcutta; and is corresponding with Z. Dr. Hassall, 70 and 80 Paul Street, Manchester, Eng.; J. M. Lethera, M.D., Honse No. 3, Zier Thost Bang (?), Girgaum, Bombay, India; (This address is very indistinctly written.) Z. Wightman Van Appin, care of Dr. J. Murdoch, 714 Shelby Street, Louisville, Kentucky.

I think the police will probably be able to find out some useful details of the business of bogus diploma selling by Dr. Armstrong in Great Britain from Mr. Allan Fisher, who is now acting as selling agent for the diplomas of the Independent Medical College and the Metropolitan Medical College of Chicago, Illinois. These so-called colleges have charters issued by the State of Illinois, the laws of the State being very lax in the matter of granting such charters, but their diplomas are being sold all over Great Britain and British India, and probably in the Colonies, to anyone who may be willing to buy them.

It is possible that Mr. Allan Fisher has been duped by Armstrong and company, but he is now evidently acting as their agent, and sells D.D. diplomas as well as M.D., signed by the same people, or rather by the same person, as it has been found out that all the signatures are made by a girl in different handwritings.

Armstrong and his associates have been held in heavy bail for trial for making a false statement, defraud, and for the moment the diploma mill is said to be closed.

Her Majesty's government of India may also be able to find out through the addresses I have given above if there has been anyone appointed in India to sell the diplomas.

Mr. Z. Wightman Van Appin himself bought a Ph.D. and M.D. diploma for one hundred and forty-four dollars, and then was sent to India with a quantity of blank diplomas of all kinds to fill in, and will inform your lordship later on of the result of the trial of Armstrong and company. (Signed) Wm. Wyndham.

It is quite evident that the "Z. Wightman Van Appin" referred to is the same gentleman whose case attracted attention through an article in THE JOURNAL (July 7, p. 45) some months ago. At that time he was attempting to get a degree in one of the Louisville colleges, his name being A. Zwrightman Van Noppen.

Societies.

Western Surgical and Gynecological Association, Minneapolis, Minn., Dec. 27-28.

Pan-American Medical Congress, Havana, Cuba, Feb. 4, 1901.

THE MINNESOTA VALLEY MEDICAL ASSOCIATION, at its annual meeting held in Mankato, December 5, elected Dr. Oliver H. McMichael, Vernon Center, president, and Dr. Edwin D. Steel, Mankato, secretary.

THE UNIVERSITY OF MARYLAND MEDICAL SOCIETY, on November 27, elected the following officers: Dr. Summerfield B. Bond, president; Dr. William I. Messick, vice-president, and Dr. Jose I. Hirsch, secretary.

THE SUPERIOR-DULUTH DOCTORS' ASSOCIATION, at its annual meeting held at West Superior, Wis., November 23, elected the following officers: Dr. Charles A. Stewart, Duluth, president; Dr. William F. Ground, West Superior, vice president, and Dr. John B. Weston, Duluth, secretary-treasurer.

THE NORTHERN CENTRAL ILLINOIS MEDICAL ASSOCIATION held its twenty-seventh annual meeting, December 5, and elected Dr. Fernando C. Robinson, Wyanet, president; Drs. John Ross, Pontiac, and Jane Reid Keeler, Sterling, vice-presidents and Dr. George A. Dieus, Streator, secretary and treasurer.

THE LOUISVILLE CLINICAL SOCIETY, at its annual meeting held November 27, elected Dr. Fwing Marshall, president; Dr.

John R. Wathen, vice-president, and Dr. Philip F. Barbour, secretary, and appointed a committee consisting of Drs. William H. Wathen, Joseph W. Irwin and Martin F. Coomes to co-operate with the health officer in arousing interest in the matter of the health of the city and in securing facilities for the examination of milk, foods and water, and for the care and protection of children from the contagious diseases.

THE ST. LOUIS MEDICAL SOCIETY, at its meeting held December 1, listened to a paper by Dr. Hugo Summa on "The Diagnostic Value of a Floating Tenth Rib." He maintained that its floating condition might properly lead one to suspect maldevelopment in various other ways. He gave many instances where the condition existed, that showed post-mortem bilobed, lobulated or otherwise malformed kidney; a peculiar spleen, an anomalous liver or other anatomical peculiarities due to arrested development. The discussion was participated in by Drs. Bartlett, Meyer and E. W. Lee, the last of whom cited corroborative instances.

Chicago Neurological Society.

Clinical Meeting, November 1, 1900.

Vice-President Hugh T. Patrick, in the chair.

INTERMITTENT CLAUDICATION AND ATYPICAL SCIATICA.

DR. HUGH T. PATRICK presented a patient with what he considered to be atypical sciatica dependent principally on arterial disease and hence closely related to the "claudication intermittente" of Charcot.

In this connection he briefly related the principal features of a case which he had hoped to also have present in person. The patient was a woman, 66 years old, who had been in fairly good health until about six months before, when she began to have trouble with the lower extremities. The legs below the knees became slightly swollen and somewhat painful, especially at night, and she was greatly annoyed by paresthesia and muscular cramps. Within the last few weeks tingling and numbness had appeared in the last two fingers of the right hand, and she said that in cold weather the fingers turned greenish-white and seemed to be dead. In addition to the sensory symptoms, she complained of great weakness of the legs, particularly after walking a short distance, and on examination it was found that although she started off fairly well, after walking about twenty yards the steps became small and somewhat uncertain and thereafter progression rapidly became more difficult until she was compelled to come to a full stop. The pulse was 95 and small and was not to be felt in the dorsal artery of the foot on either side. There was slight anesthesia of the foot and the Achilles jerks were absent.

The patient presented was a man 69 years old who, twenty-eight years before, had had severe sciatica beginning on the left side, afterward extending to the right and lasting more than four years. Twelve years ago he had a similar attack, but active treatment in the beginning limited its duration to a few weeks. The present trouble began nine years ago much as the previous attacks had done, but was less acute and almost immediately involved both sides. From the first the pain was not severe, indeed, could scarcely be described as a pain at all, but was rather a sensation of drawing or pressure with intensely disagreeable paresthesia and intense restlessness of the legs. Although the discomfort was greater in the region just below the sciatic notch on either side, none of the ordinary signs of sciatica were present. The patient complained particularly of the fidgety feeling and paresthesia which prevented him from getting to sleep and of the weakness and increase of the sensory symptoms caused by walking. Examination showed a senile heart with a systolic murmur, and a distinct, although not advanced, arteriosclerosis. It should be added that for some time the patient had been troubled with attacks of transient dizziness. The pulse in the dorsal artery of the foot was good and the urine normal.

SYRINGOMYELIA IN A NEGRO.

The next patient presented was a pure negro, 26 years of age, who had noticed at the age of 15 or 16 that the right hand was not so strong as formerly. From that time the progress of the disease had been steadily forward until at the present time he gave the symptoms of a syringomyelia extending from the lumbar enlargement to the nucleus of the sixth nerve. The

distribution of the sensory disturbance was of particular interest. There was practically no disturbance of the tactile sense; analgesia was limited to the right arm and right half of the body, in front from the chin to the groin and behind from the vertex to the buttock, while thermo-anesthesia was present in this area and also involved the left arm, the left lower extremity from the crest of the ilium down and the right lower extremity from the knee down, leaving uninvolved only the left half of the body from the clavicle to the crest of the ilium and the right thigh.

SODIUM BROMID FOR MORPHIN HABIT.

DR. ELBERT WING reported a case of morphin habit treated by the administration of sodium bromid in very large dosage. The patient was the wife of a physician and was formerly a trained nurse. She was 28 years old, in excellent health and was taking from ten to fifteen grains of morphin hypodermically daily. Her heart, lungs and kidneys were normal. There was constipation. The treatment was commenced with two drams of sodium bromid given in a half glass of water every two hours through the day until five doses or 600 grains per diem had been given. Through a misunderstanding the dose was exceeded twice. Direction was given that the patient was to have morphin when she asked for it. The diet was restricted and mainly of milk.

The treatment was carried on for a few days and a large quantity of bromid given, which apparently had the effect of producing restlessness, delirium, and other unpleasant symptoms, in spite of tonics simultaneously administered. It was discontinued, but pneumonia developed and carried the patient off on the seventh day.

Dr. Wing gave a résumé of Dr. Neil Macleod's nine cases, and two of Dr. Church's, treated by sodium bromid, the treatment being instituted for the cure of drug habits, either morphia, chloral or alcohol. Dr. Macleod thinks the method without or with little danger, even at home. Dr. Church thinks it may be undertaken with full hospital facilities. The cases so far reported seem to point to the following conclusions. The method is not without danger and should not be undertaken with heart, lungs or kidneys not normal, and never in septic conditions. Macleod's original dosage, namely, 1 ounce the first day, 1 ounce the second day, $\frac{1}{2}$ ounce the third day, if necessary, should not be exceeded without first waiting twenty-four hours. If then resumed, it should be with great caution. In any case, very perfect care should be taken to guard against taking cold.

DR. ARCHIBALD CHURCH said that while the bromid treatment did cure the opium habit, it nevertheless remained a fact that 33 per cent. of reported cases had proved fatal, and emphasis was laid on the fact that large doses of bromid might be dangerous.

DR. MOYER said that Dr. Bannister and himself had presented, in 1881, a joint paper, read before the American Neurological Society, on "Bromid Mania." It was clearly shown that small doses of bromid would cause mania in certain cases of otherwise perfectly normal individuals. Certain German observers have noted the same thing. Bromid is certainly capable of making most profound body disturbance. Mention was made of a patient losing 50 pounds in weight in three months while taking moderate doses of bromid. At another time the same patient lost 30 pounds in a similar way, but regained weight after discontinuing the salt. Dr. Moyer considers the bromid treatment of the opium habit and of alcoholism as unsatisfactory and that we have better and safer means.

DR. C. H. LUDOR called attention to the fact that the dose, as given, of bromid, did not represent the amount in circuit when the bromid was being given continuously. If 400 grains be given at a dose in twenty-four hours, but one-half of said dose will have been excreted and Drs. Bill, Quinke, and Ware have severely proved that in forty-eight hours after a given dosage a sixth of the dose still remains in the circulation and traces may be found in the urine weeks after cessation in the use of the bromid. It would then be very essential to use extreme care in continuing massive dosage of bromid.

DR. J. B. HERRICK quoted Dr. W. Mitchell as authority for untoward symptoms in the administration of the bromid,

which symptoms may or may not disappear on withdrawal of the drug.

DR. S. KUH maintained that the relatively smaller doses suggested by Dr. Wing and even withdrawal of the drug for twenty-four hours, did not constitute a safeguard. A case is mentioned where even 20 grains of the bromid, four times a day, had caused alarming symptoms.

DR. HUGH T. PATRICK related a case of alcoholism when 1 dram of the bromid was given every hour until 16 drams had been given. The symptoms then became alarming; the pulse and respiration were slow, with cyanosis and incoherency. After thirty-six hours there was a gradual improvement and the treatment was successful.

DR. DANIEL R. BROWER mentioned a case where 15 grains of bromid caused, on several occasions, maniacal symptoms.

New York County Medical Association.

Stated Meeting, Nov. 19, 1900.

President Dr. Parker Syms, in the chair.

UTERINE MYOMA.

DR. GEORGE T. HARRISON presented a large myoma, which had been removed by enucleation after it had been converted into a subcutaneous tumor, apparently by a course of thyroid extract.

GENERAL SEPTIC PERITONITIS.

DR. IRVING S. HAYNES read a paper with this title. Under the head of general septic peritonitis he included all cases of inflammation of the peritoneum, septic in origin, and unlimited in extent by adhesions. Of the 15 cases forming the basis of the paper, 8 had been caused by rupture of the appendix. The early vomiting in cases of general septic peritonitis he said was the result of shock, and was not of importance unless its character and persistency indicated obstruction. In his adult cases the pulse, in the early stages, had ranged between 90 and 120, the unfavorable cases showing a tendency quite early to a rapidity of pulse beyond the average. At first the temperature would be only between 101 and 102 F. One of the earliest signs of improvement was a disappearance of the characteristic anxious expression of countenance. These persons invariably die if not operated upon, and although even with operation the mortality was very high, operative intervention held out the only hope. Having opened the abdomen, the cavity should be most thoroughly irrigated with normal salt solution, the process being kept up until the fluid returns clear. He did not favor sponging or unnecessary handling or exposure of the bowel. Full strength solution of hydrogen peroxid might be used in small areas provided it was followed by washing with saline solution, but he would not advise its more extensive use, because it undoubtedly injures the epithelium. If the distention of the bowel were excessive, it might be necessary to reduce this by making a small linear incision into the bowel, closing it afterward by suture. The "wick drain" was probably the best. In conclusion, the speaker warned against overstimulation of the heart by the too free use of cardiac stimulants, though he did not think one was likely to use too large a quantity of whiskey by the hypodermic method of administration.

DR. CHARLES N. DOWD said that reports indicate an encouraging percentage of recoveries in these cases which, only a few years ago, had been looked on as uniformly fatal. The good results are not dependent on the particular technique employed. In general, the successes had been among the mild cases of general septic peritonitis—those border-line cases in which the effused serum is cloudy, and thick pus, if present at all, was limited to the site of infection. Recovery almost never occurred in cases showing thick pus and flakes of fibrin scattered through the coils of intestine, or numerous localized abscesses.

DR. BENJAMIN T. TILTON did not look for any great improvement in the present surgical technique, but rather for better statistics as a result of the medical profession as a whole bringing these cases earlier to the surgeon. He objected to the method of wiping off the intestine, for this did not fully meet the indications, though inflicting trauma on the peritoneum.

DR. A. BROTHERS said that he had tried Dr. George R. Fowler's method of elevating the head of the bed to favor the escape of pus, and he was convinced that this simple plan would sensibly diminish sepsis. He had formerly advocated free flushing of the peritoneal cavity, but at the present time he only resorted to it in cases in which a large quantity of pus had been already distributed throughout the cavity. Ordinarily such flushing did more harm than good by disseminating the septic matter.

DR. JOHN F. ERDMANN endorsed the technique recommended by the last speaker. Where there were pus foci, he used peroxid of hydrogen locally, followed by salt solution.

DR. HYNES, in closing, said that his experience had been that most cases operated on within six or eight hours after the occurrence of infection would recover. He was not in sympathy with those who spoke against flushing the peritoneal cavity, and was disposed to believe that such irrigation would not tap the lesser peritoneal cavity.

THE USE OF HOT WATER VAGINAL INJECTIONS.

DR. J. H. BURKENSCHAW read a paper on this subject. He said that the use of such a douche for only five minutes had the opposite effect of that intended, i. e., it increases the pelvic congestion. At least three gallons of water should be used for each douche, and its temperature should be between 107 and 120 F. The hips should be raised, and the patient should be directed to remain in the recumbent position for half an hour after the douche.

DR. GEORGE T. HARRISON wished full credit to be given to Dr. Thomas Addis Emmet for having given to the profession this exceedingly valuable therapeutic measure. In his experience it had proved invaluable in cases of parametritis following childbirth.

DR. J. RIDDLE GOFFE said that he had found it convenient to have the patient lie on a wooden top fitted on the bath tub and take the hot water from a combination faucet. He prized these douches highly, yet he was convinced that their employment after many perineal and vaginal operations was responsible for anemia of the parts and consequent interference with healing. The insertion of a light vaginal tampon was preferable.

DR. FREDERICK P. HAMMOND said that the all-important point was not the quantity of water, but the duration of the douche. By diminishing the caliber of the outlet as much good could be done with one gallon of water as from three gallons. An effective douche would cause a determination of one-third to one-half of the blood to the pelvis, hence it would produce headache in anemic persons—indeed hot vaginal douches should be forbidden until the anemia had been controlled. The douche was also contraindicated in acute perimetritis or salpingitis. In cases of uterine or cervical dysmenorrhea without much ovarian implication, a prolonged hot vaginal douche would give great relief.

DR. W. EVELYN PORTER said that he was able to secure for his patients all the benefits of the prolonged vaginal douche by using a moderate quantity of water and regulating the outflow by pinching the tube from time to time. By the use of a Kemp's tube, a T-bandage and a vulvar pad the douche could be given very satisfactorily.

DR. A. B. TUCKER remarked that he had been surprised at the great benefit experienced in many cases of retrodisplacement from the proper use of the hot douche.

DR. F. H. WIGGIN thought this advocacy of the hot vaginal douche was a long step backward, and did not accord with modern surgical notions.

DR. A. PALMER DUDLEY took a similar view. He said that even the young men going out from the Woman's Hospital today were not so deeply impressed with the value of the douche, particularly as it had been demonstrated that its action did not extend beyond the cellular tissue.

Chicago Medical Society.

Weekly Meeting, November 28, 1900.

President Dr. J. H. Stowell in the chair.

DR. A. H. FRANCUSON exhibited a patient on whom he had performed a Schede operation for chronic empyema. Dr.

Joseph Zeisler showed a case of acromegaly. Dr. H. H. Ritzenhouse reported a case of ankylosis of both elbows following acute arthritis.

DR. A. F. LEMKE presented six cases of pulmonary tuberculosis that had been under the compression treatment in various stages of the disease at periods varying from two years to a few months. These were selected to show the effect of the treatment on the various manifestations of tuberculosis of the lung. In some the diseases was unilateral; in others bilateral. The good effects of compression locally are brought about by the limitation of areas of disease already existing by favoring fibrosis in and about these areas; by occluding the avenues of dissemination of the virus, and by compressing cavities to enable them mechanically to heal. Other effects of compression are due to rest of the organ as a whole; emptying of secretions; prevention or diminution of absorption of toxic bodies; prevention of secondary infections, and the diminished tendency to hemorrhage. There is anatomical evidence that compression will further the natural tendency on the part of the tissues to cicatrize. That it will palliate is shown by diminution of cough, of expectoration, of fever and sweats, and by the almost constant tendency to gain in weight. There is no evidence that fresh tubercles can develop in a compressed lung. Average quantity of nitrogen, which may be introduced into the pleural cavity without untoward effects is 120 cubic inches. Healthy lung tissue may be compressed for a year or more and retain its capacity for expansion upon the removal of pressure. Experiments were made on dogs, in which the left pleural cavity was injected with nitrogen or normal salt solution every two weeks during a period of eight months.

The following are the uses of intrapleural injections of nitrogen: 1. Curative in pulmonary tuberculosis. 2. Palliative—to prolong life for weeks or months, although the disease may be too extensive to make recovery probable; to diminish fever and expectoration; to check pulmonary hemorrhage; to compress cavities, tuberculous and otherwise, and establish mechanical conditions that will permit their healing. 3. To compress the lung just prior to surgical operations in which the pleural cavity is to be freely opened and to determine the presence or absence of pleural adhesions before opening the pleural cavity to drain, to drain abscess or bronchiectatic cavities, cysts, etc.

DR. WILLIAM A. EVANS said that compression tends: 1. toward the development of those processes by which repair in tuberculosis is accomplished; 2. toward limiting the tubercular process, which is necessary for repair, and in order that the tubercle bacilli shall not spread to other parts of the same lung or to the other lung. Two points should be remembered: cure of the nodules already established, and the possibility of preventing the spread of those nodules to other areas of the lung. Compression exercises a remedial effect on hemorrhage. It tends to prevent it, and in cases in which hemorrhage is a feature compression prevents the continuance of the hemorrhage. At no period in the development of tuberculosis is the spread of the disease so rapid, the generalization of the tubercular process so frequent, as subsequent to hemorrhage. It is said that tubercle bacilli are found in the wall of the bronchial tubes and are carried there by the blood stream, and in consequence there is a dissemination of the tubercular process in the lung. If this method of healing has no other field, it would be indicated in those cases in which life is threatened by hemorrhage. The speaker referred to another group of cases in which it was thought, at first, that the use of the method would have but a small field, namely, those in which there is considerable elevation of temperature; but actual experience with the method proves that the fever almost universally subsides after the affected lung is compressed.

DR. R. B. PIERCE said that he had been much interested in the work of Dr. Lemke upon this subject, and knowing his enthusiasm he submitted his first report to analysis, and, he hopes, impartial criticism. (See THE JOURNAL of October 14, 1899, p. 959.) The first thing to impress him was

that many of the cases had been under observation for very short periods of time, and on tabulating them he found that seventeen of his 53 cases had been under observation for periods varying from one day to one month. He rather arbitrarily selected one month as the limit below which he could expect no consideration for his method except as a treatment for the symptom hemorrhage. In placing the limit as low as one month as a period of observation of so chronic a disease as pulmonary tuberculosis, he had been at least generous. Deducing these cases there are 36 cases under observation for periods varying from one to nine months. From this list he had deducted the cases in which Dr. Lemke admits that there is no, or only questionable improvement, the cases distinctly worse, one which died of peritonitis, seven who were sent to a more favorable climate, and one, Case 14, in which there seemed to have been a mixed infection of tubercle bacilli and leptothrix. Together these amount to 20 cases, leaving 16 in which Dr. Lemke claims, and apparently justly, to have obtained improvement.

Submitting these cases to further analysis, Dr. Preble made two sub-groups, one of four, and the other of twelve, cases. In the smaller group, there has been a gain in weight of 22, 12, 17, and 25 pounds. In two cases the physical signs disappeared; in one the signs were lessened, the temperature reduced to normal. In one case there is the marked gain of 25 pounds, but the patient still coughs and expectorates freely, and the temperature continues. Two of these cases might be regarded as cured, and in both the others there has been a marked improvement. Of the 12 cases in which improvement may be regarded as slight, to moderate, there was a varying gain in weight up to ten pounds, and averaging 4.33 pounds, and in no one of these did the cough or expectoration disappear. In 4 of this 12 there is no statement of the condition of the lungs at the end of treatment; in the other 8 the signs are lessened and improved. These results do not seem to the speaker to be very encouraging, especially when it is considered that many of the best established aids to the recovery of tuberculosis have been added to the injections of nitrogen. This is not stated by Dr. Lemke in his article, but has been stated to him—Dr. Preble—personally by Lemke. This is as it should be, but it seriously interferes with the interpretation of results, particularly as Dr. Lemke's results are not markedly better than have been obtained by established lines of treatment. There are two cases in the series to which he desired to draw particular attention—Cases 20 and 17. During the second injection given Case 20 a pneumothorax did not develop, although the gas passed freely through the needle. It was inferred that the tip of the needle was within the lumen of a bronchus, thus allowing the gas to escape into the air-passage. There is nothing of importance about this except that the needle might equally well have stopped within the lumen of a blood-vessel, which would have been a very serious affair. A number of the cases suffered from syncope and dyspnea, which might easily be referred to emboli of gas perhaps of the pulmonary artery. One case, during the second injection, went into collapse, and, when restored, showed a complete right-sided hemiplegia from which he has never recovered. Here one is justified in the thought that the needle stopped in the lumen at some branch of the pulmonary vein and led to gas embolism of the vessels of the left internal capsule. About two years ago Jane way reported two cases of transient hemiplegia following the injection of hydrogen peroxid into an empyema cavity. These cases were thought to be probably due to gas embolism, and resulted from the development of a small amount of gas in an opened pleural cavity. The same accident has been observed during irrigation of an empyema cavity. These cases would suggest that possibly the same thing might happen from injection of the gas into the pleural cavity. No one can know where the inner end of his needle is, and in this is the great danger.

To sum up, are physicians justified in taking up a method which has inherent in it serious sources of danger, such as are illustrated by Case 17, when a review of the cases reported shows only a questionable improvement over the usual methods of treatment?

Dr. JOHN B. MURPHY discussed the danger of the compression treatment. In the early use of the method the first thing he feared was a separation of the pleura itself from the apex, producing paralysis of the vocal cords, and finally death. Two such cases had been reported from the mechanical separation of the pleura from the apex. As to accidents, something like 1400 injections have been made, with only two accidents, one a fatal hemorrhage on the table, when the needle was inserted into the pleural cavity, before the gas was connected. The patient had had repeated hemorrhages before, and he believes that this hemorrhage was due to the excitement of the patient. The second accident was one in which paralysis followed the injection of the nitrogen gas, the gas, he believes, having entered a vein. In his earlier work by the compression method he feared this accident might occur, but now he believes there is no danger from that source whatever, because he had learned to know that the gas is admitted without pressure instead of with it; the nitrogen is aspirated into the pleural cavity, and not forced into it. If the needle should enter a vein, the current will not be in, but out. All things considered, he believes now the treatment can be administered without danger to the patient, in fact, with much less danger than any operation of magnitude of which he knows. Practically, what are the results? 1, there is cessation of cough; 2, after a few days diminution of expectoration; 3, reduction in temperature, and often the temperature is reduced to normal; 4, the patient gains in weight. Is there any other method of treating tuberculosis in which this occurs with the uniformity that is noted by the compression treatment? He was glad that Dr. Lemke did not speak of the cases as being cured. He felt that at the end of three or four, or possibly five or six, years, the cases could be referred to as having been cured. If he had a cough, elevation of temperature, expectoration, and repeated hemorrhages, and all these disappeared, he would not care a fig whether his case was called a cure or simply a subsidence of the symptoms, because the result is the same to a patient.

Dr. WILLIAM E. CASSELBERY referred to the Koch, the Bergeon, and other methods of treating tuberculosis, which have failed, and said the method that had been outlined was suitable for a certain class of cases, particularly cases of apical tuberculosis limited to one side. It is suitable for cases of hemorrhage in which the tubercular process is not widely disseminated through both lungs. It is seemingly suitable also, to a limited extent, in cases in which there are adhesions and high fever. Personally, if he had an apical tuberculosis, he would not hesitate, if he were one of the patients selected as best adapted to the method, to avail himself of its advantages.

Dr. LEMKE, in closing the discussion, referred to emboli resulting from the introduction of the gas into the pleural cavity. This accident occurred in but one of the series of cases, and this patient was one of the first who was subjected to the treatment. Hemiplegia in one case was evidently due to gas embolism, although he was not positive about this. This was the only case in which hemiplegia had occurred out of 1400 injections. Aspiration, in cases of hydrothorax, is said to have caused hemiplegia, the result of an embolus that has been separated from a thrombosis of the pulmonary vein or some of its branches. Again, there are cases on record where simple operative procedures, such as involve the irritation of the pleura, have given rise to transient hemiplegia. So the hemiplegia might not have been due to gas embolism in the case mentioned. He was particularly careful not to speak of any of the cases as cured, because many physicians believe that a period of four to six years should elapse before using this word in its literal sense. The dangers of making the injections are practically *nil*. He had never seen any case in which the pleura has been infected as the result of injection, consequently this should not be considered as a danger. Some of the patients, when injected for the first time, have experienced considerable dyspnea; others have fainted and had to be stimulated. But this was largely psychical, and possibly in some cases it was due to the fact that the lung was compressed rather suddenly. In other instances he has observed a tendency to syncope. During the second and third injections these symptoms, were not ob-

served. Symptomatically the patients he had exhibited were cured, in that the temperature was normal, cough and expectoration had disappeared, and they had gained considerably in weight.

College of Physicians of Philadelphia.

SECTION OF OPHTHALMOLOGY.

Meeting October 16, 1900.

President Dr. George C. Harlan, in the chair.

DR. WILLIAM THOMSON exhibited two men operated on at the Wills Eye Hospital for removal of metallic foreign bodies by the small magnet from posterior portion of the eyeball. In one case a piece of iron 8 by 1.5 mm. penetrated the inner side of cornea near horizontal meridian and was located by the X-rays imbedded at a point 5 mm. below and 3 mm. to the temporal side of the macula. Body was removed through a scleral incision, and very little reaction followed. In the second case a chip of steel entered the cornea 2 mm. above and to the outer side of the center, wounding the iris and the lens and imbedding itself, as shown by radiographs, 2 mm. above and 6 mm. to nasal side of macula. The lens was extracted, after which the foreign body was removed.

DR. GEORGE C. HARLAN showed an Italian girl 14 years of age, presenting the history and the ophthalmoscopic appearances of embolism of the central artery except that the arteries contain blood and pulsate freely on pressure. The patient appeared to be in perfect health. Sight was suddenly lost in the right eye on October 7, and she appeared at the Pennsylvania Hospital two days later. The fundus presented a grayish appearance; the red spot of macula was darker than normal; the vessels were slightly obscured, and there was retinal opacity; arteries were normal in caliber and pulsated freely on pressure. There were no hemorrhages. Urine and blood were normal. No marked change in the disc exists. The diagnosis at first seemed to indicate venous thrombosis.

DR. GEORGE E. DE SCHWEINITZ suggested that hemorrhage into the nerve sheath might be responsible for the condition.

DR. S. D. RISLEY exhibited a man from the Wills Eye Hospital, 59 years of age, on whom he had performed simple extraction of cataract in each eye. Vision was 6/5 in each eye and the man enjoyed perfect binocular vision both for distance and in reading; the pupils were central and round, and reacted normally to light. There were no adhesions.

DR. WILLIAM M. SWEET reported a case of a piece of glass in the ciliary body located by the Roentgen rays and its removal with forceps. The injury occurred to an engineer from an explosion of a locomotive oil glass on March 1. A fragment penetrated the cornea in the lower outer quadrant near the sclera and passed through iris and periphery of lens. Three months after the accident the lens had been absorbed, but haziness of the vitreous prevented a view of the interior globe. The position of the foreign body has been revealed by the radiograph. It was situated close to the ciliary body at its lower temporal portion. An iridectomy was performed at the Jefferson Medical College Hospital, through an incision at the lower outer corneoscleral junction, and a pair of forceps passed up to the spot indicated by the radiograph. The glass was subsequently removed. Warm saline solution was injected to replace the amount of vitreous lost. The man was discharged cured on the eighth day.

DR. GEORGE E. DE SCHWEINITZ reported some cases of traumatic palsies of the ocular muscles, with causes: paralysis of the inferior rectus from a knife thrust; division of the pulley of the superior oblique during an operation for abscess; injuries to the superior oblique; paresis of the right inferior rectus following a fall on the left side of the head and forehead, spontaneous disappearance of the ptosis; traumatic paresis of right superior oblique following a fall on the right supraorbital region, later paresis of accommodation, complete recovery; paresis of left inferior rectus following a fall on the head succeeded by concussion of the brain, recovery; paralysis of left superior oblique following a fall on the head succeeded by a severe concussion of the brain, recovery.

DR. S. D. RISLEY recalled the history of a case presented to the section last year in which a man had been thrown from a buggy, remaining unconscious for two days. Three months later there was almost complete paralysis of all ocular muscles on the right side supplied by the third nerve except the levator. He presented the history of two cases which properly belong to the first group.

DR. B. ALEXANDER RANDALL referred to a case of paralysis of inferior rectus, decreasing when he first saw the man, in which complete recovery followed absorptive treatment.

Chicago Academy of Medicine.

October 12, 1900.

IS THE AMERICAN TO BECOME A DEGENERATE INDIAN?

DR. JAMES G. KIERNAN read this paper.

Under the influence of the notion of zoologic districts the opinion that the English-speaking American of Caucasian lineage was to become an Indian, was advanced by Pruner-Bey and Quatre-fages four decades ago. After two generations of residence in North America the glandular system of the English-speaking race of Caucasian type was reduced to the minimum of its normal development. The skin became like leather; the color of the cheeks was replaced by sallowness. The head became smaller, rounder, and covered with stiff dark hair, the neck became longer, and greater development of the cheek-bones and the masseters occurred. The temporal fossae grew deeper, the jaw bones more massive, and the eyes lay in deep approximated sockets. The iris became dark, the glance piercing and wild. The long bones, especially in the superior extremities, were lengthened, so that the gloves manufactured in England and France for the American market were of a particular make with very long fingers. The male pelvis approached that of the female. America, in the opinion of De Quatre-fages, has thus from the English race produced a new white race which might be called the Yankee race. One of the data on which Pruner-Bey based his opinion was successfully overturned by the American anthropologist, Morton, who showed that there had been no diminution in the size of the head. This question can be answered logically only by the application of the principle that in science a theory to be exploited must not only explain all the facts, but must exclude every other explanation. The first point involved is that of the influence of American continental environment on the races constituting the Indians. According to Keane, American aborigines are not indigenous. The racial elements of the American aborigines appear to be proto-Europeans of the first stone age—a somewhat generalized primitive Caucasian type—and proto-Asiatics—a somewhat generalized primitive Mongolo-American type—both European and Asiatic still preserving many common features of the common pleistocene precursors. The study of American aborigines points to two streams of immigrants from the Old World. The Eskimo Botoeudo section has been traced to the long-headed paleolithic man of Europe, which continental geology has shown to have been connected with North America through the Faroe Islands, Iceland and Greenland, down to post-glacial times. The other section, which probably greatly outnumbered the first, came apparently later, during the new stone age, from Eastern Asia by the Behring waters, and is now represented by the still prevalent round-headed element.

The author then discusses the basis for the Indian transformation hypothesis, saying that the influence of the transformation factor, although the term "degenerate" be applied to it, is not intended to imply a morbid element tending to race extinction. A change from one species into another, whether in animals, plants, or in individuals, or their tissues, can not take place without anomaly. When the balance of the struggle for existence becomes disturbed, the degenerative organs gain at the expense of the organism. Sometimes this goes so far that new organs are formed. Any variation to be transmitted must pass through periods of embryonic, as well as periods of post uterine, stress. In passing through these periods it has to resist the influence not merely of atavism, but of the maternal

environment. The individual cell is by no means a slave to heredity. It is capable of certain modifications under the influence of certain external conditions. If the environment of the mother be favorable to the variation, it is apt to pass through the periods of intra- and extra-uterine stress unmodified. If, on the other hand, the environment be unfavorable, the reverse is likely to obtain. It is not the variation per se that may prove malign, but the influence which surrounds it. Race characters may be evolved which, considered apart from the general organism, are an expression of advance. Considered as a race for physical and not esthetic purposes, the Caucasian face is a degeneration. The negro and the Mongolian types approximate more neatly the vertebrie type, and least the embryonic type. The progress of development of the face in the vertebrates is checked in man, because the upright position renders it unnecessary to bend the head as in quadrupeds, and because the enormous cerebral development has rendered an enlargement of the brain cavity necessary.

There are factors tending to produce and maintain American race types of features. Races coming from the Old World have Mongolian elements which could be awakened by the Mongolian environment if present in the Americans. The early generations of Europeans in North America, whether these be the English Puritans, the Dutch New Yorkers, the Irish Marylanders, the English Virginians, the Pennsylvania Germans, and the mixed races of Scotch-Irish, French and German descent of the Carolinas, Georgia and Alabama, admittedly exhibit facial resemblances to the so-called Indian type. However, when the conditions of stress to which these people have been exposed began to disappear, this element vanishes. This is excellently illustrated in the family of the discoverer of the electric telegraph.

The question arises, Does the alleged transformation of the European into an Indian comply with the scientific requirements of a working hypothesis? It certainly fails in the requirement of explaining facts. The Indians still sometimes retain characteristics assimilating them to the Europeans. This proves that European characters can resist the influence of American environment even when such characters occur in a generalized, and hence plastic type. The theory does not exclude the influence of Mongolian admixture present to a large extent in all Europeans, even the English-speaking peoples. This would explain the seeming assumption of Indian race characters, since under similar conditions in Europe race characters occur simulating those of the American Indian. The theory, therefore, does not comply with the scientific rule and can not be accepted.

PROF. FREDERICK W. STARR, of the University of Chicago, objected to the general use of the term American. When Dr. Kiernan said American he probably meant only the people of this country and the Americans of Canada, and not the Mexicans, the people of Central and South America, nor the Eskimo. The American Indian, if the result of his environment, is certainly not a degenerate because he has lived in America. He is better adapted to his environment than we are.

A parasite is not a degenerate, because it is better adapted for its peculiar mode of life, but the speaker would not think of comparing the American Indian with the parasite. Indians have better sense than to keep degenerates alive. They have no institutions in which to preserve their degenerates. The type is pure throughout, and well represented in the different individuals of a tribe. The two elements mentioned by Keane are doubtless present in the Indian population. There is undoubtedly Chinese and Japanese blood in the American Indian. The American Indians come from more than two sources. They have sprung from many different original types, and at many different times when the connection with Asia was easier than at the present day, when islands were existing in the Pacific that have now disappeared, when men of different color and types found their way into America, and here they have been converging. There are 58 different language stocks represented in North America. Customs, habits and religions differ as much as language, and when these different customs are compared they coincide with different areas as mapped out on the basis of languages.

Throw a population into America, and only those whose physical type best fits them to live here will survive. In the course of time there will result a type adapted to their surroundings, a state of affairs which was found here by the white men from Europe, and one which will be found thousands of years hence when the Chinese investigators go over the world to study what is to be found in different continents.

Three cartoons are used extensively in the papers and especially during times of war. One is called Uncle Sam, or Brother Jonathan, the Yankee. He is portrayed as being slender, angular; has broad prominent cheek-bones, straight hair and a tapering face. A perfectly well-defined type. Everybody knows Uncle Sam. The second type is the F. F. V., "first families of Virginia." He is depicted as being slender, not as angular as the Yankee; he is lithe, sallow, olive complexioned, with straight black hair and dark eyes. The third type is John Bull, round, juicy, oily, with a red countenance and with curly grayish hair. A perfectly well-defined type, and yet, all three are pure English. What is the difference between them? John Bull stayed at home, whereas the other two came to America and have been living here for several hundred years. Consequently they have undergone a change; they are not the same. There is a difference between the two immigrants just as there is a difference between the Indian from Virginia and the Indian from the North. The expected was the result of natural selection, which always tends to produce a type adapted to its surroundings. We never get rid of the old types entirely. Many years hence there will be physical differences between the man from England and Russia, although they will converge and there will be a homogenous population such as the white man found when he came to this country. There will be local differences, which are partly due to surroundings and partly to the original type, but there will be a convergence, a blending of all into one type. The Indians are all Indians, although there are sub-types in the shape of different tribes.

DR. EUGENE S. TALBOT agreed with Professor Starr that environment has much to do with the type, but conditions must be taken into consideration. There are two extremes, the brachycephalic and the dolichocephalic in this country among the Indians and all races of people. There is a tendency, however, not only in Europe but in this country, to the mesocephalic type and with that change appear the degenerate faces, the jaws becoming smaller. Dr. Talbot does not believe that the white races of America are becoming of the Indian type. The Indian type has large jaws, prominent cheek bones, and perfect teeth, while the mixture of races and the soil and climate are changing Europeans in this country to a race with small jaws, with small teeth and small cheek bones. That the change is taking place, Dr. Talbot showed by a series of photographs of four generations. The first picture showed a dolichocephalic head, which gradually changed until in the fourth picture it became the brachycephalic. The change in the jaws is also plainly seen until there occurs arrest of development of the jaws, the sunken face, with cheek bones not so prominent. The bones of the nose are also reduced. The changes taking place in this country are not conducive to a return to the Indian type so far as the jaws, face and teeth are concerned. The North American Indians do not have decayed teeth to any great extent, where in the American there is a degenerated tooth structure. This degenerate condition will continue in the evolution of the face of the white people.

DR. STARR did not see the connection between these pictures and the argument in question. According to Dr. Talbot, there is a degeneration going on from one generation to another. This degeneration is found only in degenerating families, in people of high respectability and genius, in people who have portraits of the family running through generations. Those pictures teach the lesson that the families they represent are going to die out because they are not adapted to the climate. They are not the people who are going to be the future population of the country; it is the people without portraits; people who are not making inventions; people who are not attracting attention, who are going to survive.

Therapeutics.

TONSILLITIS.

The harmful influence of micro-organisms which constantly inhabit the throat may be successfully combated by a perfectly healthy condition of the body, the resisting power of which may be temporarily lowered by undue exposure to cold and thus permit these germs to carry on their work and multiply. A derangement of the gastrointestinal canal is a frequent forerunner of disease of the throat.

Rheumatism seems to figure as an etiological factor in tonsillitis.

Three principal forms of tonsillitis have been described by the authorities:

1. The catarrhal form, in which the mucous membrane only is involved and which may extend to the pharynx, producing there also a general catarrhal condition.

2. The follicular form or lacunar tonsillitis, when the follicles are involved and are filled with a cheesy substance.

3. A suppurative or phlegmonous tonsillitis—quinsy.

The acute catarrhal form, although occurring as a primary disease, seldom occurs alone, but is usually associated with acute pharyngitis. Below are given some suggestions as to treatment of the different forms:

Acute Tonsillitis.

R. Sodii salicylatis		
Potassii citratis, āā	gr. xl	2 66
Syr. pruni virginianæ	ʒiiss	10
Aquæ q. s. ad	ʒii	64

M. Sig. One dessertspoonful every three or four hours, for a child of 5 or 6 years. —Ashby.

FOR LOCAL APPLICATION.

As a local application the following may be found of service in such cases:

R. Iodi	gr. iiii	2
Potassii iodidi	ʒi	4
Glycerini q. s. ad	ʒi	32

M. Sig. Apply locally to the tonsils three times a day by means of a brush or cotton swab.

AT COMMENCEMENT OF ATTACK.

R. Tinct. ferri perchloridi	ʒi	4
Glycerini	ʒi	64

M. Sig. One teaspoonful every two hours.

Iron given as in the above form without the addition of water is by some authors regarded as a specific in treatment of tonsillitis; believing that it relieves the pain, shortens the duration and lessens the congestion, as it has a local as well as a systemic effect.

GARGLE IN ACUTE TONSILLITIS.

R. Tinct. belladonnæ	ʒss	2
Glycerini	ʒiiss	10
Decoct. althææ q. s. ad	ʒvi	192

M. Sig. Use as a gargle two or three times daily. —Schnitzler.

R. Tinct. aconiti	m. viii	15
Syrupi aurantii	ʒiii	12
Aquæ destil., q. s. ad	ʒiii	64

M. Sig. One teaspoonful every two hours for a child of 4.

TONSILLITIS WITH RHEUMATIC HISTORY.

R. Sodii salicylatis	ʒii	8
Tinct. cinnamomi	m. v	33
Aq. destil. q. s. ad	ʒiii	96

M. Sig. One teaspoonful in water every two or three hours for a child of 10 years or older.

R. Pulv. opii deodor.	gr. ii	12
Tinct. veratri viridis	m. viii	5
Hydrarg. chloridi mitis.	gr. ii	12
Ol. anisi	m. i	06
Sacch. lactis, q. s.		

M. Ft. capsule No. xx. Sig. One every hour for adults. —Newcomb; *Med. Record*.

Acute Follicular Tonsillitis.

This is the most frequent form, and especially involves the crypts, and, by extension, the whole tonsil.

R. Sodii boratis	ʒiii	8
Sodii bromidi	ʒi	4
Acidi carbonici	m. xx	1 33
Glycerini	ʒiv	16
Aquæ destil., q. s. ad	ʒiv	128

M. Sig. Use as a gargle four or five times a day.

Dr. E. Fletcher Ingals applies the following to cut short the attack:

R. Guaiacol		
Ol. amygdalæ exp. āā	ʒii	8

M. Sig. Apply to the inflamed tonsil with a cotton swab once or twice daily.

This should always be applied with a swab and applied quickly, as it is very penetrating, and causes some pain when it first touches the tonsil, which in a short time ceases, as the guaiacol is a local anesthetic. This application also reduces the temperature.

R. Sodii bromidi	gr. lxxx	5 33
Sodii salicylatis		
Tinct. opii deodor., āā	ʒi	4
Cascareæ cordial q. s. ad	ʒi	32

M. Sig. One teaspoonful every four hours in water.

—E. F. Ingals.

SALOL.

Salol is a favorite remedy with a great many practitioners, and is usually given in rather large doses to children, watching, carefully the condition of the urine during its administration, istration.

R. Salol	ʒi	4
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M. Ft. chartule No. xv. Sig. One powder every four hours for a child of 6 years or older.

R. Sodii salicylatis	ʒi	4
Sodii phosphatis,		
Sodii bicarb. āā	ʒiiss	6
Aq. menth. pip.	ʒiii	96

M. Sig. One tablespoonful every four hours.

R. Sodii salicylatis	ʒiiss	6
Sodii iodidi	ʒss	2
Tinct. aconiti	gtt. x	66
Syrupi aurantii q. s. ad	ʒiii	96

M. Sig. Shake. One teaspoonful every four hours for a child.

R. Argenti nitratis	gr. lx	4
Aquæ destil., q. s. ad	ʒi	32

M. Sig. Brush the tonsils quickly by means of a cotton swab.

OF USE IN CUTTING SHORT THE ATTACK.

Formalin is a remedy that will probably be used more with better acquaintance with its physiological action.

R. Formalin	m. xvi	1
Tinct. ferri chloridi	ʒi	4
Aquæ menthæ pip.	ʒiv	128

M. Sig. Use as a spray every two hours in the beginning of acute form

R. Aluminis,		
Acidi tannici, āā	gr. xxv	1 5
Aquæ q. s. ad	ʒiv	128

M. Sig. Use as a gargle.

R. Tinct. ferri chloridi,		
Potassii chloratis āā	gr. lx	4
Glycerini	ʒi	32
Aquæ destil.	ʒi	32

M. Sig. Use as a gargle every hour.

The following prescriptions are taken from Keating's work on "Diseases of Children." He states that it is always advisable to keep the bowel slightly relaxed at least for a day or two, and prescribes the following, adding magnesium sulphate to meet that indication:

R. Magnesii sulphatis	.....	3iij	12
Quinina sulphatis	.....	gr. vi	36
Acidi sulph. dil.	.....	gtt. xx	1 33
Syr. zingiberis	.....	5ss	16
Aque q. s. ad.	.....	3iij	96

M. Sig. One dessertspoonful every three hours for a child 3 or 4 years of age.

FOR LOCAL APPLICATION.

R. Tinct. ferri chloridi	.....	3ii	8
Glycerini	.....	3ii	64

M. Sig. Apply locally with a swab every two or three hours.

AS A SPRAY, OR GARGLE.

R. Thymol	.....	gtt. ii	12
Acidi carbol.	.....	m. xxx	2
Sodii boratis	.....	5iiss	6
Glycerini	.....	5vi	24
Aque destil., q. s. ad.	.....	3vi	192

M. Sig. Use as a spray or gargle two or three times daily.

AS A TONIC DURING CONVALESCENCE.

R. Quinina bisulphatis	.....	gr. xx	1 33
Tinct. ferri chloridi	.....	5i	4
Syrupi zingiberis	.....	3i	32
Aque destil., q. s. ad.	.....	3iij	96

M. Sig. One dessertspoonful before each meal three times a day, to be taken through a glass tube. —Keating.

FOLLICULAR AMYGDALITIS.

R. Creosoti—beechwood	.....	m. viii	5
Tinct. myrrhae.	.....	
Glycerini, aa	.....	3ii	64
Aque destil.	.....	3iv	128

M. Sig. Use as a gargle every hour.

CARBOLIC INJECTIONS IN SCARLATINAL AMYGDALITIS.

H. Judson Liper reports the successful employment of Heuber's treatment. By means of a long bent needle, from two to four drops of a 1 in 40 solution of carbolic acid are injected into two or three different spots in the tonsil. Liper has used this method even in suckling infants.

R. Acidi carbolici—crystals.	.....	
Aque destil., q. s. ad	.....	3i	32

M. Sig. Inject from two to four drops into the tonsil. —N. Y. Med. Jour.

LOCAL ANTISEPTIC.

The infectious nature of tonsillitis and other forms of throat troubles should lead to trying antiseptic methods instead of astringents. The following combination is recommended as a local antiseptic:

R. Acidi carbol—crystals.	.....	
Camphorae, aa	.....	gr. xv	I
Glycerini.	.....	
Aque destil, aa	.....	3ii	64

M. Sig. Paint this on the inflamed parts three times a day. It will be found to have a mechanical action as well as an antiseptic one. —Archives of Pediatrics.

Phlegmonous Tonsillitis—Quinsy.

If quinsy can be diagnosed sufficiently early the attack may sometimes be aborted and, in the opinion of Dr. Holt, when it occurs in children, salol is the best remedy. It should be given in doses of two grains every two hours to a child of 5 years, and be assisted by the local effect of very hot or cold applications, according to the sensation to the patient.

AN OLD, BUT RESPECTED REMEDY.

R. Tinct. guaiaci ammoniati	3i	32
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Sig. One teaspoonful in milk taken into the mouth as a

gargle and then swallowed. Repeat every two hours until it begins to purge—for adults.

R. Acidi salicylici	.....	3ii	8
Sodii bicarb.	.....	5iiss	6
Glycerini	.....	3i	32
Aque menthar piperitae q. s. ad.	.....	3iv	128

M. Sig. One tablespoonful every two or three hours.

TO ALLEVIATE PAIN.

To allay the pain cocain can be applied under the direction of the physician.

R. Cocaina hydrochloratis	.....	gr. xx	1 33
Aque destil., q. s. ad	.....	3i	32

M. Sig. Apply locally by means of a swab or spray to relieve the pain.

R. Potassii chloratis	.....	3ii	8
Zinci sulphatis	.....	gr. x	66
Tinct. myrrhae	.....	3i	4
Syrupi simplicis	.....	3i	32
Aque destil.	.....	3iv	128

M. Sig. Use as a gargle three times daily.

R. Tinct. veratri viridis	.....	m. xxx	2
Morphina sulphatis	.....	gr. i	66
Aque	.....	3ii	64

M. Sig. One teaspoonful repeated in one hour, then every three hours for an adult. —New Eng. Med. Month.

AS A GARGLE.

R. Acidi carbolici	.....	3i	4
Glycerini	.....	3iij	96
Tinct. iodi	.....	3iv	128
Aque, q. s. ad	.....	Oi	512

M. Sig. Use as a gargle in phlegmonous tonsillitis. —Buchanan.

R. Potassii chloratis	.....	3ii	8
Potassii nitratis	.....	3iv	16

M. Sig. One teaspoonful dissolved in a half glass of hot water as a gargle every two hours.

As soon as fluctuation is detected, an incision should be made with a guarded bistoury. After the incision the following gargle may be used:

R. Sodii salicylatis.	.....	
Sodii boratis, aa	.....	gr. xl	2 66
Syrupi simplicis	.....	3i	32
Aque destil., q. s. ad	.....	3viij	256

M. Sig. Use as a gargle.

In tonsillitis, where the temperature ranges high the child should be kept in bed and cold compresses applied to the throat and sponge baths given to quiet the patient and reduce the temperature. The diet should be guarded, consisting in the main of liquid—milk, soft-boiled or raw eggs, gruels, soups, custards, etc. The patient may hold small pieces of cracked ice in the mouth, which relieves both the thirst and the pain.

Medicolegal.

Local Health Officers Represent the State.—It is apparently the established rule, the Supreme Court of Michigan says in the case of Murray vs. the Village of Grass Lake, that local health officers acting under a general statute of the state conferring their powers are not performing corporate functions, but are represented in the state, and that the municipality is not liable for the acts of such boards, either of misfeasance or nonfeasance.

Future Medical Attendance Subject for Experts.—In the case of Martin vs. the Southern Pacific Company, an action brought by a husband to recover damages for injuries to his wife, one of the physicians who had attended upon the wife, while testifying, was asked as to the character of the medical attendance which she would require in the future. This question was objected to on the ground that it was seeking to

substitute the opinion of the witness for the conclusion which should be made by the jury. But the testimony, the Supreme Court of California holds, was properly admitted. The character of the injuries sustained by the wife, as well as their probable duration, and the professional care required for their alleviation, it holds, were proper subjects for the opinion of experts. The husband was entitled to recover for whatever damage could be shown as certain to result in the future, and the testimony of the physicians who had attended upon his wife, the court declares, was a proper mode of establishing this fact.

Barring Membership in Any Other Sick Benefit Society.

—In the case of *Bretzlaff vs. the Evangelical Lutheran St. John Sick Benefit Society*, the Supreme Court of Michigan holds that it cannot be said that the limitation in the constitution of this society that members "must not belong to any secret society or any other sick benefit society" was unreasonable or against public policy. The society, it says, was organized among the members of a particular church. Its members might be called upon to visit and care for the sick, and to use part of the income of the society in their care. If a member might join one other sick benefit association, he might join so many of them that he might not be able to perform the duties he owed to this association. Hence, the court does not think it unreasonable or against public policy to make such a provision as this in the constitution of such an association. Moreover, a person who helped to organize this society and signed an application blank containing a declaration that he had read the constitution and by-laws and was willing to submit himself to the same, the court holds, must be deemed to have known this provision, and was bound by it, and his contract with the society was rendered void by his being a member of another mutual benefit association at the time of the organization of this one and remaining such until his death, without the knowledge of that fact by the officers of this society.

Enforces Contract Not to Practice Medicine in Town.

—The Supreme Court of Michigan affirms, in the case of *Lemon vs. Randall*, a decree restraining a physician from continuing his practice of medicine in a town after he signed an agreement for a valuable consideration, not to practice his profession there. The agreement referred to was dated at that place, and stated that, for value received, he thereby sold and turned over, on and after the first of the following month, to the physician whom he named, his good will in the practice of medicine in that town and vicinity, and agreed to use his influence to introduce him to his patrons, and secure for him their patronage and influence, and that he would not re-enter into or engage in the practice of medicine there after such date, without a written agreement with said other physician. The defense relied upon was that this agreement did not embody the whole agreement between the parties, and that contemporaneously with the making of this agreement the other physician entered into certain engagements relative to purchasing a house, which, it was alleged, he failed to keep. However, the court calls attention to the fact that the other physician refused to sign a written memorandum binding him to make such purchase, and it says that it thinks it doubtful whether the physician who signed the agreement first mentioned understood the promise of the other as creating any obligation other than a moral one. But, assuming that he understood that there was a binding agreement to purchase the house, the supreme court holds that it was void under the statute of frauds, requiring some memorandum of an agreement to purchase real estate to be made in writing and signed, and, hence, that it could not be used as a defense here.

Osteopaths Practice Medicine.—The judgment of the District Court of Lancaster County, appealed from in the case of *Little vs. State*, wherein a practitioner of osteopathy was convicted of practicing medicine without a license, was affirmed, November 21, by the Supreme Court of Nebraska. The practice of osteopathy was described as consisting principally in rubbing, pulling and kneading with the hands and fingers certain portions of the bodies and flexing and manipulating

the limbs of those afflicted with disease, the object of such treatment being to remove the cause, or causes of trouble. This, it was urged did not make the practitioner a practitioner of medicine within the meaning of the statute defining the latter as any person "who shall operate or profess to heal or prescribe for or otherwise treat any physical or mental ailment of another." The supreme court, however, is of the opinion that those who practice osteopathy for compensation come within the purview of the statute as clearly as those who practice what is known as "Christian science," and that, therefore, this case falls within the principle of *State vs. Buswell*, which it decided in 1894; 40 Neb. 158. It then held that the act to establish a state board of health; to regulate the practice of medicine in Nebraska, etc., is as much directed against any unauthorized person who shall operate on, profess to heal, or prescribe for, or otherwise treat any physical or mental ailment of another, as against one who practices "medicine, surgery, and obstetrics," as those terms are usually and generally understood. And it now declares that with the rule announced in that case it is fully satisfied, although it is possible that the decisions of some other courts are in conflict with it. The doctrine declared in that case, it goes on to say, will carry out the legislative intent and effect the object of the statute, which is "to protect the afflicted from the pretensions of the ignorant and avaricious," no matter whether the person pretending to heal bodily or mental ailments does or does not profess to "follow beaten paths and established usages." In construing statutes effect should be given to the intention of the legislature. But, it was argued that osteopaths do not profess to treat any physical or mental ailment, that they merely seek to remove the cause of such ailment or disease, and, therefore, do not come within the definition mentioned. The answer to that is that it is apprehended that all physicians have the same object in view, namely the restoring of the patient to sound bodily or mental condition, and whether they profess to attack the malady or its cause, they are treating the ailment as the word is popularly understood. Wherefore, the court says that it can see no good reason why the practice of osteopathy does not fall within the provisions of the statutes under which this prosecution was instituted, as clearly so as do ordinary practitioners, or those who profess to heal by what is known as Christian science. Nor does it consider that the offense is without a penalty under the Nebraska statutes. It holds that one who practices what is known as osteopathy, without obtaining a certificate from the State Board of Health, is a practitioner of medicine as defined by article 1, chapter 55, Compiled Statutes, and is liable to the penalty prescribed specifically for practicing medicine without a license. It further holds that "surgery and obstetrics," as those terms are popularly understood, are embraced in the title of an act to regulate the practice of medicine, and hence that the act in question is not invalid on the ground that the definition of a practitioner of medicine contained therein and quoted above, is broader than the title of the act, which is "to regulate the practice of medicine." Then, it holds that the act is not void as being prohibitive in its effect, its attempt being to regulate the practice of the art of healing and it being prohibitive only as to those who have not been duly licensed by the State Board of Health to practice the art of healing. Last of all, it holds that several misdemeanors of the same kind, as for example charging violations of such a statute, may be set forth in as many counts of an information, and the prosecutor is not required to elect upon which count he will proceed.

New Instrument.

Apparatus, With Non-Perishable Valves, for Administration of Nitrous Oxid and Ether, Separately or in Combination, Without Change of Inhalers.

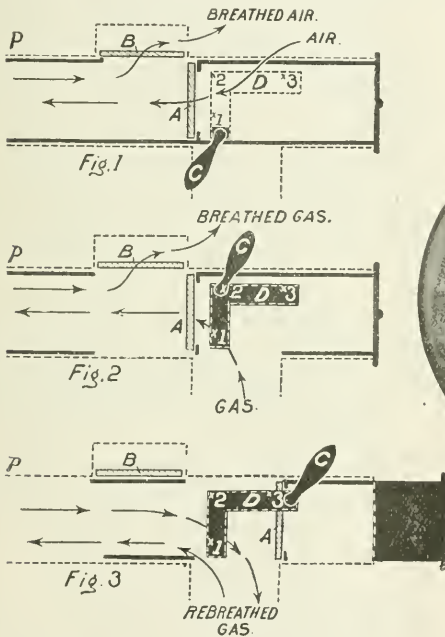
S. ORMOND GOLDAN, M.D.

NEW YORK CITY.

The essential part of the gas apparatus is a stop-cock containing two valves. The inspiratory valve is set in an inner

cylindrical tube, which works by a handle through a right-angled slit in an external cylinder supporting the expiratory valve superiorly, and inferiorly gives attachment to the gas bag. The valves themselves are made of thin sheet hard rubber, and are therefore non-shrinkable and stand all climates. When the handle is turned down to point indicated by "air," Fig. 1, the gas bag is closed by means of the obturating function of the inner tube; when the handle is turned upward, to place indicated by "gas," Fig. 2, air is excluded and gas is inhaled by means of the inspiratory valve. Expirations of the patient pass out through the expiratory valve; at the same time the inspiratory valve is closed. During inspiration the inspiratory valve is opened at the same time the expiratory valve is closed, preventing inhalation of air, and conversely during expiration the inspiratory valve is closed, avoiding waste of gas.

When the handle is pushed backward, to place indicated by "no valves," Fig. 3, the valves are thrown out of action; the patient then breathes back and forth into the gas bag. This three-way action of the stop-cock is a feature not represented in any of the dental gas-inhalers of American manufacture, and is one of the important factors conducing to very



is permitted to breathe air first; the handle is then pushed upward, inhalation of gas begins, and is complete in time varying from thirty seconds to one minute. Is evidenced by stertor, cyanosis, dilatation of pupils, and hard full pulse! The handle should now be depressed and air admitted, when cyanosis, stertor, etc., cease, and consciousness quickly returns, but before it is complete the gas should again be admitted. In this way gas anesthesia may be maintained indefinitely.

The gas and ether apparatus consists of, in addition to the above, an ether chamber, which is interposed between the face piece and the stop cock, Fig. 2. This is made after Clo-

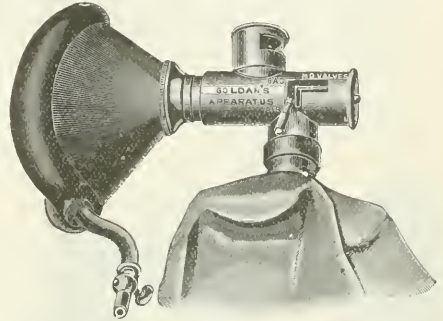


FIGURE 1.

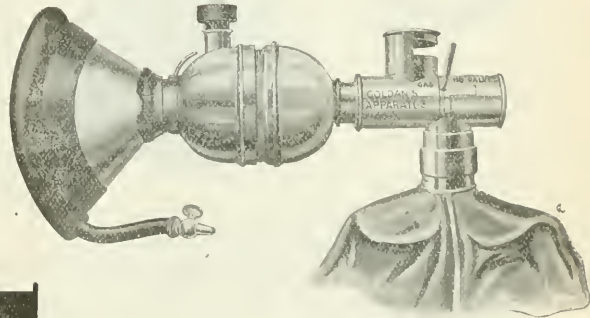


FIGURE 2.

er's principle. Instead of revolving around the central axis, technically called the whistle, the chamber itself is stationary and the handle revolves the central part. The chamber itself is about one-third the regular size, and holds 1½ ounces of fluid ether, which is poured in through the hollow glass-topped stopper; by this means it can be ascertained when more ether is required, by permitting the ether to run into the stopper by elevating the chamber. Another feature about this chamber is, it can be separated at the middle and the interior cleaned, and if preferred, a strand of gauze inserted as a receptacle for holding the ether. A varying quantity of ether is supplied, by turning the handle from 0 to 4, and it can be turned on at any time during gas anesthesia.

When gas and ether are to be administered, the parts should be adjusted as in Fig. 2, the handle turned to "air" on stop-cock and to 0 on ether chamber. The gas bag need be only moderately filled with gas. After the patient is partially anesthetized by gas, the ether should not be at once turned on, but the valves of stop-cock thrown back out of action, that the patient may breathe back and forth into the gas bag three or four times, then ether is turned on gradually. A very little air may be admitted; in this way deep etherization

1 N. Y. Med. Jour., July 29 and Aug. 5, 1899; April 28 and May 5, 1900.

rapid anesthesia by ether, when preceded by gas, to be present fully described.

One hand only is necessary in manipulating this stop-cock. By raising or lowering the handle by means of the thumb, gas or air may be admitted at will. The gas bag is made of black sheet-rubber, of about 2½ gallons capacity. The face piece is made of small, medium and large sizes, suited to either children's or adults' faces, and of different patterns to suit the individual taste of the administrator. Fig. 1 shows the metal pattern; in Fig. 2 the body is made of celluloid; Fig. 3 is made of leather entirely covered by rubber; all have the inflatable pneumatic rim. The second and third variety fit the face more closely than the metal pattern; all of them can be thoroughly sterilized.

When gas alone is employed, the apparatus should always be tested before using, and the gas bag thoroughly collapsed before being filled with gas. The inhaler is closely applied all air excluded about the edges of face piece, and the patient

very quickly (two to four minutes) follows that of gas anesthesia, with no cyanosis or stertor. After etherization is complete, the right-angled arm and ether bag may be adjusted.

For the administration of ether alone, the parts should be adjusted as in Fig. 3. Note that the right-angled arm giving attachment to the thin rubber bag, has an air-shutter. By this means air may be admitted without detaching the arm. The ether bag is of fullest respiratory capacity. Turning the handle to 0 the patient should be encouraged to breathe fully and deeply; all air passages should be fully opened; the patient now breathes only air. Ether is then very gradually turned on; at the same time the air passages are gradually closed, so that by the time all air is excluded, the patient is breathing full ether, and very quickly becomes surgically anesthetized. Air must, of course, be admitted from time to time, whenever required, and the ether chamber replenished when necessary.

The apparatus is not only the lightest and most portable of any valued device for gas-ether anesthetization at present obtainable; it is also the most inexpensive, at the same time combining the two great features of any instrument; efficacy and simplicity.

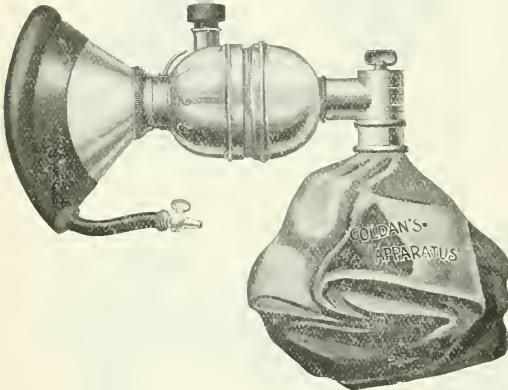


FIGURE 3.

Explanation of the Diagrams.—Dotted lines indicate external part of stop-cock, heavy lines and shaded parts, internal tube. Arrows indicate direction of inspiration and expiration. The valves are indicated by shaded lines. A. Inspiratory valve. B. Expiratory valve. C. Index handle. D. Right-angled slit. P. Proximal end of stop-cock, attaching face-piece. X. Handle turned down; air breathed. X 2. Handle turned up; gas breathed. X 3. Handle turned up and back; gas breathed back and forth into gas bag.

The apparatus may be obtained from the manufacturers, Claudius Ash & Sons, London, England, or 30 East Fourteenth Street, New York City.

Current Medical Literature.

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- 2 *Gastropexia. George R. Lockwood.
- 3 *On the Analogy between the Nervous Conductibility and the Electric Conductibility, and Their Relation to the Functional Neuroses. A. D. Rockwell.
- 4 *The Treatment of Typhoid Fever at the New York Hospital. Frederick L. Kenes.
- 5 *A Few Remarks Relative to Typhoid Feeding. William M. Brown.
- 6 *The Registration of Tuberculosis. Hermann M. Biggs. Philadelphia Medical Journal, December 1.
- 7 On the Study of Tuberculosis. William Osler.
- 8 *Where the Danger Lies in Tuberculosis. Adelaide Dutcher.
- 9 *The Early Diagnosis of Pulmonary Tuberculosis. DeLancey Rochester.
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- 11 *Sanatorium Treatment and Its Relation to Climate. S. Edwin Solly.
- 12 A Case of Acute Tuberculosis of the Mesenteric Glands of the Ileocecocolic Coil; Removal; Permanent Recovery. Maurice H. Richardson.
- 13 Personal Views Regarding the Climate of the Rocky Mountains in the Treatment of Tuberculosis. S. D. Van Meter.
- 14 *On the Treatment of Tuberculosis by Sodium Cinnamate. Alfred Mann.
- 15 *Stomach-Conditions in Early Tuberculosis. Boardman Reed.
- 16 The Fallacy of Climate in the Treatment of Tuberculosis. J. W. Kime.
- 17 Operation in Two Cases of Tuberculosis Peritonitis. W. L. Grant.
- 18 Lupus Vulgaris of Fifteen Years' Standing Successfully Treated and Cured by Exposure to X-Ray. A. Everett Smith.
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- 20 Colorado Climate: A Comparative Study. Edwin G. Dexter.
- 21 Public Education and the Prevention of Disease. H. L. Johnson.

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 - 24 Heroin as an Analgesic. Normann P. Geis.
 - 25 A Case of Multiple Aneurysms. W. J. Pettus.
 - 26 The Treatment of Various Long-Standing Sexual and Urinary Symptoms in the Male. Follen Cabot.
 - 27 A Contribution to the Therapeutics of Phlegmasia Alba Dolens. A. Herzfeld.
 - 28 *Revelations of the Protozoan in Health and Disease. A. B. Cooke.
 - 29 A Dissection of Some Antitoxin Statistics. J. Edward Herman.
 - 30 Cessation of Respiration During Chloroform Anesthesia Due to Chewing-Gum in the Larynx. E. P. Palmer.
- Boston Medical and Surgical Journal, November 29.
- 31 *Acute Hemorrhagic Pancreatitis, Its Surgical Treatment, With Report of Six Cases. F. B. Lund.
 - 32 *Observations Upon the Symptoms and Treatment of Hyperacidity of the Stomach. Henry F. Hewes.
 - 33 *Subperiosteal Fractures. Frederick J. Cotton.
 - 34 *Irritable Breasts or Chronic Lobular Mastitis. R. C. Cabot.

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- 36 *When Shall We Operate in Appendicitis? Frank E. Bunts.
- 37 A Medical View of the Treatment of the Cecum and Appendix. A. L. Benedict.
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- 39 *A New Operation for Hemorrhoids. Ellsworth Eliot, Jr.
- 40 *A Plea for the Earlier Recognition of Squint in Children by the Family Physician and the Earlier Application of the Methods of Treatment. C. A. Veasey.
- 41 The Treatment of Pneumonia With Antipneumonia Serum. Edwin Rosenthal.
- 42 Septic Synovitis of Knee-Joint: Extensive Drainage Followed by Excision of Entire Synovial Membrane; Recovery. Charles A. Powers.
- 43 The Influence of Measles and Erysipelas Upon Epilepsy, With Report of Cases. L. Pierce Clark and E. A. Sharp.

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- 63 *Should the Lairy Be Educated in Medical Matters? Carl
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65 *Importance and Significance of the Reflexes. Irwin B. Neff.
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67 *The Principles of Metabolism and Nutrition. Leo Breisacher.
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- 69 The Use of Eserine as a Myotic in Simple Extraction of
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76 Report of Some Cases. M. A. Hughes.
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82 *Personal Observations of the Bubonic Plague in Manila.
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- 91 *Opium in India—A Medical Interview With Rudyard Kipling.
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93 Pelvic Massage. E. E. Montgomery.
94 The Treatment of Typhoid Fever. Alfred Stengel.
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97 Modern Aseptic Surgical Technique. R. W. Garrett.
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- 98 Some Applications of Static Electricity in Dermatology.
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- 99 The Therapeutic Management of Dyspepsia. C. H. Powell.
100 *Icthiolform as an Antiseptic. Professor Anfrucht.
101 *Myrril in Affections of the Respiratory Tract. Solomon
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110 Occlusion of Bowels Following Appendectomy—Enterectomy
Eighteen Hours After Delivery. Ernest Hall.
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113 Operative Treatment of Uterine Fibroids. F. A. Lockhart.
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117 A Case of Hypertrophy of the Leg. T. W. Gallion.
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- 118 The Physician and the Modern Complex Life. P. R. Burnham.
119 Placenta Previa. C. Heaton.
120 Lavage of the Stomach in Obstruction of the Bowel. L. G.
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H. S. Gordon.
122 Climatology of California. (To be continued.) C. G. Stivers.

AMERICAN.

1. **Pernicious Anemia.**—Dana gives the history of a case of pernicious anemia with decidedly morbid family history. He calls attention to this point and discusses the general pathology of the condition. There was a striking lack of vitality on the part of the generation to which the patient belonged. Out of fourteen children, twelve died in infancy and the other two before the age of forty. There was no evidence of leues, though he says it might have been present.

2. **Gastroptosis.**—Lockwood concludes his article as follows: 1. in the great majority of cases an adequate cause for the gastroptosis is not discoverable; 2, gastroptosis does not of itself, in an uncomplicated form, produce symptoms; 3, the displacement of the stomach, however, is a predisposing cause of a variety of gastric neuroses, of sensation, motion, and secretion; 4. these neuroses are usually induced by some definite mental or physical strain; 5, the displacement of the stomach is a strong exciting cause for muscular atony; that atony is the most common cause for the symptoms presented; 6, a complicating atony is associated with a more or less profound neurasthenia, and that a direct relation exists between these two conditions; 7, gastric acidity is increased in direct proportion to the atony, unless counteracted by gastritis; 8, mild degrees of gastritis are apt to occur in stomachs that are displaced, but the symptoms are neither severe nor persistent; 9, gastritis occurring in atonic and displaced stomachs reduces the excessive acidity of these cases and seems to modify the severity of symptoms; 10, atonic dilatation without mechanical hindrance is exceedingly rare; 11, dilatation, or better, muscular insufficiency, may occur in gastroptosis from duodenal kinking, from arterio-mesenteric constriction, or from pyloric spasm; 12, pyloric spasm is common in displaced atonic stomachs with hyperacidity, and may lead to a temporary dilatation; 13, in a large number of cases, inattention to the conditions of atony, of neuroses, and of gastric secretions has led to an unsuitable, insufficient diet which reacts both on general nutrition and on local conditions within the stomach; and 14, surgical intervention is applicable only to the cases in which dilatation exists.

3.—See abstract in THE JOURNAL of October 27, p. 1104.

4. **Typhoid Fever.**—The treatment of typhoid fever at the New York Hospital, according to Keays, consists in baths to regulate the temperature, sodium bromid, phenacetin, acetanilid and applications of cold to the head if necessary for headache. If sleeplessness is not relieved by baths, trional in 10 to 20 gr. doses, or sodium bromid is used. Delirium, if severe and not otherwise relieved, receives the same treatment. Sodium bicarbonate and myrrh are used for a mouth wash. When nausea is complained of, the food is modified, prepared milk made by adding cerium oxalate, 5 gr. and sodium bicarbonate, 10 gr. to the half pint, or peptonized milk is given. If this is insufficient, gastric sedatives are employed, such as minimum doses

of dilute hydrocyanic acid or small quantities of wine of ipecacuanha. Counter-irritation over the epigastrium sometimes is valuable. Constipation is treated by calomel in small doses followed by saline purgatives. About the second or third week no cathartics are given, but glycerin suppositories or soap-suds enemata are used. In diarrhea, if due to constipation, indicated by small movements, large enemata wash out the lower bowel and relieve it. If it is not due to fecal impaction, mild astringents, such as bismuth subnitrate or tannalin are employed. Distention is generally treated by enemata containing from half a dram to a dram of turpentine. Turpentine stupes are also used. With the baths some cases require no other stimulation, but in others a moderate dose of whiskey should be given, except in alcoholic cases. Brandy may be used if whiskey does not agree. The mild forms of bronchitis which occur are disregarded. If it becomes extensive or troublesome the ordinary remedies are used. The urine is measured during the active stage and a record kept. A specimen of urine is examined every three days unless more frequent examination is required. When the quantity of urine passed is small, the patient should be encouraged to drink more fluids. The ordinary, mild forms of nephritis are disregarded. Intestinal hemorrhage is relieved by quiet, discontinuance of tub baths, alcohol spongings for the temperature and antipyretics. If severe, the foot of the bed is raised, and hot saline enemata of about eight ounces each, are given every three or four hours and stimulation increased. If these are insufficient, hot saline solution is infused. Hot-water bottles are used to keep the temperature up if it falls below normal. If pneumonia supervenes, the treatment is modified only as new symptoms referable to pneumonia arise. In heart failure appropriate treatment is added, the baths are stopped and the temperature reduced if necessary by antipyretics. Phlebitis is treated by keeping the limb as quiet as possible and by the use of 25 per cent. ichthyl ointment along the course of the vein involved. Other measures sometimes used are carbolic dressings, tincture of iodin and lead-and-opium wash. For bed-sores, preventive treatment is employed. Each patient's back, shoulders and hips are rubbed daily with a paste made of zinc oxid, with 50 per cent. alcohol. Reddened areas are protected by dressings and rubber rings, and if necessary the patient is put on a water bed. If bed sores form, the dead tissue is cut away and stimulating dressings of 25 per cent. ichthyl ointment are employed. The routine diet is milk, but if the patient complains of hunger, broth or beef juice is given, and when the temperature has reached normal, more active feeding is begun. Proper mastication of the solid food is urged and the patient's diet is regulated for several weeks. In convalescence the stimulants are cut down as fast as the pulse permits and tonics given if needed, but good feeding and sleep are chiefly relied on. The bowels are kept well open by means of mild cathartics and after about ten days of normal temperature, the patient is allowed to sit up, but if there is any sense of weakness the time is cut short. The time is increased until the patient can sit up eight or ten hours, when he is given his clothes. Exercise is gradually tried, and after about three weeks with normal temperature, the patient is discharged. All utensils used for typhoid patients are marked and used for no one else; the bedding, dejecta and everything are disinfected.

5. **Diet in Typhoid.** Brown's general conclusions are as follows: 1. The bacillus typhosus while the initial is not the preponderating factor in the toxemia. 2. In ordinary cases, the functions of digestion are attended by heat production, which is varied in amount by the kind of food ingested, proteids and carbohydrates giving the least number of heat units while promoting the most effective digestive fluids. 3. The process of digestive secretion is accompanied by a transudation of certain portions of the cell substance in the various glands, which require considerable time for restoration before they are capable of efficient work. Hence we should not feed too often. 4. An inefficient digestion leaves a large residue of food which undergoes fermentation, causes distention, increases the danger of hemorrhage and perforation; also forms a favorable culture-medium for the various bacteria, so increasing the toxemia,

which in turn hastens the disintegration. 5. Milk unprepared is not a liquid food and will take as long to digest as many solid foods.

6.—See abstract in THE JOURNAL of December 1, p. 1426.

8. **Tuberculous Out Patients.**—Dutcher discusses the conditions found in certain sections of Baltimore with especial reference to tuberculosis and its spread. They point, she says, to the rapidity with which the Baltimore houses are becoming centers of infection. During the past year 190 patients were under her observation, who occupied 234 houses. Old tenants moved out and new occupants moved in without any attempt at disinfection. The importance of the education of the public by house-to-house visitation is emphasized.

9. **Early Diagnosis of Tuberculosis.**—After reporting several cases to illustrate the points he makes, Rochester states the symptoms and signs on which he places positive reliance as the diagnostic indications of pulmonary tuberculosis. They are the history of cough or present cough, with or without expectoration, the difference of a degree or more between the highest and lowest temperature of the twenty-four hours, loss of strength, or weight, or both, more or less pronounced anemia, night-sweats though even only occasional, history of present existence or change of cervical lymph-glands and the persistence or development of cough after any of the acute infections. He describes his method of examining the chest when cough or any one of these symptoms, together with dullness, is present; in most cases the right apex is first affected. A slightly lessened movement, diminished expansion and a slight diminution in percussion-resonance are the earliest signs. One of the early signs is a slightly diminished intensity of breathing, particularly during inspiration with prolonged expiratory sound. Increase of vocal resonance and occurrence of expiratory whistling souffle or whispering pectoriloquy, associated with prolonged expiration, if heard in the supraclavicular region, are, he thinks, proof positive of infiltration, and if associated with any two or more previously enumerated symptoms, of tubercular infiltration. Other signs mentioned by him are the transmission of heart sounds to the intracavicular region of the right side, the cardio-respiratory murmur just below the clavicle, and if, in addition to this, there are moist râles, the diagnosis is more sure. He advocates the tuberculin tests in cases requiring still further evidence and does not discourage the value of sputum examinations.

11. **Sanatorium Treatment.**—The results of a recent trip to Europe have been utilized by Solly, who gives some of his experiences. He sums conclusions as follows: Sanatorium treatment is a good thing, particularly when patients are kept in the full air, but that is not quite such a good thing, or as widely applicable, as its advocates believe. It is not the quantity of the air, or the negative virtue of purity, that is alone desirable, but the quality of the air that is also of supreme importance; in other words, climate is of the greatest value, and if equally good hygienic conditions are given to the patient, he who is placed in the climate best suited to his needs is going to improve the quickest, and his disease is more likely to be permanently arrested. The oft-asserted belief of the advocates of home sanatoriums that a tuberculous patient is best cured in his own climate is a fallacy, in the author's opinion. He is cured as much on the mountain top, the wide plain, or the seashore as those erred at home, and no more and no less. There are certain evident economic reasons why home sanatoriums should be encouraged, up to a certain point. Where circumstances permit, however, it is safer to change the air and locality of the consumptive for a time, and by doing so results are brought about much more rapidly and surely than if he remains at home; but, climate without hygiene is but as "sounding brass and a tinkling cymbal."

14. **Sodium Cinnamate in Tuberculosis.**—Mann reports his experience with injections of sodium cinnamate beginning with 1 100 to 1 50 gr. and increasing it up to 1 3 or 1 4 gr rarely exceeding this. The injection should be repeated ever other day and perfect aseptics is essential. The duration of the treatment varies considerably, and he excludes from his report

all cases where the treatment has extended over less than two months. His experience with the drug has been favorable on the whole. He thinks he has had evidence that it quickens to a marked extent the healing processes when they are sluggish or altogether inactive in some, though not in all the cases. On the whole he believes the results have been better than they would have been without the treatment.

15. Stomach Conditions in Early Tuberculosis.—Reed concludes his paper as follows: 1. In early tuberculosis the secretion of HCl in the stomach is very frequently excessive, the peptic glands being in a condition of irritability which causes stimulant remedies of the creosote class to disagree and act injuriously. 2. Oils tend to depress the secretory function of the stomach and in consequence cod-liver oil is likely to help the cases which the creosote class of drugs hurt; but, on the other hand, hurts the cases in which the gastric secretion is inactive, the very ones in which creosote and the like often do good. 3. It ought to be the rule to ascertain the condition of the secretory function of the stomach before pushing either class of remedies. 4. When analysis of the gastric contents cannot be made, it is safer to combine creosote with cod-liver oil, so as to let one neutralize the other in their influence on the stomach. 5. The motor function is very generally depressed in tuberculosis and must be restored before a cure can be brought about. Drugs avail little in this direction, but diet, exercise, especially in the open air, faradism and abdominal massage—except when hyperchlorhydria complicates—are all valuable means of effecting the result.

19.—See abstract in THE JOURNAL of September 1, p. 579.

22. Bacteriology and Medicine.—While not disparaging the value of modern research in medicine, Robinson insists on greater attention to practical clinical studies and points out what he considers the errors that have been committed by too much attention to laboratory methods and bacterial research. He thinks the time has come when we should cry out against the too exclusive theory of disease. The germ theory is mighty and has prevailed up to the present time, but he does not wish to confess that it is universally applicable and that there are not other side-lights bearing upon the point. The etiology and prophylaxis of the disease demand our careful examination. We should always recognize and consider the patient himself as far more important than the disease. The clinician should rank foremost, not the bacteriologist.

31. Pancreatitis.—Lund gives the general results of six cases of pancreatitis in patients between 30 and 50 years of age, 5 of which were in women, 4 having also gall-stones. In no case was a definite diagnosis made, and operation was performed in 5, with one recovery. Of the deaths, one occurred two months after the operation from inadequate drainage, two from shock, and operation was declined by the surgeon in one non-operated case on account of the poor condition of the patient. Two of the cases would be properly classed as periancreatitis, and one as necrosis of the entire pancreas following undoubtedly upon hemorrhagic pancreatitis. Case 5 was a localized necrosis of the pancreas resulting in abscess. As regards diagnosis, he thinks the pain is not quite so sharp as a perforated gastric ulcer and the moderate tenderness on deep pressure is as characteristic in pancreatitis, as is acute pain in light pressure in gastric ulcer. In all cases there was a sense of fullness of the stomach as of tumor. Muscular spasm was not so marked as in perforating gastric ulcer or acute appendicitis. An absolute diagnosis is generally impossible. Mild cases will recover both with and without operation. Severe cases require early operation for the following reasons: 1, because the primary hemorrhage in itself leads to necrosis and disintegration of gland tissue, and hemorrhages may be topped, and necrosis prevented by gauze packing and drainage, and 2, because the patient is in a better condition to withstand operation early than later, when the disease is more advanced. In a certain class of cases, the primary shock may be so severe as to render operation out of the question. He thinks the mortality should be considerably diminished with early operation and adequate provision for lumbar drainage. The first exploratory incision should be made in the median line above

the umbilicus and where the mass of blood clot or the abscess cavity extends into the left lumbar region, an incision must be made upon the finger passed into the cavity to afford drainage. In symptoms pointing to pocketing of pus above the spleen, the subphrenic space should be drained by resecting the tenth or eleventh rib in the posterior axillary line. The pleural cavity will be opened, but probably will be walled-off by adhesions. At any rate drainage of this pocket is essential in order to avoid perforation of the diaphragm by the abscess as happened in one of these cases. Care in diagnosis, rapid operative procedure, and careful nursing are necessary, as the proximity of the inflammatory process to the solar plexus and other important organs makes inflammation of the pancreas dangerous and difficult to treat.

32. Gastric Hyperacidity.—The treatment adopted by Illeves for hyperacidity of the stomach is described by him as follows: The patient is given a diet of a caloric worth sufficient for the weight and conditions containing as high proportion of proteid foods as comfortable for the patient. (In his experience the average patient with stomach trouble is eating less than half of a sufficient diet.) This diet is separated into six daily meals, the constituents of each meal, with some alternative choice, being prescribed. The treatment tends to use up the acid secreted and facilitates the motor function. Starches should be limited, and of carbohydrate foods sugars or predigested starches, dextrinized flours, as *Avena* flour or Horlick's food, used as much as possible, since starch digestion in the stomach is impeded in these cases. For all symptoms of disorder, as distress or eructations, some proteid, as a raw egg, is to be taken. An alkali, bicarbonate of soda in half-teaspoonful doses, or 15 grains of magnesium hydrate, may be taken in addition to food or in place of it for the relief of symptoms. In some cases large amounts of alkali, 3 drams bicarbonate of soda, must be used in the twenty-four hours. Three pints of water are prescribed to be taken in small amounts at a time throughout the day. In addition, general rules in regard to bath, exercise, the bowels, the work, and general manner of living are laid down in writing. Debility must be treated by tonics. *Nux vomica* is a most useful agent here to improve the tone of the system and thus also perhaps the motor capacity of the stomach. Where anemia is present by blood tests, iron should be given. Chlorosis is not infrequently associated with hyperacidity. After an administration of iron with the regular régime for a few weeks, these cases as a rule lose all symptoms of hyperacidity even with cessation of treatment. There is little doubt that it is a similar improvement in nutrition which accompanies the increased diet, and good régime and freedom from nerve disturbances which ensure the cure in a majority of all the cases. The exact details of course differ with the cases, some are intermittent with no need of local treatment except during the period of attack while the general régime should be employed constantly to prevent recurrence. He finds the treatment gives excellent results in most cases. Less than 10 per cent. returned without relief and in these obstinate cases lavage often was found a useful adjunct.

33. Subperiosteal Fractures.—Cotton reports a number of cases in which he finds subperiosteal fractures differing from the ordinary green-stick type, the fracture being directly across the bone which was held in position by the intact periosteum. He says in conclusion: It seems that fractures in children showing no deformity and no appreciable mobility are not uncommon; that they might be readily overlooked; that they often need no reduction, having no deformity; that they repair with callus and quickly.

34. Irritable Breasts.—Cabot calls attention to the form of tumor occasionally seen in breasts, which correspond to the description of irritable breasts given in the old text-books of surgery. He thinks the condition lies rather on the borderline of medicine and surgery. The nature of the tumor is not definitely proved and he asks whether there is not any possibility that, in some of these cases, the accumulation might not be a galactocele, also whether it is possible or likely that these lumps are physiological. As to the prognosis, the question is

to be settled whether or not they become cancerous as some writers seem to think, and whether they should be operated on is also a matter of disagreement. The majority recommend potassium iodid internally with acetate of lead ointment externally and attention to the general condition. His paper seems to be mainly questions in regard to the different features and theories of this condition.

36. Appendicitis.—Bunts favors early operation in cases recognized as appendicitis and with moderate severity of symptoms. He thinks that this is better than waiting to operate between the attacks, for no one can tell what the result of the attack will be. In cases of great urgency and intensity of symptoms, the operation should be at the earliest possible moment. In cases not recognized as appendicitis for several days, he also thinks operation is indicated, though it may not be so urgently demanded. The white-blood count may be a guide in these cases as to the progress or diminution of the inflammation. If the former, operate; if the latter, delay is permissible. In cases recognized as appendicitis, but which have begun to abate before the physician sees them, he would advise against operation and would operate after the subsidence of the attack, when a few weeks of convalescence and recuperation have put the patient in a better condition to withstand the slight shock. He does not advise operating in all cases that have reached the interval. If the preceding attack has been a severe one, he urges it or if the patient has to go where it would be impossible to get operative relief in case of another recurrence, or is not sufficiently intelligent to be trusted as regards his case; but if he is intelligent, can obtain medical aid at any time and will agree to submit to an operation when needed, he does not insist because there may never be another attack. In cases in which delay has resulted in general peritonitis and septicemia, he has been tempted to say that operation is hopeless, as the chances are that the surgeon will get the credit of killing his patient, yet he does not say positively that he would follow that course.

39. Hemorrhoids.—Eliot described his operation as follows: Opposite the base of the hemorrhoid, parallel with and corresponding to the muco-cutaneous junction, a curved incision is made and carried upward in the same plane as in a Whitehead operation beneath the pile-bearing area until the base of the hemorrhoid is reached. A second curved incision is then made in and through the mucous membrane, forming an ellipse with the first-mentioned incision, and including within this ellipse any area of ulceration at the base of the hemorrhoid that may have developed as a result of the irritation to which the exposed surface of the mucous membrane overlying the hemorrhoid is subjected. From the junction of the two curved incisions, that is, from each pole of the ellipse, an incision is carried vertically upward through the mucous membrane only and the resulting quadrangular flap of mucous membrane is reflected from the surface of the underlying hemorrhoidal area, having its base of blood-supply superiorly. After the dissection of this flap of mucous membrane, the same vertical incision is deepened through the hemorrhoidal tissue proper, the resulting hemorrhage being slight, owing to the direction of the incision, thus forming a rectangular mass of hemorrhoidal tissue which is transected at its base with stout catgut—if necessary with chromized gut; the ligatures are then tied tightly and the hemorrhoidal mass removed. The rectangular flap of mucous membrane is then stitched to the skin, and the retention of any discharge prevented by cutting the catgut ligature long and allowing the ends to protrude below between the sutures, thus acting as a drain. This same procedure is repeated in not more than two other places where the development of the hemorrhoids is most pronounced. At the conclusion of the operation, a dressing of sterile gauze is placed over the suture line, a large tube, surrounded by iodoform gauze having been previously introduced upward into the lumen of the gut to facilitate the exit of any gas or of accumulated fecal material. The advantages of the operation are that it produces prompt union and permits the complete excision of all areas of ulceration at the base of the hemorrhoids and lessens the possibility of future infection.

40. Squint in Children.—Veasey operates in all cases where proper glasses and orthopedic exercise fail to cure up to the age of about 6 years. The operation used consists of a tenotomy of one muscle or advancement of its opponent or both. If the defect is convergent a small amount of residual squint should be allowed to remain and in divergent squint it is better to produce a very slight convergence.

51. Carbonic Acid Gas Per Rectum in Pertussis.—Kerr reports a number of cases in which this method of treatment of whooping-cough was employed and describes the technique. He used a rubber tube with a hard-rubber nozzle, similar to those employed for rectal injections, connected with a bottle in which carbonic acid gas was generated for from about five to ten minutes, two or three treatments daily being sufficient, preferably between meals. The administration of the gas appeared to check the number and severity of the paroxysms very decidedly. The only effect noticed was a tendency to diarrhea which he attributed to mechanical irritation. In all but one there was a certain amount of eutaneous flushing after each séance. The duration of the disease itself was uninfluenced.

58. Autoinfection.—This article by Johnson calls attention to the possibilities of derangement of the nervous centers and other organs through autoinfection from the intestines, especially in infants.

59. Membranous Anginas.—After mentioning several cases Bissell concludes his article as follows: 1. The streptococcus pyogenes and the micrococcus of sputum septicemia can produce membranous anginas, accompanied by physical disturbances sufficient to result in death. 2. The *oidium albicans* produces pseudo-membranous exudates easily mistaken for a Klebs-Loeffer inflammation. 3. The only positive means of determining a Klebs-Loeffer infection is by microscopic means. 4. From the sanitary standpoint as regards quarantine, anginas due to the streptococcus pyogenes, micrococcus of sputum septicemia and the *oidium albicans*, require little consideration.

60. The Longevity of the Gonococcus.—The case reported here by Ruggles is of interest on account of the persistence of the gonococcus for more than ten years in the absence of all suspicious coitus. The man had been married nine years and had no trouble from his former complaint, but a dissipation with alcoholics and beer brought on an attack which microscopically revealed the microbe. The author holds that in view of these facts the gravity of the condition should be recognized and great scientific care should be taken in every case to prevent the suffering of the innocent.

61. Blood Examinations.—The methods of blood examination and their deficiencies are noticed by Matzinger, who points out that with the present methods the mere count of reds, the estimation of hemoglobin at arbitrary times without careful consideration of the many factors which may influence them, is little better if not worse than useless. We must notice the effect of the different hourly and daily physical conditions in estimating the relation between corpuscles and plasma, chromocytes and leucocytes, and perhaps chromocytes and hemoglobin. The ordinary limits of variation must be first established before disease limits of any practical value can be laid down. The mechanical difficulties are also noticed. The necessity of greater accuracy and of giving ample time to the blood-count is shown. He prefers the Oliver hemocytometer for ordinary use and calls attention to the personal error in the use of any of these instruments. He believes, however, that any careful, unbiased physician, no matter how busy, who possesses a little knack in handling instruments and the ordinary amount of patience, can get very useful information in at least all chronic diseases and disorders associated with fever. A specific gravity outfit for hemoglobin, the Oliver tintometer or hemocytometer and a box of cover-slips with a microscope are all that is required for good work, if he will remember that digestion, vasomotor disturbances, exercise, position and last but not least, individual peculiarities, etc., have to be considered when interpreting the findings.

63. **Lay Medical Education.**—Bonning holds that the laity should be instructed in medical matters, that the principles of biology should be taught in schools, also the general facts in regard to contagion and infection and that special lectures on reproduction, etc., should be given to advanced classes. There should also be medical lectures in the community to educate the public as to the curable and incurable diseases and the proper means within their power of meeting these. He holds we ought to educate the public not to be guided by gossiping friends, but to consider every worthy and educated physician as a confidential adviser.

65. **Significance of Reflexes.**—The general subject of reflexes in diagnosis and prognosis is reviewed by Neff, who goes over all the facts and sums up as follows: 1. The examination of the more important reflexes is a matter of practical value to the physician. 2. In order to appreciate the diagnostic and prognostic value of the reflexes, a knowledge of their behavior in health is essential. 3. A certain technique is always indicated, otherwise wrong inferences may result. 4. When examining reflexes for diseases undue importance should never be attached to an alteration in a single reflex. 5. Certain definite changes in reflexes are suggestive and at times pathognomonic. Such modifications should be considered with the syndrome of the suspected disease.

66. **Purulent Pleurisy.**—Miner reviews the methods of treatment of empyema and describes the operations, especially thoracotomy by simple incision and thoracotomy with rib-resection, which is the operation in favor in adults in this country; thoracoplasty as a sort of last resort is also mentioned.

67. **Metabolism and Nutrition.**—The article by Breischer is long and can not be abstracted in detail. He gives the results of experiments on himself with special diet and reiterates the views expressed by himself in earlier papers regarding the advisability of adopting a minimum quantity of albumin to nourish the human individual.

71. **Mitral Insufficiency.**—Robison describes the symptoms in mitral insufficiency and suggests the following as therapeutic needs in the condition: 1. Proper heart nutrition, by diet, rest, massage, Schott baths, and mental rest; 2, proper innervation, by strychnia, oxygen, fresh air and sunshine; 3. regular muscular action, by digitalis—the remedy par excellence—and other cardiac tonics, and 4, the relief of suffering in the latter stages, by securing diuresis by calomel, digitalis and diuretics and removal of fluid of ascites, hydrothorax, etc.

78. **Hepatic Cirrhosis.**—From a study of the tissue formation in cases of cirrhosis of the liver, Flexner comes to the following conclusions: 1. In all forms of cirrhosis the white fibrous tissue is increased. 2. Along with the increase of white fibrous tissue there is a new formation of elastic tissue, which is derived from pre-existing tissue in the adventitia of blood-vessels and the hepatic capsules. 3. Both white fibrous tissue and elastic tissue, in all forms of cirrhosis, may penetrate into the lobules. This penetration takes place along the line of capillary walls or follows the architecture of the reticulum. The chief distinctions between the histology of atrophic and hypertrophic cirrhosis depend upon the degree of extralobular growth and the freedom with which the lobules are invaded. In hypertrophic cirrhosis there would appear to be less interlobular growth and an earlier and finer intralobular growth. 4. The alterations in the reticulum, per se, consist, as far as can be made out at present, of hypertrophy rather than hyperplasia of the fibers. It is still uncertain whether any of the differential methods now in use suffice to distinguish between the reticulum and certain fibers derived from the white fibrous tissue of the periphery of the lobules.

80. **The Justus Test in Syphilis.**—This blood reaction is based upon the following proposition: Mercury destroys the hemoglobin of the blood. In non-syphilitic the organism promptly replaces the lost pigment, while in syphilitic patients it can not at once restore the still further reduction caused by mercury, hence the first examination after inoculation or injection

of mercury will show a distinct fall of from 10 to 20 per cent., which, as treatment is continued, is followed by a steady rise to the normal. Christian and Foerster conclude that to properly estimate the value of this test we should find out whether it occurs in syphilis only and not in any other disease and they give the results of experiments and examinations which cover some 29 cases; in 16 a reduction of the hemoglobin occurred, no change in 6 cases, increase of hemoglobin in 7 cases. In 6 cases where a decrease is noted the fall being 5 per cent. or under, the results were practically negative. In the remaining 10 cases where a positive reduction was noted they found it occurred in 3 cases of active secondary syphilis where no test was needed to make the diagnosis complete. In 2 cases there was a fall in the hemoglobin prior to the appearance of the rash. This might have led them to infer that the test had some real value in the differentiation between chancre and chancreoid were it not for the results obtained in two other cases both undoubtedly cases of chancreoid where the fall also occurred and in one of which it was the most marked in the whole series. In 6 cases no change whatever in the hemoglobin took place, and in 3 of these the disease was very active, the eruption profuse, and in one of a pernicious and malignant type. In tertiary syphilis with tubercular lesions, or latent ones, with no lesion to be seen, the results were entirely negative or showed some slight increase. No appreciable change was noticed in any of the control-cases save in one instance, a case of sexual neurasthenia, where there was a fall of 18 per cent. As regards the value of the test the investigation leads the authors to the following conclusions: 1. that in the diagnosis of doubtful ulcers it is of no value; 2. that it seems to occur in a certain proportion of cases of acute secondary syphilis, where it appears to be a symptom of the disease and can in no sense be considered a true test, as the diagnosis in such cases is already complete, and 3. that as a test it is unreliable.

81. **Tuberculosis.**—Ravenel has investigated the possibility of the conveyance of contagion of tuberculosis by cattle in the act of coughing. He used the ordinary nose-bag, near the bottom of which was placed a shelf of soft pine wood sterilized by steam heat each time before using. In this way he was able to collect whatever was ejected in coughing by the cow, the more solid particles being easily removed and examined under the microscope. He was thus able to detect tubercle bacillus in every tuberculous cow in which it was tried. What might be theoretically expected was practically demonstrated, viz., that the cow, as well as man, atomizes its sputum and projects it into the air in minute quantities which may float for a considerable period of time. Specimens collected in this way were used in inoculating experiments in guinea-pigs and a considerable proportion of positive results obtained, even when the bacilli could not be demonstrated. In 34 examinations carried out in 5 different tuberculous animals, the bacilli were detected 20 times. By the means of a special nose-bag, guinea-pigs were also exposed to the breath of cows in whose sputum tubercle bacilli had been found, for periods of two hours or more at different intervals. The animals were killed after several weeks, but no evidence of tuberculosis was found in them.

82. **Plague in Manila.**—Robinson gives the results of personal observation on bubonic plague in Manila. He remarks that it is not dreaded in the Orient as it is in the West, and that Europeans seem little liable to it. Plague has been known to exist in Hongkong for the past five years and in this time but two cases have occurred in Europeans, and both of these could be directly traced to cohabitation with Chinese. The first cases of plague were discovered in Manila on December 29, 1899, and prompt and efficient measures were instituted, notwithstanding the opposition of the natives. The results of these were soon apparent, as the epidemic was well in hand in two weeks.

83. **Renaut's Bodies.**—Spiller reports the finding, in a peculiar case of vesiculobullous dermatitis and gangrene described more fully elsewhere, of the structures in the nerve bundles of the brachial plexus which were doubtless the formations de-

scribed by Renault in 1881 and later by other writers, and which have since been known under the name of Renault's bodies. These are not so well known as desirable, and there is some danger that they may be regarded as new and unrecognized forms of degeneration of the nerve. He is not able to make definite statements in regard to their function, but thinks there is little evidence that they are intended for the protection of nerve fibers, as has been held by some observers. These bodies are formed of delicate wavy bands of connective tissue arranged concentrically in a transverse section of a nerve, and, in the main, longitudinally, though in some places transversely, in a longitudinal section. They contain a few oval nuclei also arranged concentrically in transverse sections. A nucleus is usually within one of the bands of the wavy connective tissue. A central homogeneous mass is not very distinct in his preparations. In longitudinal sections of a nerve, Renault's bodies are much longer than broad, and sometimes spindle-shaped. He has not been able to observe anything resembling a nerve or vessel in the center of any of them. They are usually at the periphery of the nerve body, but may be in the center, and, while generally round in transverse sections, are not always so. They are always sharply separated from surrounding nerve fibers, and this is one indication that probably they are not degenerated tissue. He has also found the peculiar cells discovered by Langhans and named by him "one and more chambered bladder-cells" which are of various forms and contain many dividing septa, one to three nuclei near together. These are very irregular in shape and the cell body is unstained in his specimens excepting in the dividing septa.

85. **Forceps Delivery.**—Bentley favors the use of forceps. In his last 100 cases he has used them in 35 and would have used them in more but for the prejudice of the patients. If the forceps are applied well over the head and traction is made in the right direction they will not slip. He does not think that the axis-traction forceps are indispensable. All that is necessary is instruction as to the correct axis in which to direct traction, which can be done with the ordinary forceps, while the tendency of the fetal head to rotate can not be so well favored by axis-traction forceps. As regards occipito-posterior positions he has seldom made the diagnosis before rupture of the membranes, and after that it is useless to attempt to alter the position excepting by the slight means we have of imitating the natural course of rotation of the occiput forward, and this, in his opinion, can be done better with the ordinary forceps than with anything else. In five years he has delivered ten cases with face to the pubis, two of these primipara and was successful in every case but one, which he attributed to the incompetency of the would-be nurse, from whom he had no help whatever. He has had but a few superficial tears, which as a rule required only one stitch, and never more than two. He attributes his success to: 1, treating each case on its own merits; 2, relaxing the central portion of the perineum at the expense of the outer sides, and 3, keeping perfectly cool and being in no hurry. The infants have usually required artificial respiration and other usual means of resuscitation.

91. **Opium in India.**—Dawbarn gives the substance of a conversation in regard to opium in India with Rudyard Kipling, who believes that it is not damaging to the natives of India, that it is useful to some of them in protecting them from malaria on account of the narcotino contained, and is also a tonic as used there. He also criticizes the missionaries and clergymen who condemn the opium business in India, overlooking home evils. Dawbarn is careful to say these statements are Kipling's, not his own. In conclusion he notices a description of the preparation of opium, one phase of which is the moistening of the material with saliva, which he thinks ought to go far to prevent if not to cure the opium habit.

92. **Lavage.**—Musser calls attention to the abuse of lavage when left in the patient's hands and says that not 5 per cent. of the cases of gastric disease under his care have required it. If he employs it, he prefers to do it himself or have a medical man to do it. To allow patients to do it soon develops in them a habit.

100. **Ichthoform.**—This substance, a compound of ichthylol and formaldehyde is here reported on by Aufrecht, who tested its powers on serum and gelatin cultures and on fresh meat and found it exceedingly disinfectant. He thinks, therefore, that it will be a very valuable local application to wounds. A number of experiments were made on animals to determine its toxic properties, giving an initial dose of 1.5 gr. increasing it until the guinea-pigs received as much as 12 gr. Two of the six guinea-pigs experimented on died, but showed no special signs of any poisoning by ichthoform. The heart, spleen, liver and intestines were perfectly normal. The control experiments made with iodoform showed that death was caused by 3 gr. doses with marked engorgement of the heart. In rabbits as much as 25 or 30 gr. were given apparently without affecting the health of the animals; 46 gr. produced temporary toxic symptoms. In one patient as much as 4 gr. of ichthoform were given daily in a case of chronic intestinal catarrh without apparent bad effects and with a decided decrease in the indican and the sulphate excretions. He thinks that its use is indicated in cases where there is an increase of elimination of ethyl-sulphuric acid, in acute intestinal fermentation, stasis of intestinal contents, intussusception, diffuse peritonitis with atony of the intestines and in tubercular enteritis. He believes it to be a relatively non-toxic substance, surpassing iodoform and analogous antiseptics and that it is an intestinal disinfectant of the first order and yet wholly or practically odorless and tasteless.

101. **Myrtol.**—Solis-Cohen has employed this drug, which is obtained from myrtle oil by fractional distillation and is probably a combined substance containing special constituents not yet separated, some sedative, some stimulative. It is an oily liquid of slightly yellow tint, pungent taste and characteristic odor. Like all substances of this class it is eliminated by the mucous membranes and by those of the bronchial and genito-urinary tracts particularly, hence it has been employed in disorders of the bronchial mucous membranes and those of the bladder and urethra. Linarix records a number of cases of gleet and gonorrhoea and cystitis in which treatment with myrtol was very successful after the other remedies had failed. He sometimes combines it with other drugs such as salol and methylene blue with sandalwood oil, etc. Cohen's own experience with myrtol has been favorable. The best results have been in obstinate cases of bronchorrhea, dilated bronchi, fibroid tuberculosis, with bronchietatic cavities and in bronchitic asthma. In all these cases there have been failures as well as successes, but myrtol seems to have the power in most cases of promoting healthful, and diminishing unhealthy secretions. In most cases of asthma in which paroxysms seem to be brought about by the effort to dislodge secretions not sufficiently moist to be easily expectorated, myrtol seemed to increase the ease of expectoration while later it diminishes its frequency and quantity. He gives several illustrations of his results and remarks that he has called attention to it not as a miracle-working substance, but as one of a number of drugs belonging to a useful group to which we can resort from time to time with the hope of accomplishing much good. Its influence in suppressing cough is decidedly marked and it should be given always in those cases of chronic or subacute inflammations of the respiratory or urinary tract in which eucalyptol, sandalwood oil, terebene, and turpentin for one reason or another have failed or seem undesirable. He has not found it produce stranguity in any case. The dose is about the same as that of turpentin, terebene, or sandalwood oil, which is 5 to 15 min. given from two to five times in the course of twenty-four hours. When combined it may be given in emulsion, dropped on sugar or given in sealed capsules—in other words, it is handled just the same as turpentin. Other disorders mentioned by other authorities are leucorrhoea, uterine ulcers, wounds, skin affections, dysentery, hemorrhoids, sore throat, conjunctivitis and diabetes. Cohen's experience, however has been purely with its use in affections of the respiratory tract in which he has employed it more and more satisfactorily.

102. **Euquinin.**—Bernheim has employed euquinin, the carbonic ether of quinin, which is not a mixture but a definite chemical compound with a melting-point at 95 C. and soluble in alcohol, ether, chloroform, solutions of hydrochloric acid, ferric chlorid, and vinegar. The bitter taste is less marked than in quinin and may be covered easily by syrup or flavoring oil. He has used it in malarial fever, neuralgia, angina, cold in the head, influenza, rheumatic pain, whooping-cough, anemias, and gastrointestinal disorders in thirty-five cases altogether. He finds its effects similar to quinin in malaria, though a little more prompt perhaps and a smaller dose is required. In whooping-cough the attacks appear less frequent and severe. In other disorders the effect was similar to other antipyretics and anti-neuralgics, though smaller doses were required. The ringing in the ears and gastric disorders were less than with quinin. In no case did he see any unpleasant by-effects and thinks it may well replace other quiniins.

104.—This article has appeared elsewhere. See *THE JOURNAL* of October 27, '98, p. 1115.

116. **Curability of the Insane.**—Everts remarks on the opinion extant about thirty years ago, that 80 or 90 per cent. of these cases of insanity were curable if intelligently treated. His experience has led him to conclude that this was a grand mistake. The mid-century specialists in psychiatry erred because they were ignorant of the biologic sciences and they concluded that as nearly all diseases were amenable to treatment, therefore insanity should be. About one case in three of insanity is liable to recover, because not all diseases of the brain are degenerative. The value of asylum treatment or any treatment of insanity is practically to prevent such curable diseases from becoming chronic and incurable.

FOREIGN.

British Medical Journal, November 24.

Some of the Sequelae of Cranial Injuries. ERNEST TREDNICK.—The author has collected a number of cases of cranial injury including 6 chiefly of the frontal bone in which there were moral perversions produced and 8 of skull injury causing traumatic dementia, 1 of diabetes following brain trauma, and 1 of epilepsy relieved by trephining. He also has collected from various sources 45 other cases of traumatic epilepsy in which the injury ranged from laceration of the brain substance and hernia cerebri to simple concussion. In 33 cases the injury was parietal; in 8, frontal; 2, mastoid; 1, vertex, and 1, occipital. The unconsciousness after injury ranged from a few minutes to several days. Epilepsy appeared at periods from immediately after the accident to eleven years. Twenty-four of the cases in which the injury was parietal were operated on; in 1 with no results; in 1, fits recurred; in 1, one fit occurred a year; in one, comparative recovery; three died and the remainder completely recovered. Of the 9 cases which were not operated on 5 died, 1 was cured, and in 3 the epilepsy continued. In 7 cases of frontal injury operated on, 4 recovered, 1 improved but died, and another treated with potassium bromid died, and 1 not operated on also died. He thinks these results show the value of trephining when the injury to the cranium has occurred, and would advise careful examination in old cases of epilepsy to see if any old scar exists. His paper is defective in that it does not give the time that had elapsed since the patients have been under observation in the so-called recoveries.

An Epidemic of Peripheral Neuritis Among Beer Drinkers in Manchester and District. ERNEST SEPTIMUS REYNOLDS.—Reynolds has investigated the beer-drinkers' disease recently occurring in Manchester, England. The symptoms seem to show an epidemic of peripheral neuritis involving the sensory, vasomotor and motor nerves associated with running of the eyes and nose in many cases and marked lesions of the skin, such as erythema and erythromelalgia, blisters, keratitis, etc.; there were also symptoms of paralysis. Such an epidemic has never occurred in the district for the last twenty-two years to his personal knowledge and at present is met with only in the beer and porter drinkers. It is something like the ordinary alcoholic paralysis at first sight, but differs from it in the great amount of sensory and vasomotor disturbances,

and especially in the peculiar skin lesions which are not present in the ordinary alcoholic paralysis. So far as known, there are only three causes of peripheral neuritis of the type mentioned and associated with marked tenderness on pressure of the muscles; they are beri-beri, alcohol and arsenic. The former will not explain the lesions of the skin and against alcohol is the fact that the features of this epidemic are something new and beer-drinking is not a new thing in the district. He found on November 18, a considerable amount of arsenic in certain beer used in the district and confirmed the observation next day and has Prof. Dixon Mann's authority for stating that he has also found arsenic in a different sample. He believes that the source of the arsenic will be found in the sulphuric acid used in the hop industry.

The Lancet, November 24.

Mouth-Breathing and Its Relations to Diseases of the Throat, Ear, Nose and Accessory Cavities. MAYO COLLIER.—The writer here describes the effects of mouth-breathing. He first speaks of the anatomy of the respiratory passages and the physiology of the act of breathing, and then says that the pathologic effect of mouth-breathing is catarrh of the larynx and pharynx, with cough. He asks whether there are not other effects, and maintains that there are. The dilator muscles of the nose are put functionally out of use and in mouth-breathers there is a marked pinched depression in the alae of the nose which is diagnostic of the condition, and gives a sharp and pinched expression to the features. The air in normal breathing through the nose abstracts part of the contents of the nasal pharynx and nasal chambers, which is rapidly repaid and tension equilibrated. In mouth-breathing this fails, and the result is a general redness of the mucosa of the nose from unsupported intravascular pressure. The abstraction of small quantities of air from its nasal chambers and the nasal space by the stream of air on its way to the lungs via the mouth, if not instantly compensated by a corresponding inflow of outside air via the anterior nares will cause a lessening of the tension of the air in the nose and accessory cavities. This lessening tension will be responded to by the lining membrane of the nose and accessory cavities as a general redness or flushing of the parts, and this will occur in direct proportion to the degree of rarefaction. On the recognition of this fundamental fact rests, in his opinion, the whole science and treatment of the throat, ear, nose and accessory cavities. If mouth-breathing is persisted in, even in the hypothetical conditions of a healthy and patent nose it would ultimately induce anterior nasal obstruction from atrophy following disuse of the nose-valve. This will be followed by swelling of the lining membrane of the nose and accessory cavities from vascular dilatation. This again would lessen the cavities of the nasal respiratory tract and tend to set up nasal obstruction. A vicious cycle is set up. Mouth-breathing tends to obstruct the nose, and this very obstruction maintains and continues the mouth-breathing. The turbinal body is the most functionally-active organ in the whole system. It is calculated that two quarts of water a day are given up to inspired air by this body and the lining of the nasal tract and that all the air that enters the larynx, no matter what the outside temperature may be, is warmed to near the body temperature. This important function, therefore, is put out of use. He explains how a mouth-breather may breathe normally during the day, but soon after he places his head upon a pillow, the nose is blocked, and explains this by the loss of tone of the turbinal bodies with or without hyperplasia. The effect of changing from the upright to the prone position obstructs the nostril and dilatation of the turbinal body in the lowered nostril. He finds that the effects of atrophy and dilatation of the turbinate bodies are not limited to the respiratory tract, but involve also the cavities and chambers which connect with the nose and nasopharynx. Affections of the ethmoidal, sphenoidal, and maxillary sinuses may be originated or kept up by obstructive conditions of the nose, and sometimes total obstruction is produced. Deafness will be produced by blocking of the nose, and treatment directed to restore the patency of the nose will restore the patency of the Eustachian tube. He maintains that the key to the prevention and treatment of diseases of the ac-

cessory cavities of the nose including the tympanic cavity is to maintain the natural physiologic condition and see that its respiratory capacity is sufficient readily to equilibrate the air in the respiratory tract during respiration. He maintains, moreover that this condition of chronic turbinal distension and hypertrophy has a tendency to produce unsymmetrical upper jaw, high-arched palates, prominent nose, open mouth and a thin, flattened face. He has seen many children with beautifully-formed faces, symmetrical dental arches, and perfect nasal respiration, become in after-life quite altered. He also mentions the effect on the general health which is noticed in children affected with post-nasal growths or enlarged tonsils. He thinks that in these cases want of proper oxygenation at night is the probable cause of the altered and damaged complexion. Whatever be the explanation, it is our common experience that if the nasal respiration be restored, and nose and throat trouble cured, the patient speedily returns to health.

Ichthylol and its Uses in Some Skin Diseases. ALEXANDER BROWNLEE.—The writer's experience with ichthylol leads him to say that from 2 per cent. to 5 per cent. ichthylol applications are best in acute forms of inflamed skins, and from 5 per cent. to 10 per cent. in more chronic drier conditions. In acne vulgaris anything between 10 per cent. and 25 per cent. is useful. In all cases the internal administration of the drug is an assistance. He believes that ichthylol taken internally has a direct influence on the skin and is most probably excreted by it. Moreover, the taking of ichthylol increases weight, and this applies more particularly to weakly, strumous children. The one disappointment which he records is that itching is not relieved as quickly as one might expect, certainly not as quickly as the pain is relieved. Patients express gratitude for the feeling of comfort experienced, but itching soon returns. The pruritus does indeed disappear after a time, but it is always the last symptom to go. In prurigo and pruritus vulvæ or ani he has not found much benefit to result from the use of ichthylol, particularly in those cases where there is no organic cause, such as diabetes, ulcus cervicis or anal fissure. He has tried ichthylol in eleven such cases, and in only one has he had satisfactory results, in a case of pregnancy with pruritus vulvæ. When prescribing ointments, he always advises patients to use their oldest under-linen, as ichthylol has a staining effect, although it is stated that if quickly washed in warm water any clothing thus stained is made quite clean again. Ichthylol, of course, is not applicable to every case of eczema or acne, neither does he claim for it a specific action, but it is undoubtedly a useful drug in these diseases.

Fourteen and One Half Hours' Artificial Respiration in a Child One Week Old: Recovery. GEORGE E. KEITH.—The case of a child one week old is reported, which was operated on for phimosus under chloroform, passed into a cyanosed condition and required fourteen hours of steady application of artificial respiration together with very active stimulation with brandy and came through all successfully without apparent damage.

Bulletin de l'Académie de Médecine (Paris), November 13.

Intravascular Pressure.—An important monograph received by the Academy in competition for the Pourat prize suggests an improvement for volumetric apparatus such as Mosso's plethysmograph. Instead of the mercury U-tube, a registering sphygmoscope records the differences in amplitude and variations in pressure. To obtain the numerical value of the pressure it is only necessary to attach a compensating manometer to the sphygmoscope. The anonymous writer also describes an apparatus for determination of the intravascular pressure by means of the fingers. It consists of two cylindrical metal U tubes, connected by a rubber tube, and also attached to a T-tube. The free branch of the latter communicates with a lever which records the tracings on a revolving cylinder. A very elastic rubber cot, like the finger of a glove, is fastened in each end of the two cylindrical tubes and in them the index and middle fingers of each hand are inserted. By this combination of four fingers a distinct, strong pulse-beat can be registered on the drum. The small apparatus is fastened by

a standard to the table and accurately records the vasomotor variations or oscillations in the peripheral capillary system.

Bull. de la Soc. Med. des Hop. de Paris, November 15.

Pulmonary Embolism and Tardy Phlebitic Symptoms. P. MERKLEN.—Phlebitis originating in an embolism is usually less serious than ordinary phlebitis, but Merklen reports two fatal cases. He distinguishes between resolving and obliterating phlebitis. Pulmonary embolism of phlebitic origin is apt to occur by the third and fourth week. Barth classifies phlebitis according to the reaction of the vein. When there is no reaction the phlebitis may terminate suddenly by the sweeping away of the obstruction with danger of embolism. On the other hand, the phlebitis may linger and terminate incompletely, but the formation of intravenous adhesions in this case rapidly obviates the danger of embolism. Hagopoff prevents phlegmasia alba in parturients by raising the lower limbs at an angle of 20 degrees. If there is fever he increases the angle to 50 degrees for fifteen days, and if there are evidences of varices he supplements this measure by alcohol frictions morning and night. Massage in phlebitis is dangerous until three or four weeks have passed after the slightest temperature and then the veins themselves should be avoided.

Journal de Med. de Paris, November 11.

Veratrin in Climacteric Pruritus. LUTAUD.—When the pruritus is localized, with or without eruption, Lutaud orders a salve applied morning and night of 15 cgm. veratrin in 30 gm. lard. If the pruritus is general, he prescribes the veratrin internally: 2 cgm. in licorice powder, for 1x pil., commencing with one pill and increasing by one to a maximum of six a day, taken half an hour before or three hours after meals. The analgesic properties of the veratrin are very successful in the rebellious pruritus of the menopause.

Presse Medicale (Paris), November 14.

Musset's Sign in Pleurisy. H. FRENKEL.—The rhythmic movements of the head isochronous with the radial pulse, observed in persons with an affection of the aorta, have been considered a pathognomonic sign of an affection of the circulatory system. But Frenkel relates an instance in which it was a pronounced symptom in a serous pleurisy of the left side with a large effusion, and no evidences of any disturbance in the circulation.

Revue de Médecine (Paris), November.

Wound of Left Vertebral Artery. BOUCHARD.—A stab wound in the neck resulted in an intraspinal hemorrhage causing absolute paralysis of the trunk and all the members. In the course of two years, however, the patient recovered almost completely and was able to walk. The pressure of the hematorrhachis must have been less intense in the upper portion of the spinal cord, which explains the non-interference with circulation and respiration.

Berliner Klinische Woch., November 5 and 12.

Diagnosis of Pyelonephritis Calculosa. L. THUMM.—In the case described the phloridzin test and the determination of the freezing-point of the blood demonstrated the existence of serious alterations in the parenchyma, accompanying an abscess in the pelvis of one kidney, while it also demonstrated the soundness of the sister organ, justifying nephrectomy. The course of events confirmed the diagnosis in every point.

November 12.

Anatomic Lesions in Acromegaly. E. MENDEL.—A rounded sarcoma was found in the hypophysis at the autopsy of a young woman who had suffered from acromegaly for two years. Besides the typical symptoms, there had been hemianopsia, cessation of menses, absent knee-jerk, hypertrophied thyroid and spleen, and intense frontal and occipital headache. Mendel thinks the lesion in the hypophysis is insufficient to explain the symptoms observed, and attributes the disease to a general affection of the blood-glands, due to the action of some unknown poison with a special affinity for the hypophysis.

Centralblatt f. Bakteriologie (Jena), November 5.

Third Preliminary Communication in Regard to Malaria. A. CELLI.—The parasites of the gravest forms of

malarial infection were found as widely distributed throughout Northern Italy as in the southern portion, and even in some of the valleys on the Italian side of the Alps. Wherever malaria was found the anophelis was discovered, but the latter was found in many places free from malaria present or past. Celli made a special study of relapses and states that the presence of certain forms of the parasite in the blood in severe tertian and quartan fever and also the ability to be up and about differentiate relapses from fresh infection. He has observed a relapse nine months after the last manifestations of estivo-autumnal fever and eight months after mild tertian. These relapses can be postponed by prolonged and lavish use of quinin with iron and arsenic, but it is impossible to prevent them altogether in some patients. It is impossible therefore to rely on quinin as an adequate means to exterminate malaria until some means has been found to destroy the germs in the blood which keep up the relapses and resist quinin. He noticed that a temperature of at least 25 C. was an indispensable preliminary to an epidemic.

The Paestum Malaria Prophylaxis Experiments. B. GRASSI.—The results of this season's tests of the prophylaxis of malaria by protection against mosquitoes, enable Grassi to affirm with certainty that it is possible to free Italy from malaria in a comparatively short space of time. The houses had wire screens at doors, windows, chimney openings, etc., and each house had a netting pavilion in the yard for those who wished to sleep during the day. Persons obliged to be in the open air after dusk wore veils gathered on a rubber band around the hat and thick, very closely-woven, cotton gloves. The number of persons thus protected was 104 and only three showed symptoms of malarial infection. Grassi himself slept three nights a week and other physicians or students four nights or every night. No quinin was taken, the entire party used only 16 grams of quinin during the months of the test, and this was given mostly to persons who suffered from lack of their accustomed medication. These results are more surprising when compared with the detailed statements of the health of the neighboring farms and stations all around the protected zone. Out of a population of 307 souls, all but five contracted malarial infection, and these five were sons of the soil who had probably acquired some degree of immunity. Three kilograms of quinin were taken by these 307 persons during the period of the Paestum experiment. Grassi adds that he had much to contend with from the carelessness and neglect of some of the protected parties. Prizes were found the best incentive to ensure compliance with the prophylactic measures ordered, as some had no faith in them.

Centralblatt f. Chir. (Leipzig), November 24.

Pyelocystostomosis. O. WITZEL.—The bladder can be pushed up in the cadaver as far as the iliac crest and in the living subject to the kidney, without injury. In case of hydro-nephrotic distension of the latter organ it is possible to establish a direct communication between the kidney and the bladder in this way. The bladder is filled and a catheter 60 to 80 cm. long inserted in necrosis, the pelvis elevated. After a lateral incision, as for ligature of the iliac communis, the bladder is brought up and fastened. The lowest portion of the kidney is drawn down and an opening of 1 cm. in diameter made between the two stretched narrow organs. The catheter is pushed into the pelvis of the kidney and held by a stitch, its outer end connecting with a rubber tube terminating in a vessel full of an antiseptic fluid. Witzel has perfected this technique on the cadaver, but has not yet had an opportunity to apply it on man.

Deutsche Med. Woch. (Leipzig), November 1 and 8.

Functional Heart Affections. H. HOCHHAUS.—In almost every case of cardiac neurosis Hochhaus found the blood-pressure increased even when the pulse was soft and high. In organic heart disease the blood-pressure averages 120 to 140 mm. mercury. Permanent elevation of the blood-pressure justifies the assumption of a functional disturbance in doubtful cases, and hence affords a less favorable prognosis. Radiography has shown that the heart action is excessive in a functional nervous heart affection; the difference between the

shadow in diastole and systole is much greater than normal or in organic affections. Consequently the increase in the blood-pressure is evidently due to the increased heart action. The usual heart remedies are contraindicated in functional neuroses, but Hochhaus has been successful with small doses of digitalis associated with quinin.

Genetic Connection Between General Nervous Affections and Appendicitis. O. SCHAUMAN.—The possibility of a genetic connection between appendicitis and certain affections of the adnexa is admitted by Schauman. He does not go so far as to assume a direct relation of cause and effect, but merely that they all develop on a similar or common foundation, a peculiar, usually congenital, anomaly in the organs.

Pericardotomy. LINDNER.—Resection of the ribs is indispensable, Lindner considers, in pericardotomy for a purulent effusion. He reports two cases in which this operation was done as a last resort, with the most favorable results. In one case three-fourths of a liter of fetid pus was evacuated. The effusion was sero-sanguine in the other and had developed consecutive to an articular rheumatism complicated with influenza.

Monatss. f. Geb. u. Gyn. (Berlin), September.

Operative Treatment of Carcinomata Uteri in Russia. D. VON OTT.—A thousand cases of total extirpation of the uterus by way of the vagina are reviewed. The mortality was 10.3 per cent. In 250 cases operated on over five years ago, 30 have had no recurrence to date, including 4 dating from ten years ago. The adnexa are never removed unless for special reasons. Pregnancy is no contraindication to the vaginal route. In von Ott's own clinic the mortality in 189 cases was 1.6 per cent. In 18 out of 62 operated on before 1894 there has been no recurrence and nearly all of the 62 are still alive.

Monatsh. f. Prakt. Derm. (Hamburg), November 1.

Masks in Therapeutics. P. G. UNNA.—After seven years of experience with air-tight masks, Unna limits their use to lupus, ulerythema centrifugum and nevus flammeus, but considers them of great value in these affections. He applies them over a weak solution of sublimate or potassium in the first, after a course of green salve and as a preliminary to "Spiek" treatment. He makes the mask by fitting pieces of "zinc plaster" over the face and smearing with "zinc glue." A piece of dressing mull is then fitted over the mask and smeared again with the glue. The strips for fastening are then put in place and glue again applied. The mask is kept on for a few hours or over night, then smeared inside with the glue and dried in a warm place. The whole is then painted inside and out with a solution of celluloid. It is ready for use in forty-eight hours and keeps several weeks. If painted again with celluloid every fortnight the mask will keep in good order for months. In case of ulerythema the mask is made to fit over the region affected and the compress beneath is moistened with a 1 to 1000 solution of potassium. For nevus the mask is worn only at night, over cotton moistened with his "ichthyol varnish."

Wiener Klinische Wochenschrift, November 8, 15 and 22.

Reflex Spasm in Abdominal Muscles in Pleuritis and Perihepatitis. R. SCHMIDT.—In cases of pleurisy or perihapatitis in which the reflexes are vigorous and the recti muscles well developed, a reflex spasm is liable to occur in connection with the act of respiration. In three cases the writer observed that toward the end of a deep inspiration a sudden spasmodic contraction occurred in the upper portion of the right rectus, extending upward to the fifth intercostal space. The same spasm could be artificially produced by pressure on the painful intercostal space.

November 15.

Fulminating Gangrene a Primary Necrosis. F. HITSCHMANN AND O. T. LINDENTHAL.—The elbow of a healthy man was resected on account of old traumatic ankylosis and a plate of celluloid inserted. The forearm became anemic and insensible the next day, and gas bubbles were noted in the tissues, with extensive necrosis of the muscles around the wound, but complete absence of any indications of inflamma-

tion. The gas-formation and necrosis progressed the same as in dead tissue. The essence of fulminating gangrene therefore seems to be a putrefaction of living tissue. Everything is to be gained by early amputation, but in case it is refused extensive incisions and injections of hydrogen peroxid are the most appropriate treatment. In the case described staphylococci were found in the lesion with the anaerobic bacillus previously described by the writers, who have now recorded seven cases of fulminating gangrene, in only one of which was this bacillus absent.

Hetero Bone-Plastic Operation on the Skull. K. BÜEDINGER.—Defects from three abscesses in the skull of a 5-year-old boy were closed with plates of bone from the calcaneum of a limb amputated from a woman of 70. The patient died from general tuberculosis four years later. The skull was found healthy and nearly intact. The results impel Buedinger to proclaim the advantages of the cancellous portion of the bone for this transplantation. The spaces fill up with new-formed tissue, and if the calcaneum is used, the plate of bone can be cut with the scissors to exactly fit the defect. The advantage of heteroplasty is that no second operation is necessary, and the transplanted piece heals in place as a foreign body.

Centripetal Ataxia in Man and Monkeys. E. HERING.—Comparing the disturbances in frogs, dogs and monkeys after division of the posterior roots, with the results of clinical observation in tabes, in each are noted the loss of centripetal stimulation, disturbances in position, atony even to disturbances of the finer co-ordination of the fingers in monkeys—the atony increasing with exclusion of light—increased passive mobility, relaxation of the muscles, so-called trophic disturbances and muscular atrophy and movements in the extremities of the resting animal, comparable with certain involuntary movements of the extremities in the tabetic at rest. This atony consecutive to paralysis of the centripetal fibers is evidently a centripetal atony and the close analogy between experimental and clinical data justifies the assumption that the atony in tabes is also centripetal, but whether sensory or not is still undetermined. It is probably due to the exclusion of the centripetal tracts, which are the means of involuntary regulation of the movements, not through the spinal cord, but by means of the higher located portions of the brain. Hering calls especial attention to the difference between the atony in tabes and the atony consecutive to a lesion of the centripetal tracts in higher located segments of the central nervous system. The atony in the latter case is not so intense as in tabes and affects chiefly the more delicate movements. There is no direct proportion between the atony and the absence of the sense of movement, which is another argument against the sensory theory. In tabes whole movements are lost which the normal subject makes unwittingly, involuntarily, and which the tabetic subject also makes when his attention is called to them. This work obtained the prize awarded by the Vienna Medical Society.

November 22.

Substitute for Iodoform. A. FRAENKEL.—Iodoform stimulates granulation by its fibroplastic influence, and Fraenkel believes that this is probably an attribute of any finely distributed, inert foreign substance. He has been extensively testing carbo ossium from this point of view, selecting this substance on account of its traditional value as a dressing for wounds. He reports twenty-two cases of local tuberculosis in detail, with microscopic views of sections of tissue. They show that the results of the carbo ossium are, to say the least, fully equal to those of iodoform, while there is no possibility of intoxication. The fibroplastic influence is marked, but as a deodorant, iodoform is superior. In all other respects carbo ossium is at least its peer.

Zeitschrift f. Orthop. Chir. (Stuttgart), vii, 2.

Effect of Supporting Corsets in Scoliosis. A. HUSSY.—Tables showing series of cases of scoliosis treated with and without corsets prove conclusively that corset treatment should yield precedence to other and more effective methods of treatment, unless there is much pain, or when, without the support of the corset, respiration is impeded. But even in these cases

supplementary gymnastic treatment is indispensable. In all other cases the corset is contraindicated, as it seems to have a decidedly injurious influence on the torsion and hump, unless it can be applied in an over-corrected attitude. This is only possible for a few hours at a time, and hence the corset should be worn only part of the day, and never unless it can be constantly supervised by the physician, as otherwise much harm may result.

Curvature of the Neck of the Femur. M. WAGNER.—This comprehensive review of the present status of the question of coxa vara concludes that the prognosis—with appropriate treatment—can be considered favorable. Many apparently severe cases recover without an operation. The chances of spontaneous recovery are greater the more the subjective symptoms predominate. The painful stage may last for months or years. The degree of subjective disturbances and interference with function during this acute stage are no criteria for the necessity of an operation. This can be determined only by examination in narcosis. If there is freer mobility in narcosis it is too early for osteotomy, although a tenotomy may be needed to correct the contraction of the adductors. Cases resisting prolonged massage and exercise are treated by Hoffa with subtrochanteric, oblique osteotomy, which has proved extremely successful and harmless in his experience. The oblique incision allows considerable stretching and separation of the two ends of the bone. It diminishes the actual contraction, renders ample abduction possible and banishes Trendelenburg's symptom almost entirely. By the lowering of the trochanter the abducter elements of the pulling force of the muscles passing from the pelvis to the trochanter are materially increased. Resection is necessary only in extreme cases. Suitable after-treatment is indispensable.

Tabetic Arthropathy. A. E. AHRENS.—Three severe cases are described of deformity of the knee occurring in the course of tabes on a syphilitic foundation. They proclaim the benefits of conservative treatment and that the splints applied not only allow the patients the use of their limbs, but also arrest the progress of the joint affection.

Nordiskt Med. Arkiv (Stockholm), November.

Treatment of Psoriasis With Injections of Arsenic. ALMKVIST AND WELANDER.—Intravenous injections undoubtedly exert a powerful therapeutic action on the efflorescence of psoriasis, but this effect is transient and does not prevent its reappearance. They also produced disagreeable by-effects, pigmentation, eruptions, stinging, itching, numbness or other nervous symptoms in the twenty-seven cases in which the method was given a thorough trial by the writers. They consider it a failure and have abandoned it.

Chronic Non-Tuberculous Peritonitis With Effusion. K. G. LENNANDER.—Besides the four cases described at length, others on record are reviewed. The conclusions are that simple, chronic peritonitis is a frequent complication of the various affections accompanied by ascites, and that it is the cause of the latter. Chronic peritonitis may be cured by laparotomy, even when it is complicated by other affections. Four laparotomies were necessary to complete the cure in one of Lennander's cases, and the patient has been in good health since, more than a year. Operative treatment proved ineffectual in another case with renal and cardiac complications.

Change of Address.

- F. E. Adams, Plain, Ohio, to Alliance St., Pittsburg, Pa.
 J. E. Ashury, 187, to 102 W. Alhance St., Atlanta, Ga.
 C. M. Blair, Roseberg, to Lufkin, Tex.
 H. C. Bliss, 413, to 455 Woodland Ave., Cleveland, Ohio.
 L. P. H. Bahrgren, Liverpool, Eng., to Asst.-Surgeon U. S. Marine-Hospital Service, Barge Office, New York City.
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 Paul W. Kirkpatrick, Nashville, to Jonesboro, Tenn.
 J. W. McLanahan, Galveston, to 700 Congress Ave., Austin, Tex.
 F. E. Murphy, Fall River, Mass., to 50 Pelham St., Newport, R. I.
 J. S. McKee, 10 W. 7th, to 2412 Grand St., Cincinnati, Ohio.
 E. L. McLaren, Saginaw, Mich., Eureka, Cal.
 C. L. Maxwell, Forestburg, to Myra, Tex.
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 T. J. O'Reilly, Buchanan, Va., to Los Angeles, Cal.
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 W. M. Shultz, Denver, to Florence, Colo.
 S. R. Turner, Dyer, to Hammond, Ind.
 H. E. Truax, Pink Bldg., to 216 E. Monroe St., Springfield, Ill.
 A. N. Williamson, New London, Conn., to Dobbs Ferry, N. Y.
 F. C. Walton, Brooklyn, N. Y., to 30 Maryland Ave., Annapolis, Md.
 W. C. Welburn, 209 Russell, to 420 Woodland St., Nashville, Tenn.
 Elizabeth White, Parkersburg, W. Va., to 2008 5th Ave., Birmingham, Ala.
 O. A. Young, Houston, Tex., to Cedar Rapids, Iowa.

New Patents.

- Patents of Nov. 20 and 27, of interest to physicians, etc. :
 661,340. Vaginal syringe. John A. Bell, Naperville, Ill.
 662,223. Medicinal boot or shoe. Harvey F. Crawford, Brocton, Mass.
 662,278. Anral battery. Christopher W. Levalley, Milwaukee, Wis.
 662,150. Throat shield. Wm. W. McCormick, Santa Rosa, Cal.
 662,053. Exercising and massage device. Bernard A. McFadden, New York City.
 662,585. Manufacturing diethyl-ether. George H. Benjamin, New York City.
 662,588. Device for measuring and administering medicines. Wm. O. Bloom, Worcester, Mass.
 662,487. Invalid-bed. Wm. H. Donaldson, Chicago.
 662,716. Intrauterine battery. John G. L. Gaedeke, New York City.
 662,627. Sanitary dispenser for plastic substances. Joseph F. Lohan, New York City.
 662,830. Speculum. John Sklar, New York City.
 662,658. Instrument for injecting gas into the human body. Emile Sterne, Paris, France.
 662,659. Suspensory bandage. Lynn C. Thompson, Darlington, Ind.
 662,477. Lifting device for invalids. Charles B. Ulrich, Duluth, Minn.

Queries and Minor Notes.

TIME-LENGTH OF DEAD FETUS IN UTERUS.

MINGO, IOWA, NOV. 5, 1900.

To the Editor:—Please give me references as to where I can find something on the length of time a fetal body may remain in the uterus after its death, with or without dangerous results to the mother; and oblige. W. W. G.

ANS.—We are unable to give the reference desired, and do not know of any statement of the absolute limit of time applicable for all cases. A lithopodion may possibly be carried indefinitely in a functionally inactive uterus.

SECRETARY'S ADDRESS WANTED.

CHICAGO, Dec. 3, 1900.

To the Editor:—Please give name and address of the secretary of the Medical Examining Board of North Carolina. Yours, respectfully, W. T. H.

ANS.—J. Howell Way, M.D., Waynesville.

COMMISSIONS AGAIN.

WALLA WALLA, WASH., Nov. 29, 1900.

To the Editor:—Is it a violation of the code of medical ethics for a physician living in the country or small town, having no hospital advantages to send patients to hospitals or sanitariums, where they can have the advantage of surgical skill and experience, likewise hospital care and treatment, and receive as a compensation for his trouble and expense a portion of the fees received by the hospital, sanitarium, or surgeon who takes charge of his patients?

Will physicians sending or receiving patients and dividing the fees violate the code of medical ethics? Respectfully,

N. S. B.

ANS.—Questions like the above are propounded all too frequently. The code of ethics does not especially forbid many things that are against good morals, for the reason that the raising of such questions was not expected from those that had imbibed its spirit. Diversion of fees implying, as it necessarily does, a greater charge to the patient than otherwise would have been made, is certainly contrary to the spirit of the code, which is supposed to govern a profession that cultivates the highest moral principles in its dealings with its clients and in the professional interest of its members with each other. A physician is not expected to obtain compensation for trouble or expenses incurred for a patient who is able to pay, from a third party surreptitiously overcharging him, nor is a sanitarium or specialist supposed to take more than its or his special services are worth, to divide with anyone bringing to them business. If Dr. A. collect for it trouble or expense in sending B. to Dr. C., let Dr. A. collect for it directly from B.; it is as unethical for him to expect Dr. C. to collect such compensation for him without B.'s knowledge as it is for the latter to attempt to avoid its payment. The honor of the profession is compromised by even the suspicion of such practice.

QUACK DOCTORS IN AUSTRALIA.

Under the above title the *British Medical Journal* publishes some remarks on quack doctors from the *Bulletin*, of Sydney, Australia, which are so good and so unique in some of the suggestions made that they will bear another reproduction. The idea of the state assisting in the support of a physician where the population is not large enough to support one is not as absurd as it might at first appear.

It is not suggested that the quack should be merely prohibited from calling himself a doctor, but that he should be prohibited from existing at all and utterly blotted out. There is much to be said for the proposition. The qualified practitioner is sometimes an incapable fool but the very worst of him must know a good deal of his trade, or he could not have passed his examination. The unqualified man may sometimes know a good deal, but as a rule the best of him remains unqualified because he does not know enough to be the worst kind of a qualified man. All the same the unqualified man is sometimes better than the qualified man, very often he is worse than nobody, and kills his patients faster than they would have died if left alone; but on the strength of the press denounce the medical bill in the alleged interest of very far back residents, and asks if it is humane in places where there is no doctor to prevent the bush quack doing his best, or to prohibit the quack, who probably knows a little medicine, from prescribing. This looks plausible on the surface, but there is not much underneath it. A place that can support a chemist generally has a doctor; also there is no reason why a combined order of doctor and chemist should not exist. As for the quack, who is not a chemist, he sits and dopes, and wears as many hoots as the qualified man, so a place which cannot support a doctor cannot support a quack. Where there is a quack and no qualified doctor, the reason generally is that the place cannot support both of them, and would take his place first; if he were shifted, a qualified man would take his place. As for the very poor and unpopulous places, where there is neither doctor, nor quack, nor chemist, and a little precarious botching at the human frame is done by the storekeeper, or the blacksmith, they are merely a proof that the state has failed in its duty. Even in the poorest and emptiest regions the state sees that appliances for arresting, and imprisoning, and hanging the public are not wanting. It is equally essential that appliances for healing them are not wanting. In every settled district the state should see that a doctor is supplied, and where the population is below a certain figure—the figure which would support a physician is below a minimum that can support a medical man—a sober, capable medico should be supplied, and subsidized in proportion to the deficiency in population. It is as essential to have a doctor to so many square miles, in order that no single inhabitant shall be absolutely out of reach of medical aid, as to have a policeman so that no inhabitant shall be denied the privilege of imprisonment. It is quite as cheap to preserve the existing population in this way as to import new population under a system of migration policy cheaper, perhaps, when the saving in tombstones and grave-digging is considered.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Nov. 22 to 28 inclusive: George E. Bushell, major and surgeon, 1st S. A., relieved from duty in the office of the surgeon-general, Washington, D. C.; leave of absence granted on account of disability. Timothy F. Goulding, acting asst.-surgeon, from Washington, D. C. to post at Mass.; on leave of absence. James H. Hepburn, acting asst.-surgeon, previous orders revoked; he is relieved from duty at the General Hospital, Fort Bayard, N. M., and will proceed to Fort Apache, Ariz., for post duty. John Van Hout, major and surgeon, 1st S. A., relieved from further duty in the Department of the Lakes, and expiration of his present leave of absence he will report at Washington, D. C., for duty in the office of the surgeon-general. H. Newton Kierulff, acting asst.-surgeon, former orders revoked; he is relieved from duty in the Department of Alaska and will proceed to Seattle, Wash., for duty as transport surgeon on the *Kintuck*. Samuel O. L. Potter, major and surgeon, Vols., honorably discharged from the service of the United States, on tender of his resignation, to take effect Dec. 1, 1900. Erwin I. Shores, acting asst.-surgeon, former orders relieving him from duty at Fort Caswell, N. C., revoked.

Dudley W. Welch, captain and asst.-surgeon Vols. (recently appointed from first lieutenant and asst.-surgeon, 43d U. S. V. Inf.), with rank from Nov. 12, 1900, is assigned to the 43d U. S. V. Inf.

Navy Changes.

Changes in the Medical Corps of the navy for the week ended Dec. 1, 1900:
Asst.-Surgeon C. R. Burr, ordered to the *Monongahela*, Dec. 1.
Asst.-Surgeon R. K. McClanahan, detached from the navy yard, Washington, and ordered to the *Indiana*, Dec. 1.
P. A. Surgeon R. Spear, detached from the naval hospital, New York City and ordered to the *Bufalo*, Dec. 5.
Asst.-Surgeon R. B. Williams, ordered to duty at the naval hospital, New York City, Dec. 5.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ended Nov. 29, 1900:
P. A. Surgeon J. B. Stoner, bureau letter of Nov. 20, directing P. A. Surgeon Stoner to assume temporary command of the service at Norfolk, Va., amended, and directed to assume command of the service at Norfolk, relieving P. A. Surgeon J. M. Eager.
P. A. Surgeon J. M. Eager, relieved from duty at the port of Norfolk, Va., to take effect Nov. 30, 1900.
Asst.-Surgeon W. C. Holdy, granted leave of absence for seven days from Nov. 25.
Asst.-Surgeon W. C. Billings, to proceed to Clarksville, W. Va., for special temporary duty.
Asst.-Surgeon F. J. Thornbury, granted leave of absence for four days.
Asst.-Surgeon Dunlop Moore, to proceed to Port Townsend quarantine, and report to medical officer in command for duty.
Asst.-Surgeon R. H. Earle, to proceed to Columbia River quarantine, and report to medical officer for duty.
Asst.-Surgeon J. D. Long, to proceed to Baltimore, Md., for temporary duty during absence of Asst.-Surgeon Billings.
Asst.-Surgeon B. J. Lloyd, to proceed to San Francisco quarantine and report to medical officer in command for duty and assignment to quarters.
Asst.-Surgeon C. C. Pierce, relieved from duty at the Tortugas quarantine station, and directed to proceed to Key West, Fla., and report to medical officer in command for temporary duty.
A. A. Surgeon W. C. Bailey, granted leave of absence for three weeks from Nov. 14.
Hospital Steward F. L. Brown, relieved from duty at Cape Charles quarantine, and directed to proceed to Boston, Mass., and report to the medical officer in command for duty and assignment to quarters.
PROMOTION.
Asst.-Surgeon L. E. Cofer commissioned as passed assistant surgeon.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended Nov. 30, 1900:

SMALLPOX—UNITED STATES.

Alaska: Nov. 24, Skaguay, 1 case; Whitehorse, 1 case.
Kentucky: Lexington, Nov. 27, 1 case.
Louisiana: New Orleans, Nov. 17-24, 1 case.
Michigan: Detroit, Nov. 17-24, 1 case.
Minnesota: Minneapolis, Nov. 17-24, 3 cases.
Missouri: St. Joseph, Oct. 1-31, 1 case.
Nebraska: Omaha, Nov. 17-24, 3 cases.
New Hampshire: Manchester, Nov. 17-24, 3 cases.
New York: New York, Nov. 17-24, 1 case, 1 death.
Ohio: Cleveland, Nov. 17-24, 23 cases.
Pennsylvania: Nov. 17-24, Pittsburg, 3 cases; Steelton, 2 cases.
Texas: Houston, Nov. 17-24, 17 cases.
Utah: Salt Lake City, Nov. 17-24, 31 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, Nov. 3, 1 death.
Bohemia: Prague, Oct. 27-Nov. 3, 10 cases.
British Columbia: Nanaimo, Nov. 23, 12 cases.
Ecuador: Guayaquil, Sept. 8-30, 33 deaths.
Egypt: Alexandria, Nov. 5, 1 case.
England: Southampton, Nov. 2-10, 3 cases.
France: Paris, Nov. 3-10, 11 deaths.
Greece: Athens, Oct. 27-Nov. 3, 3 cases.
Gibraltar: Nov. 11, 1 case.
India: Oct. 20-27, Calcutta, 1 death; Madras, 3 deaths.
Italy: Naples, Nov. 14, 15 cases, 1 death.
Mexico: Mexico, Nov. 4-11, 1 death.
Russia: Moscow, Oct. 27-Nov. 3, 7 cases, 2 deaths; Odessa, Nov. 3-10, 16 cases, 7 deaths; St. Petersburg, Oct. 27-Nov. 3, 7 cases, 1 death; Saratov, Oct. 27-Nov. 3, 30 deaths.
San Domingo: Puerto Plata, Nov. 10-17, 3 deaths.
Scotland: Glasgow, Nov. 9-16, 22 cases.
Spain: Corunna, Nov. 3-10, 1 death.

YELLOW FEVER.

Cuba: Matanzas, Nov. 19, 3 cases.
Mexico: Vera Cruz, Nov. 10-17, 9 cases, 1 death.

CHOLERA.

India: Bombay, Oct. 23-30, 10 deaths; Calcutta, Oct. 20-27, 8 deaths; Madras, Oct. 20-27, 13 deaths.
Straits Settlements: Singapore, Sept. 22, 1 case, 1 death.
PLAGUE.
China: Hongkong, Oct. 15-22, 3 cases, 3 deaths.
Egypt: Alexandria, Oct. 22-29, 1 case.
India: Bombay, Oct. 30, 85 deaths; Calcutta, Oct. 20-27, 7 deaths; Madras, Oct. 20-27, 1 death.
Japan: Nov. 2, Kobe, 2 cases; Osaka, 11 cases.
Madagascar: Tananave, Oct. 8-15, 4 cases, 4 deaths.
Straits Settlements: Penang, Oct. 16, 2 deaths.

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The Journal of the American Medical Association

VOL. XXXV.

CHICAGO, ILLINOIS, DECEMBER 22, 1900.

No. 25.

Original Articles.

TREATMENT OF HERNIA IN CHILDREN.*

A. J. OCHSNER, M.D.

CHICAGO.

During the past few years the interest in this subject has increased very greatly. In this country the first real impulse was given to the surgical treatment of hernia in children by the excellent paper of William B. Coley, which was based on an extensive personal observation. This has since acquired remarkable dimensions, as is shown by the paper of Bull and Coley, which appeared during the past year. In England the subject has been discussed at length, especially in the British Medical Association, by Langton, Eccles, Campbell, Harrison, Heaton, Owen, Parker, and many others; and on the continent Broca, Mugnai, Fraenkel, Felizet, Lucas-Champonnière, Tillmann, and others urge the operative treatment as applicable to a large proportion of all cases of hernia in children.

That operative treatment is indicated in strangulated hernia in children was recognized many years ago, although the prognosis was much less favorable in the pre-antiseptic time. During the early part of the last century Lawrence reported a successful operation for this condition in a child 14 months old. Robert Adams operated on a child of 18 months, Pantin on one in the second month, Hunt on one only twenty-nine and Dupuytren on another twenty days old; Goyrand successfully operated on a hernia in a child of 4 months, which had been strangulated for three days; Caesar Hawkins operated in the seventh week, Roux on a child 2 years of age, Lawrence on three very young children, successfully, and Erichsen reports one unsuccessful attempt.

For several years I have had an opportunity of observing an unusually large number of these patients in my clinical work at the Augustana and St. Mary's hospitals of this city. One of these institutions belongs to the Swedish, the other to the Polish people, and both of these nationalities are very numerous in the territory tributary to these hospitals, and in case an operation is advised on a child belonging to either nationality, it is usually brought to one or the other of these institutions, thus coming under my observation. Unfortunately, it has not been possible up to the present time to follow all, or even a large proportion, of these cases for a number of years, because of the frequency with which they change their places of residence; hence, my experience can have no value from the standpoint of reliable statistics, but I believe that as a matter of clinical observation this experience is undoubtedly of some value.

I have chosen the foregoing subject for this paper be-

cause it has seemed to me that a discussion of it by the Surgical Section of the AMERICAN MEDICAL ASSOCIATION must necessarily be of great profit at the present time. Everywhere herniæ in children are being treated surgically, the results being more satisfactory even than in adults, both as regards permanency of cure and safety of the operation. If a careful consideration of the subject shows that the same indications exist in children as in adults, then this form of treatment should be encouraged; if, on the other hand, it seems clear from past experience that most of these patients will get well without an operation, then it will be necessary to determine the conditions on which a selection of cases for operative treatment must be based.

It has seemed to me proper to refer here to the extensive statistics collected by Malgaigne fifty years ago, with which every surgeon is familiar, which show that there is one hernia for every twenty-one children during the first year of life, that this proportion remains true up to the age of 6 years, that then there is a rapid decrease until there is but one hernia in seventy-seven children at the age of 13. During the following years there is constant and rapid increase in the male, so that at the time of recruiting the armies, which occurs at the ages of 20 to 21, there is one hernia in thirty-two males. In the female there is no further increase until the beginning of the childbearing period, when there is at once quite a sudden one in the number. At the age of 28 there is one hernia for 21 persons; at the age of 30 to 35, one hernia for 17; at 35 to 40, one for 9; at 50, one for 6; at 60 to 70, one for 4, and at 75, one for 3. From this age on the patients suffering from hernia seem to die more rapidly than the remaining proportion, so that from the age of 80 to 85 there is but one hernia in fourteen persons, from 85 to 86, but one in twenty-three, and of those whose age exceeds 86, but one in fifty-six. It is plain, however, that the only time at which we can be absolutely certain that the statistics are correct is at the age between 20 and 21 in the male, because at this time all the males are actually examined by competent surgeons.

Many other interesting statistics exist, of which those of Werhner and Macready seem especially valuable, but the foregoing are sufficient for the purpose of this paper, as the different statistics do not vary to any great extent in the important facts bearing on the treatment of hernia in children, namely, that without surgical treatment over 75 per cent. of all herniæ heal spontaneously before the child has reached the age of 12 or 13 years; also that at this age and during the following six or eight years there are almost no herniæ in girls, while in boys there is a very rapid increase during this period, a condition which has been attributed to the fact that during these years girls are generally well cared for among all classes, while boys learn their trades, indulge in rough sports and are likely to exert themselves beyond their strength.

*Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

If the relative number of herniæ changes from one in twenty-one children up to the sixth year of age to one in seventy-seven at the age of 13, 73 per cent. of all children suffering from hernia at the age of 6 must have healed spontaneously by the age of 13, even if there were no herniæ formed at all during this period. This, however, is not the case, as more than one-half the life of these children has in the meantime been spent, and everyone who treats such cases knows from personal experience that many of the children coming under observation between the ages of 6 and 13 are suffering from herniæ of recent date. Consequently, it is certain that much more than 73 per cent. of all herniæ at the age of 6 heal spontaneously before the child is 13.

Berger's statistics are interesting in that they show the relative number of herniæ which have continued from childhood. Of 9967 adults with hernia, only 479 gave a history of having suffered from this condition since childhood. Bull and Coley's statistics show almost identical proportions: out of fifteen thousand adults with hernia, only 700, or less than 5 per cent., had been ruptured since childhood. This proportion is borne out in a remarkable manner by the fact that the four hundred cases which the latter authors had selected for operation were chosen from eight thousand children suffering from hernia.

It is worthy of note that Malgaigne's statistics were collected fifty years ago, at a time when, with the few exceptions noted above, no herniæ in children were treated surgically and, in fact, very few of these received any form of treatment. Judging from these and other statistics, it seems reasonable to conclude that probably 95 per cent. of all herniæ in children will heal spontaneously, or at least without surgical treatment, if proper conditions are secured. This has also been borne out by my own experience. In explanation of this fact, a description of the changes which take place as the child outgrows its hernia, in an interesting paper by Thomas Charles Martin, has seemed of especial interest to me. He shows that in the broadening of the pelvis the parietal peritoneum enlarges at the expense of the mesentery; the latter being thus shortened prevents the entrance of the intestines into the inguinal canal. At the same time there is a displacement of the internal ring, which still further aids in curing the hernia.

Primarily, the natural defect which results from the descent of the testicle through the inguinal canal must be considered a most important predisposing cause, which accounts for the much greater frequency of inguinal hernia in the male than in the female. Next to this comes a further increase of a tendency to the formation of hernia due to an inherited weakness in the structures of the abdominal wall. Macready places this hereditary defect at 25 per cent. of all cases, while Kingdon agrees with Malgaigne in placing heredity as an important factor in 33 per cent. of all cases.

It is doubtful whether the long mesentery is primarily a predisposing cause, or whether it occurs secondarily from the stretching which results from gaseous distension due to digestive disturbances.

Bertillon and others have proved that the number of herniæ in the offspring of the poorer classes is much greater than in the well-to-do; hence it is clear that there are conditions of very great importance aside from the anatomic causes.

ABNORMAL INTRA-ABDOMINAL PRESSURE.

There can be no doubt that the most important direct cause of herniæ in children is an abnormal intra-abdominal pressure, as pointed out by Eccles, Langton,

and others. This may be due: 1, to gaseous distension of the stomach and bowels, caused by faulty feeding and consequent indigestion; 2, to great pressure exerted during the act of defecation, on account of constipation; 3, to the same condition due to obstruction on account of phimosi; 4, to severe vomiting; 5, to long-continued coughing. In connection with all of these conditions, it is to be remembered that children suffering from digestive disturbances necessarily suffer much from pain, and the exertion incident to crying will greatly increase the existing abnormal intra-abdominal pressure. In order to quiet the child the mother will nurse it at irregular intervals and this will again increase the digestive disturbances, and this, in turn, the intra-abdominal pressure and pain.

INCREASED INTRA-ABDOMINAL PRESSURE DUE TO COUGHING.

I have observed cases in which the herniæ healed regularly during the summer months, but reappeared in the autumn as soon as the children acquired coughs which lasted almost all winter. By the time spring arrived the herniæ had attained considerable size, only to heal again during the summer, while the patients were free from coughs. By placing these children in bed and elevating the lower end sufficiently to make an angle of 20 degrees, giving them remedies to relieve the cough, the herniæ disappeared within six weeks. Then advising the mothers to give the children cold baths every day, and to bring them for inspection often enough to keep the condition under control, and giving them cod-liver oil and malt extract as soon as the cold weather appeared, they went through the next winter without coughs and consequently without a recurrence of the herniæ. In the same manner children who are suffering from obstruction to the upper air-passages, on account of enlarged tonsils, nasal adenoids or polypi and consequent conditions, will rapidly recover from their herniæ if these conditions are relieved by proper treatment.

INCREASED PRESSURE DUE TO GASEOUS DISTENSION.

It is very usual for the children who are brought into the hospitals for the treatment of hernia to have greatly distended abdomens, due to digestive disturbances resulting in gaseous distension of the stomach and intestines. If this occurs in nursing infants, the mother should be instructed to nurse the child at regular times. Her own habits and diet should be regulated. If the child is constipated, this condition should be relieved. Aside from this, the mother must be instructed never to carry the child, because she will not follow the advice of keeping it in the inverted position and, consequently, will increase the intra-abdominal pressure whenever she picks up the child. It should sleep in a separate bed with the lower end elevated sufficiently to make an angle with the floor of about 20 or 30 degrees. This will keep the hernial sac empty of intestines and omentum and will very greatly assist in the obliteration of the hernia. If the mother's milk continues to give rise to indigestion, notwithstanding every precaution available for making it wholesome, it is often best to place the child partly or wholly on artificial food, at least for a time. Above all things, however, it is important to impress the mother with the necessity of being regular in feeding the child, and to again place it in its bed as soon as it has been nourished, or, better still, to lean over the child's bed and nurse it without disturbing its inverted position.

I have repeatedly placed these children in the hospital and sent the mother, who was exhausted from over-work and care of the sick child, home to rest, permitting

her to come to the hospital morning, noon and night to nurse the child. After the first day or two the mother becomes rested, her journeys to and from the hospital compel her to be out-of-doors, and the fact that she is relieved of the care of the child gives her the necessary rest and sleep. In the meantime her milk improves, the child becomes accustomed to lie quietly in bed and to take its nourishment regularly, its digestion is improved, the gaseous distention disappears and with it the abnormal intra-abdominal pressure, which is still further relieved because the child sleeps most of the time and seldom cries. After the child has been in the inverted position for a few days the hernial sac remains empty so long as it remains in this position, even if the child strains and cries.

INCREASED INTRA-ABDOMINAL PRESSURE DURING DEFECACTION, DUE TO CONSTIPATION.

Children suffering from hernia should not be allowed to become constipated, because the increased intra-abdominal pressure necessary to accomplish the evacuation of the bowels in constipation in itself is sufficient to prevent a hernial opening from closing. This is one of the most common causes of hernia in children, and one of the easiest ones to be eliminated.

INCREASED INTRA-ABDOMINAL PRESSURE DUE TO OBSTRUCTION TO THE PASSAGE OF URINE AS A RESULT OF PHIMOSIS.

That phimosis is a frequent cause of hernia in children is plain from the fact of the greater frequency of umbilical hernia in male than in female children. The greater frequency of inguinal hernia in children can readily be accounted for by the difference in the anatomic structures, but this is not the case in umbilical herniæ, which are shown statistically also to be more common in male than in female children.

It has lately been suggested that phimosis can not be an important cause of hernia in children, because if this were the case the Jewish nation must necessarily be much freer from hernia than others. This is, however, not the case. In fact, it has been shown by statistics, especially in Russia, that at the age of 20 to 21 proportionately more Jews than Christians are afflicted with hernia. Eccles, in an article on this subject, has laid stress on the uselessness of circumcision for the cure of hernia, his argument being based on the fact that Jews are no less likely to have hernia than Christians. Krasnow found, on examining recruits from two departments for the Russian army, that there were, relatively, five times as many herniæ in the Jews who presented themselves for examination as in the Christians. A number of the former confessed that they had produced their herniæ artificially in order to secure rejection from military duty. Granting this to be the cause of the great increase, it could have no bearing on the number in Jewish patients in America and England, where there is no compulsory military service. This, however, can be explained by the fact that the Jews are more subject to hereditary diseases of all kinds, on account of the system of intermarriage in families.

If the phimosis is relieved, either by circumcision or by dilatation of the prepuce, and the child kept in bed for four to six weeks with the foot of the bed elevated, the hernia will almost invariably be cured. During the same time the diet and the bowels must be carefully regulated, and it is doubtful which of these three means has been of the greatest importance in obtaining a cure. It is surprising how rapidly the opening will contract under these conditions. Moreover, during this time the

patient acquires regular habits which can afterward be easily maintained if their importance is explained to the mother, and especially if it is impressed on her that by following the directions, which will naturally appeal to her on account of their simplicity and reasonableness, she will be able to make operative treatment unnecessary.

That all of these conditions are of the greatest importance can be demonstrated practically, with the greatest ease, by comparing the relative frequency of hernia in children of the very ignorant poor, of the intelligent poor, and of the well-to-do. In the former class, after the child is weaned but little attention is given to its diet, to the condition of its bowels, and to the condition of the prepuce in boys, and consequently herniæ are very common, while they are much less common in the second, and still less so in the third class, as has been shown by Bertillon, from carefully compiled statistics, and is a matter of experience with every surgeon who treats these various classes.

STRANGULATED HERNIA IN CHILDREN.

If a strangulated hernia in a child can not be easily reduced, under complete anesthesia, by taxis, the child being held in the inverted position during the manipulations, it is undoubtedly wiser to relieve the conditions by an operation, because the intestinal wall in children is very delicate and easily injured by taxis. In my experience the hernial opening has always been very narrow; still, I have always succeeded in replacing the hernial contents without enlarging the opening by first drawing out more intestine and then gradually replacing it, the child being placed in the inverted position.

If the hernia is an acquired one, which is not common in children, the sac is carefully dissected free to a point within the abdominal cavity. It is then ligated and removed and the ligated stump is permitted to retract into the peritoneal cavity.

If the hernia is congenital it is best to dissect up the neck of the sac for about an inch, and I leave the portion surrounding the testicle to form tunica vaginalis, while the upper portion is carefully dissected up to a point within the peritoneal cavity; it is then ligated, the superfluous portion is cut away and the stump is permitted to retract into the peritoneal cavity, as in case of the acquired hernia. It is thus only necessary to close the skin and the opening will close completely in from four to six weeks if the child is kept in bed with the foot of the bed elevated. R. H. Russell gives in support of this simple operation the fact that inguinal hernia in children occurs because of the presence of the hernial sac, which has remained after the testicle descended into the scrotum. Consequently, all that is required for the purpose of curing this hernia permanently is to completely remove this sac. His experience as to results seems to justify this view. H. O. Marcy has for many years repeatedly directed attention to this condition. That equally satisfactory results can be obtained by following Bassini's or Halsted's method can easily be seen, especially from the statistics of Coley, and those of Halsted. However, Funke and others have noticed severe atrophy of the testicle following herniotomies in children, in which an attempt was made to close the inguinal canal.

If it is possible to reduce a strangulated hernia in children by taxis, the irritation caused, primarily by the strangulation and secondarily by the manipulation, seems to favor closure of the hernial opening. I have repeatedly seen this occur within six weeks if the child was kept in bed in the inverted position.

The most unfavorable cases are those in which the abdominal walls are congenitally weak, a condition which seems to be hereditary in many patients. Again, of these cases, those in which there are three distinct areas of weakness—the abdomen of three hills described by Malgaigne—seem to be least favorable of all. In this class surgical treatment may become necessary, and here it is well to perform the typical Bassini or Halsted operation, or that described by Ferguson at the meeting of the AMERICAN MEDICAL ASSOCIATION in June, 1899, the important point in the operation being to secure an accurate closure of the inguinal canal to make up for the natural deficiency in the tissues. Two precautions should be borne in mind: 1. The stitches should be tied very loosely, in order not to cause pressure necrosis of the already weakened tissues. 2. The tissues of the cord in the male should be manipulated very carefully for fear of causing an atrophy of or preventing the full development of the testicle. This is especially important in these cases, because herniæ in this class of patients are very likely to be double, and if both testicles should atrophy the patient would be permanently injured. In this class very frequently no truss will retain the hernia.

REDUCIBLE HYDROCELE.

It is not uncommon to find a hernial sac closed opposite the internal inguinal ring and the portion beyond distended with fluid in the inguinal canal, preventing the closure of the latter opening. It is, of course, impossible for the patient to wear a truss, and unless the fluid is removed this can not heal. Simply making a small incision over the inguinal canal, ligating the upper end of the sac opposite the internal ring, cutting it away beyond this ligature and closing the wound in the skin has, in my experience, invariably and permanently cured these cases. In a number of these I have obtained the same result by tapping the sac and injecting five drops of .95 per cent. carbolic acid, but the other operation seems preferable.

There is but one other condition which justifies the operative treatment of hernia in children, and that is when, on account of adhesions, the hernia, although not strangulated, is still irreducible. In this class of hernia a truss can not be worn with benefit, because it presses on the hernial contents, usually omentum, instead of the empty canal; moreover, the opening not being empty its closure is necessarily impossible unless the adhesions are absorbed, which, if occurring at all, necessarily require a long space of time. In this variety of hernia, unless it be complicated with the form just described, it is not necessary to do anything further than in case of strangulated hernia. The hernial sac being removed, the opening will again close spontaneously.

In operation for relief of femoral hernia in children it is never necessary to do anything beyond dissecting out, ligating and cutting away the sac, permitting the stump to retract into the peritoneal cavity, and closing the skin. These cases are exceedingly rare. I have never seen a strangulated femoral hernia in a child, and only once an irreducible one due to an adherent omentum, which necessitated an operation.

USE OF TRUSSES.

Too much stress has been laid on the importance of trusses in the treatment, and too little on removing the causes, of hernia in children.

It is far easier to retain a hernia and thus encourage the closure of the hernial opening, by first relieving the abnormal intra-abdominal pressure and then applying the truss simply as an aid, than it would be to accomplish the same object by the use of the truss alone.

If it is at all possible it is always best to place the child in bed in the inverted position and to reduce the intra-abdominal pressure by the methods which have been described above, before making use of a truss at all. Then, if it is not possible to maintain this position sufficiently long to obtain a cure it is well to apply a perfectly-fitting truss.

The fact of using a truss does not make the other precautions unnecessary. The child should still be cared for so as to remove abnormal intra-abdominal pressure from every cause, and the foot of its bed should still be elevated in order to make use of gravity in keeping the hernia empty and to facilitate the shortening of the mesentery.

My observations and a study of the available literature on this subject have led me to accept the following conclusions:

1. The development of herniæ in children is favored by: *a*, faulty development of the abdominal wall; *b*, insufficient strength in the tissues involved in closing the umbilical, inguinal or femoral openings; *c*, abnormal intra-abdominal pressure; *d*, unclosed condition of the tunica vaginalis.

2. The causes *a* and *b* are likely to be inherited.

3. The abnormal intra-abdominal pressure is due: *a*, to gaseous distension resulting from improper feeding; *b*, to the exertion necessary to accomplish defecation in case of chronic constipation; *c*, to the same exertion necessary to evacuate the bladder on account of obstruction due to phimosis; *d*, to severe, long-continued coughs.

4. A large majority of all cases of hernia in children will heal spontaneously if the increased intra-abdominal pressure is relieved, the hernial sac being kept empty.

5. This can be accomplished by means of trusses or, much more rapidly, in inguinal and femoral hernia, by placing the child in bed with the foot of the bed elevated, the time required usually not exceeding six weeks.

6. Children with a tendency to the formation of hernia should be guarded against developing coughs.

7. Their diet should be given at regular times and chosen with a view to avoiding gaseous distension.

8. Constipation should be entirely prevented.

9. In case of boys, phimosis should be relieved if present.

10. Badly nourished and badly cared for children of the poor should be treated in hospitals, being placed in bed in the inverted position, the cause of increased intra-abdominal pressure being removed at the same time by proper treatment.

11. Operation is indicated *a*, in strangulated hernia; *b*, in irreducible hernia due to adhesions; *c*, in case the opening is unusually large in a free hernia, especially if the condition is hereditary and the hernia can not be retained by means of a truss; *d*, in reducible hydrocele.

12. Except in Class *c*, the operation should consist simply in carefully dissecting out the sac, ligating it within the abdominal cavity, cutting away the sac and permitting the stump to retract within the abdominal cavity, and simply closing the wound in the skin.

13. The recumbent position, with the foot of the bed elevated, is of very great importance in the operative as well as in the non-operative treatment of herniæ in children.

14. If the child can not be kept in this position sufficiently long, a well-fitting truss should be worn night and day until there has been no protrusion for at least six months, at the same time the necessary precautions

being constantly taken to guard against intra-abdominal pressure from any cause.

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divided. There is no anastomosis with the nerves of the other side, and in all probability none with neighboring nerves. Consequently, that part of the muscle distal to the nerve loses its innervation and undergoes paralysis and atrophy. In the further development of a hernia, the atrophic and hence unresisting portion of the abdominal walls is protruded in response to intra-abdominal pressure.

Dr. Andrew F. Currier mentions a lowered vitality from tuberculosis, syphilis, chronic alcoholism and fatty degeneration at the menopause, or prolonged drainage, as a predisposing cause.

FREQUENCY.

Dr. John Homan says that he is surprised to find that thirty women out of over three hundred, undergoing abdominal operations, have ventral hernia—nearly 10 per cent.

Dr. H. O. Marcy finds that it is variously estimated by different authors that ventral hernia follows the closure of the abdominal wound, after laparotomy, in from 5 to 10 per cent. of the sum total of cases.

PREVENTION.

Since Dr. H. O. Marcy has adopted the method of closing the abdominal wall in layers, with buried sutures, in over one hundred cases of laparotomy, he has had but one case of ventral hernia.



FIG. 1.

Dr. Charles P. Noble finds that closing the abdominal wall in three layers, and suturing the aponeurosis of one side on that of the opposite, making a flat seam, by an alternate up and down stitch, has been valuable in preventing hernia.

Dr. William J. Mayo states the surgical principle involved in closing the abdominal wall in the following: "The ingenuity wasted in dealing with the peritoneum has been enormous, the formation of buttresses, or peculiar method of handling a membrane, which is notoriously impotent to aid in holding back the protrusion is a waste of time."

The only object in view is to prevent this membrane from insinuating itself between the muscular and aponeurotic structures, and preventing the union of the real retention agents.

A careful study of the anatomic structure of the parts involved, and the technique of different operators, has led me to adopt the method of operating which I now present to you.

TECHNIQUE.

Ventral hernie may be considered as median and extra-median, the former following median abdominal in-

IMPROVED TECHNIQUE FOR THE CURE OF VENTRAL HERNIA.*

M. M. JOHNSON, M.D.

HARTFORD, CONN.

According to Gross, "ventral hernia is a hernia involving the parietes of the belly, which are rendered defective in consequence of a wound, or accidental separation of some of the muscular and tendinous fibers."

CAUSATION.

The essential factor in the production of these hernie is a deficiency in the fibrous aponeuroses which give strength to the abdominal walls. (Kelley.) Dr. Henry O. Marcy says that as a result of the surgical division of the abdominal wall, it may occur from defective union in consequence of improper closure of the parts, and Spencer Wells points out the fact that operators have often failed to include the peritoneum in the line of sutures. Another and not infrequent cause is found in the imperfect or non-union of a portion of the abdominal wall from the use of the drainage-tube and from stitch abscess and long incisions.

A review of 340 cases of ventral hernia following abdominal incisions showed that, in the great majority, the wound healed by granulation (Bull and Coley), while Dr. P. Assmy wisely assigns division of the motor nerves as the cause of ventral hernia following extra-median abdominal sections. In these incisions, parallel or nearly parallel to the linea alba, the terminal branches of the intercostal nerves supplying the rectus muscle are

*Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

cisions, the latter resulting mostly from operations for appendicitis.

An elliptical incision is made a little within the border of the opening in the abdominal wall. This must be done carefully, as there is frequently a loop of intestine adherent to the inner surface of the hernial sac. The skin and superficial fasciæ—if it can be distinguished—is then dissected back, exposing the sheath of the rectus muscle. On the outer side a similar dis-



FIG. 2.

section is made an inch or more over the external oblique. The edges of the opening are trimmed and a No. 25 silver wire suture is inserted at the upper angle of the opening by lifting the abdominal wall and passing the needle through the peritoneum, rectus muscle and skin about one inch from the free border of the opening. The needle on the other end of the wire is similarly passed through the abdominal wall on the opposite side. Silver wire sutures are inserted, at intervals of one inch, the entire length of the incision. All the subcutaneous tissues are then united by a continuous kangaroo-tendon suture, and the skin is closed by a continuous suture of the same material.



FIG. 3.

The deep wire sutures are now taken up one by one, moving them back and forward, to make sure that a loop of gut is not included between the wire and the abdominal wall. The ends of the wire are wound around a pencil or ivory on either side and drawn sufficiently tight to relieve the tension on the kangaroo-tendon stitches. This is the old and nearly obsolete "quill

suture" used for a new purpose. Half the wires are removed in ten and the remainder in fifteen days. When the hernia is in the median line the principle is the same. The object is to relieve the tension on the stitches which hold the muscular tissues together until firm union has taken place.

CASE 1.—This case illustrates the extramedian operation. The patient, a boy 6 years old, came under my care at the St. Francis Hospital, on Oct. 3, 1897, to be

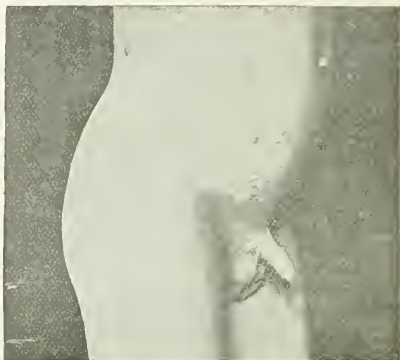


FIG. 4.

treated for ventral hernia. He gave the following history: July 17, 1895, he was operated on for sunnurvative appendicitis at the Hartford Hospital. A few days later perforation occurred. He remained in the hospital thirteen months, and during this time four more operations were performed to close the perforation, the last, by Dr. Wiggin, of New York, was successful. During his treatment at the hospital a rubber drainage-tube was lost in the abdominal cavity. Later an abscess formed in the lumbar region, just above the brim of the pelvis: when the abscess broke the drainage-tube came out.

Here we have a long history of operations, suppuration and drainage. The opening into the abdominal



FIG. 5.

wall was $3\frac{1}{2}$ inches long by 3 inches wide. At a consultation, the staff voted against an operation, as there was little hope of success, but the patient was removed to the Woodland Sanatorium, where the operation was performed Nov. 27, 1897. An elliptical incision was made a little within the border of the opening in the abdominal wall, adhesions broken up and the skin dis-

sected back so as to expose the sheath of the rectus muscle. A similar dissection was made on the outer side over the external oblique.

Beginning at the upper angle, four silver-wire sutures were inserted from the peritoneum through the abdominal wall, one inch from the border of the incision on either side. The muscular tissues were closed by a continuous kangaroo-tendon suture, passing through all the subcutaneous tissues, as they could not be separated owing to the long-continued inflammatory and suppurative process. The skin was closed by a continuous suture of the same material. The deep sutures were drawn sufficiently tight to relieve the tension on the stitches through the muscles, and were retained by winding them around an ivory pencil. The patient was placed on a liquid, animal diet to prevent the distension of the viscera. The end wires were removed in ten and the remaining ones in fifteen days, and the patient was kept in bed three weeks, making an excellent recovery. The details of this case have been given somewhat fully to show that it was an exceptionally bad case for a good result. At the end of 2½ years he was photographed and there was no return of the hernia evident.



FIG. 6.

CASE 2.—A woman was operated on for the removal of a fibroid tumor of the uterus, Nov. 22, 1894. She was admitted to the St. Francis Hospital, where the operation for the radical cure of her ventral hernia was performed by the writer, Dec. 30, 1898. Fig. 5 illustrates the size of the rupture.

The usual elliptical incision was made, the tissues were dissected back on both sides so as to expose the sheath of the recti muscles, and silver-wire sutures were placed as previously described. The subcutaneous tissues were closed by the usual continuous suture passing through the sheath of the recti muscles. The skin was closed as usual and the deep silver wires were made sufficiently tight to relieve the tension. At the end of ten days the dressings were removed and primary union had taken place perfectly; two of the silver-wire sutures were removed and the rest of the wires five days later. At the end of three weeks she was discharged, fully recovered. Fig. 6 illustrates the condition one year four and a half months after the operation.

The reason for the unsatisfactory results, so frequently following the operations for the radical cure of ventral hernia, in the class of cases where a very long incision is made, thus depriving the rectus muscle of its nerve-supply, followed by a protracted period of suppuration and drainage, attended by a considerable loss

of tissue, and a slow closure by granulation, is the strong tension necessary to bring the abdominal walls together, causing a giving way of the tissues before a proper union of the parts has been secured. The technique here described fully meets these requirements and has proved highly satisfactory in a series of these extreme cases.

THE ESSENTIAL FACTORS FOR THE CURE OF HERNIA IN THE MALE.*

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That hernia may be safely cured by surgical intervention is now recognized as one of the special triumphs of modern aseptic surgery. It is scarcely more than a decade since the profession in general discountenanced operation except under very restricted limitations, and the records of all our general hospitals are replete with long series of cases followed by dire disaster, owing to delay in operation for the relief of strangulated intestines in which now a speedy cure would ensue by prompt surgical intervention.

It is not the purpose of this paper to discuss the history of modern operations or the various methods of prominent surgeons, but rather that we may eliminate the non-essentials and emphasize the really important factors which must pertain in order to effect a cure. All forms of hernia except that of the inguinal in the male may be dismissed with the simple statement that they consist of openings through the strong retentive wall of the abdominal viscera, more or less direct, and that the proper closure of these openings is usually a simple procedure which should be followed by primary union and permanent cure.

The inguinal variety in the male is by no means so simple, since here the abdominal opening usually follows the canal through which the spermatic cord and vessels pass. If this opening is normal, is it necessarily a source of weakness? If so, why are not all men subject to hernia? Statistics show that this variety is much more common than that of all others, so common, indeed, that by estimate one in every ten to fifteen male adults is the subject of hernia; over three millions of the inhabitants of the United States are thus, in a greater or less degree, sufferers and incapacitated for hard active service.

If this form of hernia is so universal, to ascertain its cause and the reason of its development is obviously of the first importance. It may be easier of solution to reverse the proposition and inquire why all men are not subject to hernia, or, in other words, what the normal anatomic and physiologic conditions which prevent the escape of portions of the abdominal contents through the inguinal canal are. Since I have reason to believe that this phase of the subject is comparatively little understood and has been rarely emphasized in its proper surgical importance in its relation to the restoration of the structures in order to effect a cure, I must be pardoned in dwelling a little in detail on certain of these factors.

In a way, it seems strange that the testicle should develop within the abdominal cavity, and that by a seeming change of plan, as if an afterthought, it should be extruded therefrom at a period when all the other organs are not alone permanently closed, but in a high degree have completed their development. Why not much better to have permitted their retention within the abdomen, as

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are the ovaries in woman? Far safer from seeming injury, and also in this way short circuit the deposition of their secretion within the vasa deferentia? Again, what a fruitful source of profit to the modern junior surgeon, who would very probably daily seek, by a laparotomy, to ascertain the exact condition of these important organs—of a value second only to their counterparts in women!

Having developed within the abdominal cavity, it becomes necessary in their change of abode that they carry before them a process, or pocket of the peritoneum, which, in the mature normal condition, becomes the tunica vaginalis testis. This necessarily lines the inguinal canal with a delicate intrafolded membrane, which becomes more or less fused with the vessels of the cord and also permits a certain amount of mobility as well as a normal variation of vascularity.

The peritoneal surface opposite to the internal ring, as it covers over the separated component parts of the cord, is described in normal anatomy as the infundibulum processus peritonei, in simple English, funnel-shaped. But, from repeated investigations, I am assured that this is a mistake, that normally there is no funnel-shaped depression, although it may be easily made to appear thus by traction on the cord. As far as I have been able to ascertain, this is traceable to the otherwise very valuable contribution on the subject of hernia, published by Cloquet in 1835.

This author reached his conclusions after dissecting more than five hundred subjects who had suffered from hernia, and it is not to be wondered at that, for this reason, he mistook a pathologic for a normal condition. I am myself assured that the real cause of hernia, in most instances at least, is a lack of the developmental process by the imperfect closure of the internal ring, although it may not show itself as a hernia until the later period of life. This is the more in evidence, since it is only possible by the closure of the internal ring to prevent a more or less constant hydrostatic pressure in the line of the already partially opened canal, the entering wedge ever forcing apart the readily yielding structures.

On the contrary, when the internal ring is closed firmly around the vessels, compressing them upon each other so that the entire abdominal parietes act upon a single plane, the intra-abdominal pressure acts laterally upon the walls of the canal. Note, for example, the extraordinary feats of strength of athletes when these muscles are called into special play. The only other instance in the body where nature avails herself of this mechanical principle is the passage of the ureter through the walls of the bladder, permitting the easy escape of the urine through the ureter, although the fuller the bladder the less the liability of reflux into the kidney. In pathologic conditions where this takes place, it is interesting to note the foreshortening of the ureter in its passage through the bladder wall.

Given a small infundibular process as the first factor in the problem, it is interesting to note that the internal ring, as a rule, enlarges by a depression of its lower border, since the internal abdominal pressure is first brought to bear upon these buttressing structures. These having yielded, little by little the force called into play is now exercised upon the structures of the anterior wall of the canal, but not until these give way is it usual for the patient to complain of inconvenience sufficient to have the attention of the surgeon called thereto. It is very easy for one to demonstrate by a careful examination a foreshortened, slightly dilated inguinal canal

brought about by these conditions, of which the subject has never made complaint. Here are conditions ready to become emphasized by some special strain which, instead of producing a valve-like closure of the canal, suddenly gives way because of its loss of obliquity, and the man finds himself "ruptured." In other words, there has been an escape through the dilated canal of a certain portion of the abdominal contents. Given these conditions, the forecast of the man's future is quite clearly in evidence—a retention apparatus, the ordinary truss-bearing individual; conditions becoming more pathologic, brought about by intra-abdominal pressure exercised in the line of its opening instead of at right angles to it, rendering instrumental supports of no avail; usually more or less complete invalidism, or an operation to effect its cure.

The effect of mechanical supports is obvious. By pressure exerted from without inward force is brought to bear almost wholly on the structures external to the inguinal canal. The internal ring is acted on only through this pressure and the deeper structures can not be supported in a way to effect their restoration. Indeed, the more common result of truss pressure is that which pertains to undue pressure in any other part of the body, a weakening of the parts involved, owing to impaired nutrition. It is on this account that it is often unwise to advise a patient to have recourse to a truss, and prompt remedial operative intervention may effect an easy cure and save many of the complications which oftentimes render operation on old hernia really difficult and formidable, even to surgeons of large experience.

Although to some this may seem elementary, student-teaching, its importance is generally overlooked and scarcely referred to by many authors. So important is it that I regard it as the very key to the possible surgical intervention for effecting cure. Further in our investigation, when an infundibulum pertains, we are to ascertain the structures that are defective. Here again we have recourse to anatomic study. The inguinal canal is rendered oblique in its passage through the abdominal wall by the firm retentive structures which enter into the formation of the lower border of the internal ring and the posterior wall of the canal. This may be described as a direct, slightly elliptical opening through the firm sheath of the transversalis. Its muscular fibers, as they descend toward their pubic attachment, are replaced by a double tendinous interweaving of exceptional strength. Oftentimes the opening through the transversalis is through the lower border of the muscle rather than its tendinous expansion, to-wit, a careful anatomic examination will demonstrate muscular fibers about and below the lower border of the internal ring, and then it may be described as a direct opening through the transversalis muscle. This is not, however, the more common condition, and when found I do not consider that it possesses any material advantage. As far as I am able to learn, the first of the great anatomists who pointed out this extraordinary development of the transversalis fascia and emphasized its physiologic importance was Sir Astley Cooper. So valuable was it considered by his contemporaries that, for a considerable period, it was called the transversalis fascia Cooperi.

It will readily appear that the proper development of these parts is the great bulwark for maintaining the obliquity of the canal and, as a consequence, its defect is the almost universal cause of inguinal hernia in the male. Singularly enough, this has not been pointed out as of special importance in relation to the operation for

the cure of hernia, but on careful reflection, it must be recognized as the first important stable factor in the reconstruction of the inguinal canal to its normal obliquity, by which only is it possible to effect a rational means for permanent cure.

The history of operative measures for the cure of hernia has also an important bearing on this phase of the question. From the time of the Roman surgeons, through the centuries, attempts, by a great variety of operative procedures, were made for the cure of hernia. The open dissection methods finally resolved themselves into two distinct classes. The first was to leave the wound open, packed with charpie or lint smeared with some kind of ointment, and for the most part, that which gave the better result, soaked in spirits of wine, which alcohol we should now class as an antiseptic. This permitted slow granulation and produced a more or less firm cicatrix, a result deliberately aimed at in this later period by Dr. McBurney, of New York.

The other method, and by far the most successful one, was the removal of the testicle and cord, which gave a wound subject to a possible primary closure with far less loss of the firm supporting structures, even if a suppurating wound. Notwithstanding the suffering from large wounds thus made without anesthetics, and the mortality due to infection, this method became so very common that it was at last checked by royal edict, lest the country suffer from the lack of population.

Both these methods, as we readily see, dealt with the deeper supporting tissues of the transversalis.

The earlier procedures of a considerable number of operators, more or less masters in the antiseptic technic, consisted in making an open wound and closing the re-freshened structures down to the anterior wall of the inguinal canal. A very important paper by Dr. Bull, of New York, reviewing the history of a large number of cases which came under his observation, following this method of operation, pointed out very correctly that a large majority became recurrent, without making an analytical showing of the cause. The influence of this contribution was so great that it for a time produced a decided reaction against all methods of surgical intervention. At the present time, however, no man is a more earnest advocate of the surgical cure of hernia, and there is none whose experience exhibits a better showing of results than Dr. Bull.

The essentials of operative procedures for the cure of inguinal hernia in the male, regardless of its degree of pathologic deviation, may be classed as follows: First, a wound sufficiently large to bring into easy observation all the factors pertaining to it. This necessitates the removal of the cord from the canal, usually best carried upward and inward, and the free separation of the hernial sac—the opening of the same in order to deal intelligently with its contents. These properly disposed of, the separation of the peritoneum is carried quite within the internal ring, and the sac is closed off at its base and resected. This is best effected by means of a suture, rather than a ligature, since it can not then slip from the enclosing suture. If closed with three or four continuous sutures, the enclosed structures are safely held at rest with only sufficient force to produce approximation, and these should be taken obliquely upward in the line of the reformed canal. If by ligature, the constriction must be much greater in order to prevent slipping, which necessarily lessens the vitality of the parts. I have myself known of one fatal case in which a surgeon of repute closed the sac in this way by a ligature which included an arterial branch not usually found

in this locality. The autopsy showed that death was caused by the slipping of the ligature and hemorrhage within the peritoneum.

Next follows in sequence, but already pointed out as fundamental in importance, the reconstruction of the posterior wall of the canal. The structures which should enter into it are best studied by introducing the finger into the abdominal cavity before the closing of the peritoneal sac. In many cases it may be sufficient to suture, from below upward, the transversalis fascia and reform the internal ring by closing the structures closely beneath the uplifted vessels. In large, old, deformed herniæ this will usually be insufficient, and many expedients are resorted to for the reinforcement of these structures. It has been urged by some operators to place all the strong structures of the abdominal wall posterior to the cord, covering it only for external protection by the subcutaneous, non-resistant structures. Theoretically this is at fault, since it substitutes in place of the hernia a direct, although small, opening through the entire resisting parts of the abdominal wall, which opening is in the line of the intra-abdominal pressure, and the cord thus disposed lacks its normal protection, impairing the nutrition and normal function of the testicle. Experience has shown the correctness of this criticism. I have operated a number of times for the cure of recurrent herniæ in which failure had followed this method of operation. The hernial opening was directly through the new internal ring above the cord, and the inguinal canal in its true anatomic sense was wanting.

A very considerable number of ingenious devices have been instituted for the reinforcement of the posterior wall of the canal where atrophy of the parts, incident to old pathologic changes, has supervened, e. g., the transplantation of the pyramidalis, the imbrication of the lateral walls of the canal, the interweaving of the peritoneal folds of the sac with the strong, tendinous fibers of the conjoined tendon with Poupart's ligament, etc. These may all, in certain rare conditions, have a proper place and usefulness in the reinforcement of the parts.

In recent hernia, in which the tendon of the transversalis is of normal development, the intrafolding of the yielding part and suturing quite upon the cord from below upward, in order to reform the internal ring, is sufficient. This may be effected by any method of suturing or variety of suture material, but it is of obvious advantage that an absorbable suture material be used, as the suture must be buried. The intrafolded reinforcement is much more neatly effected and the parts held at rest in easy, unconstricted approximation with much less amount of suture material by the use of a double line of continuous suture where only one knot is requisite.

When, owing to long-continued truss-pressure or other causes, there is great relaxation and defect of structures, I have found it by far the simpler and better way to evert the edges of the conjoined tendon and Poupart's ligament, and with a double continuous suture coaptate their posterior borders and close the parts quite upon the cord from below upward to aid in the reconstruction of the internal ring. This not alone re-enforces the parts with firm resisting structures, but the edges of the tendinous structures thus coapted are everted and aid in forming the lateral walls of the reconstructed canal. Thus the parts are firmly buttressed posteriorly and upon either side, while the canal is restored to its full length, thus insuring its normal obliquity.

It now remains only to replace the cord in the sulcus

thus formed, and close over it to its former relationship, the tendinous expansion of the internal and external oblique muscles. In doing this we again form a firm buttress over against the internal ring, which not alone supports it, but restores the valve-like function of the canal when undue pressure is exerted, which, as we have before stated, is the anatomic and physiologic reason why all men may not become easily ruptured. Here again, and for similar reason, we consider it of first importance to use the absorbable suture. A fine, subcuticular, continuous, buried animal suture closes the wound, which is sealed with iodoform-collodion, reinforced by a few fibers of absorbent cotton. This constitutes the only dressing, and the only restraint enjoined upon the young or old is that the movements of the body shall not bring special strain upon the parts involved.

During the process of repair suffering is so minimized that it may be called discomfort rather than pain. Sleep follows without opium; reading and writing are harmless. The enforced period of retention in bed often serves as a sort of rest cure to the overworked sufferer, who returns to his work at the end of his month of comparative restraint refreshed and invigorated rather than weakened by his sojourn in the hospital.

Primary restoration of the parts, when aseptic, well-vitalized structures are alone involved, without infection, is so assured that it is now accepted, if suppuration occurs, that there has been some fault in the technic. This may never be absolute, but in my own experience, extending over a number of years, 2 per cent. covers this defect.

By a general consensus of opinion, danger is hypothetical rather than real. My entire experience covers thirty years of active surgical practice, and includes about 500 operations on all forms of hernial cases. All have made seemingly easy recovery when the intestine was not involved, and as far as traceable quite 90 per cent. have remained cured. This may be an overestimate, since the relapsing cases are, for obvious reasons, the more difficult to trace.

All varieties of suture material have their advocates and, as a consequence, should be considered among the less essential factors. Some of us are greatly troubled in removing silk and wire buried by surgeons who advocate their use. Only the last week I operated on a patient, from a western state, in whom the defect was traceable to painful sinuses discharging for months, from which I removed large loops of thick silk. Not until the patient was on the operating-table did I learn that suit for \$15,000 had been entered against the surgeon who had buried them. This can never be charged as a result of a properly placed aseptic animal suture.

I think my introduction to the profession of the buried animal suture my best contribution to surgery. This was first published in 1871 and was first employed for the cure of hernia in 1870. I used catgut almost exclusively until 1880. For what I considered a good and sufficient reason, about 1875 I discarded silk as a buried suture. After a long search for a substitute for catgut, using the tendons from various animals, in 1882 I found the marvelously beautiful tendons from the tail of the smaller species of the kangaroo. These I have used continuously until the present, and am more than satisfied with their great superiority over other suture material. The collodion seal is a corollary to the buried suture. Not the least value of the suture is that it absolutely obviates the necessity for drainage, permitting the primary closure of the entire wound. The vitalized

serous effusions and leucocytic proliferation should be retained as Nature's "first aid to the wounded."

If our science, our theory and practice go for anything, the making and maintaining of an aseptic wound in aseptic and well-vitalized structures is the practical issue sought and to be attained. This effected, with coaptated like structures held at rest by buried aseptic, absorbable sutures, the only factor remaining to complete our ideal technique is a dressing for the purpose of preventing subsequent infection. This is secured so simply and easily by iodoform-collodion, strengthened by a few fibers of cotton, that this dressing reaches an ideal completion. It is fluid-proof in that no exudate can escape from beneath it, and as a consequence it is germ-proof in that it is by no means possible for any foreign material to enter the wound. Beyond this, it holds the approximated structures in even coaptation, at rest, with a certain fixity of support. Water does not loosen it, and it is detached from the vivified cutaneous cells beneath only by the slow separation of the exfoliated epithelium. If for any reason it is needful to remove it, this is easily effected by soaking in alcohol or ether. The late Dr. John P. Maynard, of Dedham, first made the discovery that the cellulose of cotton fiber was soluble in ether and alcohol, and more than forty years ago gave to the profession this very valuable substance called collodion. Early it was applied for the sealing of wounds, those of a slight character oftentimes healing by primary union, under its protection. It was popularly called "artificial cuticle," but naturally fell into disuse because, when it covered septic wounds it was in the highest degree harmful.

Iodoform is soluble in it and is not injurious to it, and ordinarily it is of little additional value. Under certain conditions I believe it to be inhibitory to the development of the micrococcus albus in the proliferating epithelium, and quite as valuable in this direction as the silver salts, which are much more difficult of application. To one who may doubt the efficacy of a potent agent seemingly locked up in a collodion film, we need only cite the powerful vesiculating effect of the cantharidal collodion. A wound made and maintained aseptic in well-vitalized structures, held at rest in easy coaptation by buried tendon sutures, will be followed by non-inflammatory primary union.

The fear, the anxiety, the constant supervision and watchfulness of nurse and attendant are entirely obviated. Wound supervision is finished before the patient leaves the surgery. Subsequent dressing is of no avail except to keep the parts from extraneous injury. The work of the surgeon for good or ill has its finality at the single period of manipulative intervention.

The surgeon freely profits by the vast contributions of those who have preceded him. It should be his inspiration to contribute as he may be able to this storehouse of knowledge. The individual counts for little, but fundamental principles are enduring. For more than a quarter of a century I have endeavored to emphasize with greater or less clearness the anatomic and physiologic foundations upon which it is alone possible to reconstruct the parts involved in inguinal hernia in the male. These may be epitomized essentially as follows: 1. Free dissection of the parts under aseptic conditions. 2. The proper disposition of the hernial contents. 3. Suture and resection of the sac. 4. The reconstruction of the inguinal canal to its normal obliquity. 5. The buried animal suture, preferably tendon, is absolutely essential in order to effect this. 6.

The closure of the wound without drainage. 7. Protecting the wound with iodoform-collodion seal, and the application of no other dressing.

DISCUSSION ON PAPERS OF DRs. OCHSNER, JOHNSON AND MARCY.

DR. W. B. DEGARMO, New York City.—I consider the first paper a very important one. Children are certainly entitled to a cure, but the question still remains under discussion as to how. I think the author has gone over the subject thoroughly. An important predisposing cause of hernia in children is the persistence of communication between the cavity and the cavity of the abdomen, which Dr. Marcy so clearly pointed out years ago. I think it is a predisposing cause not only in infancy, but rather late in life, and I have seen what we call congenital hernia occurring as late as 21 years. Many of us carry the defect through life. As to the immediate causes, I have developed views which are at variance with the text-books, for in my opinion the most important immediate cause at all ages is constipation. This may not be borne out by the experience of others, but it is certainly true so far as my observation goes. I endorse the list of operative cases as formulated by Dr. Coley, but I hesitate to operate on children under 5 years of age, as I think 95 per cent. of them may be cured by a truss. There is no reason why we should not operate on them, except our natural feeling against operative measures on infants. I can not endorse the treatment of hernia in children by confinement to bed, as they depreciate in health so soon as they are placed there. There are very few cases that can not be treated with the truss and the child be allowed to play around.

As to operative treatment, the method I prefer is Bassini's. The subject of ventral hernia, it seems to me, has been very thoroughly covered. We should stitch up the normal layers of the muscular walls separately in all cases if possible. I think all of us find the relaxation suture necessary, at least in large abdomens, and I usually prefer silkworm gut to any other suture, removed in ten or twelve days.

Dr. Marcy's paper may be disposed of promptly, as I do not wish to criticize it. He was the first man to point out the importance of restoring the obliquity of the inguinal canal, and he was then many years ahead of the times. No man living has pointed out the true anatomical relations as graphically as Dr. Marcy, and we are also indebted to him for kangaroo tendon as a valuable buried suture.

DR. A. H. FERGUSON, Chicago.—The subject of inguinal hernia is a very interesting one, and it is the only portion of this discussion to which I will devote a few minutes. Whatever honor belongs to the radical cure of oblique inguinal hernia by the Bassini and Halsted methods is due primarily to Dr. Marcy, but I must say, however, that I am compelled to take variance with all these operative procedures in the vast majority of cases; in fact I characterize all these operations as shot-gun prescriptions because they do not take into consideration all of the etiological factors. It is true that the rotundity of the peritoneum is restored by tying off the sac, and that the inguinal canal is also restored, but what about the other structures. These are only passive structures and the next in front of the internal ring and canal is the internal oblique muscle, which is the only active muscular protection that the internal ring has. Physiologically it is beautifully protected by this muscle as it runs across to the conjoint tendon from its origin at Poupart's ligament. The normal origin of the internal oblique at Poupart's ligament in the male is a little more than one-half of this ligament, while in the female it arises from two-thirds. This is no doubt one reason why oblique inguinal hernia is more frequent in the male than in the female. When there is a deficient origin of the internal oblique muscle at Poupart's ligament, the active protection of the internal ring is gone and there is an angle. Sometimes this deficiency extends to the anterior superior spine. In 95 per cent. of inguinal oblique hernia there is a deficient origin of the internal oblique muscle at Poupart's ligament. When the intra-abdominal pressure exerts itself and distends the peritoneum and the internal ring, which is composed of the transversalis fascia, then the protecting muscle being absent the hernia protrusion meets with nothing more until it reaches the

aponeurosis of the external oblique muscle in front of the inguinal canal. The point I wish to impress on you is that there is a new etiological factor at work in hernia which has not been recognized, namely, the deficient origin of the internal oblique at Poupart's ligament. I divide the radical cure into two classes: 1. the typical operation, which restores all the structures from within outward and leaves them the same as they are in the normal inguinal region, and 2, plastic operations which are necessary to strengthen specially weak points in the hernial region, caused by congenital defects or by pressure of hernial contents or a truss. No young man should be allowed to go on wearing a truss until his abdominal wall has thinned out.

DR. W. J. MAYO, Rochester, Minn.—I think the author of the first paper called your attention to an important point when he said that by putting these children in bed, carefully correcting their diet, and relieving them of their constipation and any urinary disturbance, a large percentage would be quickly cured. The paper by Dr. Johnson is also an important one. It is not necessary to add anything to what has been said by Dr. Marcy, but there are one or two practical points I would like to mention connected with the cure of hernia. I have no idea of discussing the Bassini operation, but the most important point about it is that he divides the scar. Instead of being brought together in a single line it is divided into two lines. In the Johnson operation the first line of scar tissue is protected by Poupart's ligament, and the outside line by the oblique layers of muscular tissue. This method can be carried to other parts of the body and you can divide the scar in a ventral hernia in the same manner. Umbilical hernia is one of the most difficult that we have to deal with and usually occurs in fleshy people. If you put them on their back and ask them to rise up, you can easily determine where the recti muscles are, which may be separated several inches. If you make the incision down to one side of the sac you can examine the inside and the contents, and cut off the omentum at the base. The operation can be done either laterally or transversely.

DR. A. J. OCHSNER, closing.—Theoretically it is always bad to put children in bed when they can be treated without. If treatment by means of a truss is as effective as treatment in bed then the latter is wrong. If you put the child in bed in the inverted position, you give the mesentery an opportunity to shorten, and at the same time take care of the intra-abdominal pressure, which is due, as Dr. DeGarmo has said, to constipation. It is also, however, due to the pressure necessary to overcome the gaseous distention. As a matter of fact, by overcoming these difficulties, the children improve so enormously that in my experience weak, emaciated children, whom you would consider in good condition to contract almost any disease, will build up wonderfully. I have not seen one single child which did not improve enormously while in bed, and consequently the objections which would suggest themselves to any one are eliminated. I would like to ask the members to try this form of treatment, as I have been greatly pleased with it. It consists simply in keeping the hernia sac empty, and in keeping away the abnormal intra-abdominal pressure.

DR. H. O. MARCY, closing.—We will all agree with Dr. Ochsner that children are benefited by rest in bed, and I think that they are benefited also by early operation. Why should we have institutions for the young intended to prevent these children entering life handicapped by hernia if it is not safely a preventable condition? As to ventral hernia, it seems to me that this is a simple thing to avoid. In the last 1500 laparotomies I have had but one hernia; of course I speak of aseptic laparotomies. If you prevent ventral hernia you will save much subsequent suffering. If the cases are restored cured, the way to do it is to build it back to its normal anatomy, and reconstruction of the abdominal wall in layers will do this. I think the problem of hernia is practically settled. There were a few fundamental principles mentioned in the paper which I did not read, owing to lack of time. A man should be a thorough master of the technic of hernia and the operation should not be confined to a few men. We must remember that 3,000,000 people in this country wear trusses. The large ma-

majority of this great truss-bearing army are entitled to be cured.

Dr. M. M. JOHNSON, closing—As regards restoring the normal layers if possible, I would say that in a large number of ventral hernie following appendectomies there has been a long process of suppurating and drainage, often followed by a loss of tissue and atrophy, to the extent that all the lines of the normal layers are obliterated. It is in this class of cases that you must unite the parts en masse, as stated in my paper.

HYDRENCEPHALOCELE.*

CARL BECK, M.D.

NEW YORK CITY.

The prognosis of hydrencephalocele, formerly so extremely unfavorable, has become more promising under the auspices of asepsis, as well as under those of the Roentgen rays, which have but recently added a further element of better knowledge. As an illustration the following cases may serve:

CASE 1.—A boy of 5 weeks of age well nourished and otherwise normal, shows a spherical, non-pulsating tumor of the size of an orange, projecting from the nasofrontal region and sinking downward to the *ala nasi*. (Fig. 1.) At birth the tumor was a trifle smaller. The family history shows nothing abnormal. The father is a German laborer, the mother was born in New York City. Both parents are anemic. The mother was a multipara—four previous children—and the confinement was normal. In connection with the question of injuries being etiological factors in the defects of development of early intrauterine life, it is interesting to note, that the mother fell from the fourth story of her residence eight months before confinement, escaping with a fracture of three ribs and of the olecranon and a contusion of the knee. Pleuritis followed the thoracic injury, but recovery took place three weeks afterward.

The walls of the tumor were thin and the integument appeared normal. Contractions of the tumor were observed, especially while the child was crying. During sleep the tumor appeared somewhat smaller. There was exquisite fluctuation and the contents could almost entirely be pressed within the skull, which procedure did not cause any reaction. Neither pulsation of the brain could be detected, nor could the border of the cranial opening be distinctly felt.

In view of these facts, especially of my inability to palpate so solid a mass with certainty, I diagnosed meningocoele, and thought of aspiration followed by the injection of a small quantity of iodoform-glycerin.

The Roentgen rays, however, modified my views. A skiagraph (Fig. 2) showed behind the light shade, representing the fluid, a dark one, which had to be interpreted as a solid mass confined to the area of the large triangular bony opening. That this was cerebral substance could be verified by the subsequent operation.

The skiagraph also showed that the nasal bones were shifted downward so that an interspace of the width of a man's thumb was left between it and the frontal bone. Now I dropped the idea of the treatment by injection and proceeded to excision, which was done without anesthesia. After constriction at the base of the tumor for the purpose of ascertaining whether cutting off the circulation and pressing upon the contents would produce any reaction, a prophylactic silk-suture was conducted around the whole circumference

of the tumor at its base, in order to be able to control any excessive hemorrhage by quickly pulling the suture-ends together. Now, an elliptic flap was dissected from the center of the tumor and the cavity opened laterally. After about one tablespoonful of normal cerebral fluid had escaped, further exposure of the sac revealed its lining, consisting of *dura mater*, partially protecting degenerated cerebral substance. Near the base, according to the darker shadow of the skiagraph, cerebral substance, covered by dark-red, velvety, succulent and easily-bleeding tissue, was protruded. After severing the protruding portion from its lateral connections, which were thinly spread over the walls, it was possible to reduce it into the cranial cavity. Two-thirds of the sac was removed and the remaining stump was freed from the frontal bone, including periosteum, until apposition without tension could be obtained. The edges were then united with thin formalin-catgut and supported by another row, consisting of the overlapping



Fig. 1.—Nasofrontal hydrencephalocele in a boy of five weeks of age.

soft tissues. Finally the skin edges were united with stout silk. Although the loss of blood was scant, the infant appeared very anemic after the operation and refused nursing until two hours afterward. No stimulants were administered. There was no reaction, and to-day, ten days after the operation, the wound is perfectly healed and child appears normal in every respect.

A skiagraph taken one week after the operation shows that the bony canal became somewhat smaller.

Another skiagraph (Fig. 3) taken six months later showed considerable narrowing of the bony canal, the nasal bones also having approached the *os frontis* in the meanwhile. The child has developed well and is normal in every respect. (December, 1900.)

CASE 2.—A boy, 7 weeks of age, whose family history reveals nothing abnormal. The parents immigrated from Polish-Russia several years ago. The mother is a multipara and is, like her husband, fairly well nourished.

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This child, otherwise well developed, shows an ovoid tumor, the size of which exceeds that of his head, and projects from the foramen magnum. The walls of the tumor, which, if not held, sink down alongside the spinal column, are moderately thick at the center and very thick and hairy at the base, while at the translucent tip they are very thin. The translucent area, which contained cerebral fluid, fluctuates, while the remaining portion is solid. The fluid can not be pressed within the skull. The skull appears microcephalic, the sutures thick and the fontanelles small.

The tumor has slowly enlarged since birth. The child has nursed well. It can not cry, but moans once in a while in a voice which has an animal timbre. It never cried like normal children. During moaning slight pulsation of the tumor could be observed. There was always considerable restlessness.

Ophthalmoscopic examination was thus very difficult, but it could be ascertained that the child was blind.

Four different efforts to get a skiagraph were made, but the restlessness of the child also prevented a fair reproduction. Still the fact that there was a pedicle, of moderate size, apparently not in entire connection with the brain, could be registered.

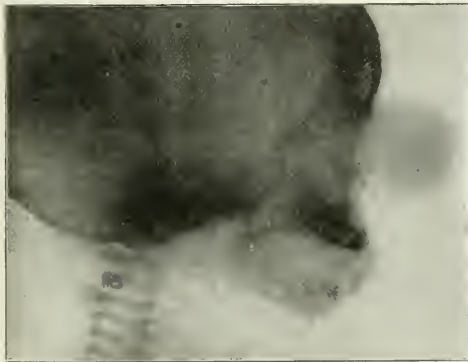


Fig. 2.—Hydrencephalocele—skiagraph of Fig. 1—showing hiatum between nasal and frontal bone and fluid and solid portions.

Aspiration and injection of iodoform-glycerin were advised as a first therapeutic step, but in the meanwhile kind neighbors suggested to the parents that they could earn a fortune by exhibiting the "freak" at a dime museum. So the child was freely handled until two weeks later alarming symptoms set in, the child refusing nursing and going into convulsions several times a day. I now saw the child again. The translucent portion of the tumor appeared congested. The temperature was 102.4 per rectum, and pulse and respiration were also higher than normal. The typical danger of all hydrencephalocèles, spontaneous rupture of the sac—which meant death—appeared to be imminent. Considering the absolutely fatal prognosis of hydrencephalocele in the case of non-interference, I advised immediate excision. After ascertaining, by a rubber tie, that constriction of the base of the tumor had no dangerous effect, I proceeded to the ablation of the tumor. When the sac was first opened at the tip about two ounces of a slightly yellowish, opaque fluid escaped. After further dividing the integument, subcutaneous tissue, fat, interspersed muscular tissue

and dura, the solid contents, which appeared like normal brain-substance, presented themselves. They contained the distended posterior cornua of the lateral ventricles and the thalamus opticus covered by normal pia. The basis of the tumor was in connection with the brain by a pedicle of moderate circumference.

After ablation the basal edges of the wound were inverted and united by formalin-catgut. The skin-flaps were secured by stout silk and protected with iodoform-gauze-collodion dressing.

Although there was no loss of blood, constriction being upheld until apposition, the child presented the symptoms of shock until an hour after operation, the body remaining motionless, the respiration slow and irregular and the face appearing very pale. Nursing was refused until five hours later. On the following day the child's condition was good, the temperature and respiration being normal and the pulse only slightly accelerated.

On the third day the temperature was 104.2, respiration irregular and the feeble pulse could not be counted. Stimulants had no effect. Exitus occurred on the fourth day, apparently from purulent meningitis. The autopsy was declined by the orthodox parents.



Fig. 3.—Skiagraph of Case 1, taken six months after removal of hydrencephalocele, showing considerable narrowing of the bony canal—the nasal bonea having approached the os frontis.

In view of the pedunculated form of the tumor an operation at an earlier stage would probably have saved the child's life. Still, considering the microcephalic condition of the head, the desirability of such a result could be questioned.

In connection with these histories, I may also refer to a case of encephalocele concerning a poorly-nourished boy of 3 months of age, suffering from complicated hare-lip and cleft palate at the same time; he gives a good family history. The father is a German laborer. The mother, a multipara, was born in New York City. At birth, a globular, pulsating tumor was detected, which had moderately increased in size since. With a broad base it springs from the contracted skull laterally from the superior angle of the occiput. The child had slight attacks of spasms once in a while.

The treatment was very simple. It consisted in exerting pressure by a large iodoform-gauze-collodion dressing, which had the slight disadvantage only, that after long employment dermatitis set in. Under this pressure treatment, the tumor diminished gradually in

size and disappeared entirely in the course of a year. In the meanwhile the hare-lip, as well as the cleft palate, were also successfully operated on. Now the child is 2 years old and enjoys perfect health.

SYMMETRICAL DEVELOPMENT,

OR DOES OUR PRESENT SCHOOL SYSTEM DEVELOP THE HIGHEST POWERS OF THE PUPIL?*

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"Man is the noblest work of God," the acme of creative energy in the world, and the grandest product of cycles of evolutionary progress. While all this is true, still, owing to his exceedingly complex organization and unstable equilibrium, he is very liable to derangements which, unless promptly corrected, rapidly lead to deterioration and decay. This tendency has made the subject of evolving, or developing man's highest powers and noblest characteristics a theme which has received the earnest attention of the greatest philosophers, educators and philanthropists the world has produced since the earliest dawn of civilization.

The kind of education that will best equip the individual for the most complete living and enable him to do the most good in the world has always been a momentous question, but as mind gains a greater ascendancy over matter, and the forces of nature are called into requisition to do the work of the world, properly developed bodies, well-trained minds, and fully-rounded moral natures are becoming of increasingly greater importance to secure a true civilization.

The spirit of greed and rapacity which "would wade through slaughter to a throne, and shut the gates of mercy on mankind"; which would erect an oligarchy for the benefit of the few, and reduce the great body of the people to veritable slaves, can only be checked and higher ideals substituted, by a better and more effective education for the masses of the people.

In order to obtain a clear conception of man's organization and the possibilities of his powers, it is necessary to take a comprehensive view of his nature, and know something of the physical, mental and moral potentialities impressed on him through ages of evolutionary progress. Unless we enter on the study of the best methods of developing man's highest and noblest powers with a broad and comprehensive view, we are almost certain to become ardent advocates of some partial and restricted system which trains and cultivates certain of his powers to the neglect of others. If our minds are carried away with the importance of physical training we are liable to overlook or neglect the mental and moral attributes of his nature, in which case we would probably produce excellent specimens of ancient gladiators, modern prize-fighters, or conscienceless bullies; if we are imbued with the transcendent importance of the mental powers, and devote our whole attention to their cultivation, we may produce prodigies of youthful precocity, which, owing to undue development or shattered physical powers, or perverted moral natures, land in premature graves, drag through life miserable, suffering wrecks or become harpies and fatten on society, or, if not so successful, criminals and fill our jails and peni-

entiaries; or, lastly, if our whole attention is devoted to moral training, we will probably have as a result a lot of physical nonentities and mental incompetents, in short, useless or worse than useless fanatics.

With the dangers of partial or one-sided development clearly before our minds, I desire in this paper to emphasize the importance of the simultaneous, symmetrical development of all the powers, physical, intellectual and moral.

In order to obtain a secure foundation for so important a work, it is necessary that parents, and especially teachers, should have at least a clear outline knowledge of man's phylogenetic development. Every one should know that "a child is born with organs, aptitudes, powers, possibilities, desires, impulses, and with instincts, but is without knowledge, habits or moral character;" also that the child instead of being a "little man" with the same thoughts, feelings, inclinations, capacities and powers only on a smaller scale than a man, is in truth an altogether different being, and may be aptly characterized in his various stages of development as an epitome of the development of the race. He passes through the successive stages of savagery, barbarism and semi-civilization before attaining to the full civilization in which we live. During this progress the spectral forms of his dead ancestors surround him on all sides, and the mighty mental accumulations and beliefs of a long-forgotten past impress on him the various stages of credulity, inquiry, faith and full-blown reason through which these ancestors have passed.

They should know that in both organization and function there are great differences between the adult and the child, and their nurture and training should be different, and made to conform to their organic and functional capacities.

The glands, heart, lungs and muscular and osseous systems of the child possess a high degree of organic and functional perfection, and this would logically seem to indicate that the proper exercise and development of these various organs and systems is the rational and proper occupation of the child during childhood and early youth. In support of this inference it may be said that in the savage and barbarous stages of race development, to which the child corresponds, these organs and functions are developed to a high degree of perfection.

Such things as weak, flabby muscles, flat chests, failing hearts and impaired digestive organs were unknown, because their existence would have meant extinction to their possessors. The muscular, osseous and respiratory systems were developed to a high degree of perfection, which was not attained by disuse and confinement in illy-ventilated rooms for a considerable part of the day, and the whole of the night, but by a careful and systematic exercise of the parts undergoing development.

But while the physical organization was systematically developed and had attained a high degree of perfection, and the special senses, especially the sight and hearing, were carefully trained from the earliest childhood until they became phenomenally acute among savage races, the intellectual faculties in many particulars remained in a rudimentary state. The powers of continuous mental application, abstract reasoning and broad generalization were unknown in the savage, and were only acquired by the race through the slow gradual process of evolution.

While, as above indicated, the organic development and functional capacity of the heart, lungs and glandular organs, and the muscular and osseous systems of the child at birth have reached a high degree of perfection,

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on the other hand, his nervous system is in a very immature and undeveloped state, and does not reach full maturity until about the age of 33 years. The brain of the young child as compared with that of the adult, contains a larger percentage of water, is softer, more easily irritated, and is much sooner fatigued on mental exertion; but on the contrary, the perceptive faculties, whose development depends on the training of the special senses, are keen and alert, and attain a high degree of perfection if given an opportunity in childhood to develop in accordance with the laws impressed by nature upon the race throughout the ages. With these fundamental principles clearly in mind, let us now see whether our courses of study and methods of instruction are based on a correct foundation and are in harmony with the evolving powers of the child. Right here I desire to say that any criticisms I may make on existing conditions or methods are not made in a spirit of fault-finding, or for the purpose of casting reflections on our great army of teachers, who are, as a rule, faithful, conscientious and sincere workers, often laboring under great difficulties and struggling against unnecessary obstacles, but solely for the purpose of calling attention to some evils which the best interests of our seventeen millions of pupils demand should be corrected. Parenthetically, too, I want to say that hereditary defects, improper home-training, dietetic errors, late hours, parties and all that kind of dissipation are not laid at the door of the schools, but are matters which should be corrected by the parents.

With the way thus cleared, and surrounded by a group of earnest, trusting 5-year-old faces, let us follow them to the kindergarten and see what should be, and what is being done for them. Here, if they are so fortunate as to have a teacher imbued with the true spirit of Froebel's teachings, they pass a happy time, and receive much benefit. Their books are plants, flowers, trees, fruits, birds, insects and the various objects, animate and inanimate, of the external world by which they are surrounded. The everlasting hills, rising in majesty and grandeur around them; the sighing of the wind among the trees, the murmur of the brooks, the glorious sunsets, the autumn forest with all its gorgeous hues and kaleidoscopic changes, in short, the almost infinite variety of objects and the innumerable beauties of nature can be made most impressive sermons by the true kindergarten teacher, sermons that will sink deep down into the soul of the child, and leave an impression on its body, its mind and its character which the storms and the vicissitudes of life will never obliterate. But, alas! Such teachers as we have in mind are like angel's visits, rare, indeed, and come like a ray of hope from the great beyond.

In the great majority of instances, even the life of the kindergarten is smothered by the blighting curse of formalism and routine, and instead of being a blessing it becomes a curse, and through ignorance or disregard of the most rudimentary physiological laws, lays the foundation of physical defect or disease. But, you may ask: On what grounds do you make such statements? In the first place, as Maudsley has very beautifully shown, it requires frequent repetition and long-continuation of a sensory impression to make a well-established pathway to and from the brain, over which such impressions may be conveyed with the greatest ease and accuracy. Every one knows how exceedingly difficult it is to become a skilled pianist, or to attain proficiency in any work requiring delicate, rapid and finely co-ordinated muscular movements. Long and careful prac-

tice is devoted to securing facility of the coarser muscular movements, and when this has been accomplished, the finer and more delicate movements are gradually acquired. In kindergarten work this fundamental physiological law is often ignored or transgressed. The children, instead of first having been carefully trained in the coarser muscular movements, which are brought into play in walking, running, playing, skating, horse-back riding, molding in clay, building objects of various kinds with large blocks, gathering flowers or geological specimens, or the many other ways that naturally suggest themselves, are put to sewing and various occupations that not only require delicate and accurate co-ordination of the muscles brought into play, but also throw a great strain upon the eyes and are responsible for much of the myopia and other defects of vision which are becoming so prevalent in our schools.

The second fundamental physiologic principle to which I desire to direct attention—and I want to insist upon this, because it applies not only to the kindergarten and primary grades, but to all grades of our school system—is, that in the child and youth the association fibers which connect or unite the various brain-centers are in an undeveloped state. Owing to this condition the various brain-centers are largely isolated, and must depend on their own nervous energy in the performance of their special functions. This explains why young children are unable to concentrate their attention on one subject for any great length of time; why they tire so easily; why they become restless, and why they should have frequent changes of work as well as periods of rest and intermission, to permit the tired brain-centers to regain their strength and tone. As the child grows older, these association fibers gradually develop, and distant brain-centers are connected and can work together harmoniously and assist and strengthen each other.

In order, however, that this cerebral development may be the most symmetrical and perfect, it is necessary that the motor brain-centers be developed simultaneously with the higher intellectual centers.

To secure this result requires pure, rich, vitalized blood, and a proper exercise of the functions on which the development of the centers depends, or in other words, to have well-developed motor-centers the pupil must have plenty of plain, nourishing food, pure air and outdoor exercise. When these conditions are complied with the intellectual centers rapidly store up power and at the proper time produce most wonderful results, as has been so often illustrated in the history of our country and that of other nations, and explains why Franklin, Webster, Lincoln and hosts of others, with meagre educational facilities, became intellectual giants and shed glory and luster over our nation. It also explains why our old-fashioned country schools, with all their drawbacks, crudities and imperfections, but free from the high-pressure cramming, artificial and, I might say, diluting methods of our graded schools, brought their pupils closer to the great mother nature, and permitting their brains to develop slowly and acquire power, have accomplished so much good.

The old motto *mens sana in corpore sano* is just as true as when written, and should appeal to us with even greater force than to those for whom the words were penned centuries ago. While this truth is beginning to be appreciated by educators, and much attention is given to athletics and physical training in some of the higher institutions of learning, in the great majority of our town and city graded schools proper physical cul-

ture and bodily development are either inadequately cared for or entirely ignored.

I desire to call attention to the following errors which I believe are common in a great majority of our schools:

1. During the early, plastic years of childhood young children are given too many studies.

2. The daily sessions are too long.

3. Recitations are generally too long.

4. Intermissions or periods of relaxation are not frequent enough, and the children do not have enough exercise in the open air, with free spontaneous, unrestrained play.

5. Pupils are frequently deprived of the privilege of attending to the calls of nature.

6. The system of examinations generally followed is attended by many evil results.

7. Many teachers resort to cruel, dangerous and harsh punishments, instead of whipping when corporal punishment is necessary.

I desire to say that these conclusions do not represent my own unsupported opinion, but are entertained by many of the most prominent educators and physicians in our own country, and, indeed, I might say, the world.

First, let us briefly consider the school buildings, their surroundings and the teachers. While many of our school buildings are models of beauty, comfort, convenience, and fulfill hygienic requirements admirably, on the other hand, in many places, especially in the large cities, accommodations are entirely inadequate, and thousands of children can not be admitted to them for lack of room; many of the rooms are poorly ventilated and dark, it being necessary to keep the gas burning in some the whole day, which renders them unfit for school purposes. There is much over-crowding, many teachers having from 75 to 150 pupils.¹ In this connection I desire to call attention to the timely and exceedingly valuable suggestion of Dr. J. C. Culbertson, a member of the Cincinnati school board. Dr. Culbertson has made a careful study of the health conditions in the schools of his own city, and strongly recommends that when it is necessary for cities which have facilities for rapid transit to build new school houses, they should be built out in the country, where large play-grounds, pure air, sunlight and ideal health conditions can be secured. I consider this a most excellent suggestion, and if carried into effect I believe it would rapidly improve the health of city pupils.

We are justly proud of many of our teachers, but while this is true, the fact must be admitted that there is a decided lack of professional *esprit du corps*, and a large percentage have never been properly trained for their work; only about 15 per cent. have taken a course of professional training in normal schools,¹ and many lack that thoroughness of education necessary to make them first-class teachers. A large number do not expect to make teaching their life-work, but merely a stepping-stone to some other profession or calling. Thus it will be seen that while occupying a position of the utmost importance and most far-reaching consequences, the majority of our teachers lack one or all of the requisites for successful teaching, namely, enthusiasm and natural ability for the work, thorough education and careful professional training. The result of this is that in many schools the work, instead of being inspired and vitalized by a love for truth and a desire to penetrate and understand the secrets and laws of nature, is dull and mechanical and consists principally in routine and cramming for examinations, which, as you all know, has little real educative value.

Children Are Given Too Many Studies.—The great increase in recent years of the number of subjects included in our common and high school courses compels pupils to take too many studies at the same time, thereby creating a tendency to superficial and imperfect work, and the pernicious habit of leaving a subject before it is thoroughly understood. It is very seriously doubted by many of our best educators whether the breadth of culture thus gained is not more than counterbalanced by the lack of thoroughness and mental power which were acquired by students of fifty years ago. No one who has seen the pale, delicate children groaning under a load of books almost too great for their strength can doubt that the pushing, crowding and high-pressure to which they are subjected from the time they enter until they leave school have a very deleterious influence on healthy physical development, and are responsible for a large part of the dyspepsia, nervous irritation and mental irritability which, unfortunately, have become such prominent characteristics of our people. Young children are not only given too many formal studies, but some studies for which in mental development they are entirely unprepared and can not comprehend. As a notable example of this I desire to call attention to the everlasting number-work and arithmetic drill which appear to have become a mania with the majority of teachers in our schools to-day. From the time the unfortunate children enter the first primary grade through the eight long years, until they emerge from the grammar course they are subjected to a continual grind in number-work, problems and examinations. Morning, noon and night these are a veritable "old man of the sea" to them, hanging like a pall over their hours of leisure, and even invading their dreams; they become not only a menace to the health and happiness of the children, making them cross, nervous and irritable, but also a nuisance to their parents, who can not enjoy a quiet half-hour because a puzzled child can not solve a long list of problems far beyond its comprehension, and appeals for help. But, after all, what results are attained by this work, worry and grind? I believe I am justified in saying that they are nearly always inadequate and often a dismal failure, and that any 11 or 12-year-old pupil who had never looked into a written arithmetic, but who had been carefully drilled in mental arithmetic, can do better work and obtain a clearer comprehension and more thorough grasp of the subject in three or four years than the struggling child obtains by its eight years of arduous and detested toil.

If it is true, as claimed by the eminent psychologist, Prof. G. T. W. Patrick, of the University of Iowa, that the child does not reach the "arithmetic age" until about the age of 10 or 11 years, we have good grounds for recommending that this useless arithmetic grind, this brain-irritating and mind-paralyzing exercise be banished from the schools, and that the time now worse than wasted be devoted to acquiring a knowledge of the fundamental facts of botany, geology, zoology and other subjects that the children can understand and enjoy. If such a course were adopted the children could be brought into closer contact with the beauties and wonders of nature, and in an informal way, receive a clear insight into her mysteries. By putting much of the primary work on the basis of pleasant diversion, the pupils would not only learn more about the various subjects thus taught than if presented in a formal way, but they would, in addition, acquire a physical strength and moral uplift which would enable them to overcome easily the otherwise serious obstacles of their formal

work. The barren rules of grammar would crystallize into the charming beauties of applied language, and hitherto dry and barren subjects would reveal unappreciated beauties.

The Daily Sessions for Young Children Are Too Long.—It was a revelation to many people, and especially to the educators, that when manual training was introduced into some of our city schools those pupils who devoted a considerable part of each day to this kind of work not only made as good progress in their regular studies, but even excelled the pupils who devoted the whole daily session to study, while at the same time they enjoyed better health, were more contented and happier.

The same thing is shown in the schools where, owing to over-crowding, some of the pupils can only attend school half of the daily session. In these cases it has been found that the half-day pupils accomplished as much or more than those who were in school all day. Indeed, as Dr. J. C. Culbertson² well says: "Manual training, and so-called Sloyd work, should be made part of the regular course of study in all schools." "All boys and girls should be educated in the use of their hands, so that these members of the body can and will co-ordinate with brain functions." "This means everything through life, including self-sustentation, self-reliance and individual independence."

Time will not permit me to enlarge on the many advantages arising from manual training; to point out how the training of the muscles develops the controlling motor-centers of the brain and produces a broader and richer sensory content, a larger and more accurate knowledge of the world and a deeper insight into the forces and laws of nature. This training and co-ordination of the muscles develops the motor-centers of the brain, develops the association fibers which bind together and strengthen the three billion nerve-cells which go to make up the nervous system, and at the same time, by removing irritation and giving nature a chance, favors the storing and up-building of power in the higher brain centers which in later years, dominating and supported by a magnificent physical organization, assume a commanding position both in the world of thought and of action, and produce most wonderful results, while the poor, hollow-eyed little pedant, the youthful prodigy, with his stimulated, irritated and weakened brain and mind is relegated to a life of mediocrity or is consigned to the grave or an asylum.

Recitations Are Generally Too Long.—The power of concentrating the mind is very limited in the young child. In a very few minutes his interest and attention begin to flag, and if the attempt is made to compel him to continue the work after this point is reached he becomes fatigued, nervous and restless, and such attempts are not only barren of good results, but are positively injurious because in the first place, impressions made on a tired brain do not last, and the attempt to fight against nature is without any permanent good result, and secondly, because such work irritates and weakens the unstable brain. With young children during the first five or so minutes, when their faces glow with enthusiasm and they give close attention to the work in hand, good is being accomplished, but as soon as it requires an effort of the will to follow the work, and they become tired, they are being injured, and the recitation should stop at once, even if not more than one-half the routine time has been occupied. Change their work or turn them out to play and you will accomplish much better results than if you attempt to im-

pose undue burdens on the protesting brain and convert a soul-inspiring work into a detested drudgery.

Intermissions or Periods of Relaxation Are Not Frequent Enough, and They Do Not Have Enough Exercise in the Open Air, With Free, Spontaneous, Unrestrained Play.—Play is a God-given impulse implanted in the child for its protection and development, and the more thoroughly this subject is studied the more strongly does the truth impress itself on rational thinkers that nature's ways are far superior to man's ways and should be as closely followed as possible.

Who does not sympathize with the little boys and girls who prefer to go to the fields, woods and hills to gather flowers, watch the birds and squirrels, collect insects, chase butterflies and moths or examine the rocks on a bright, warm spring day, rather than sit in a musty school-room? I tell you, my friends, the children are right. The voice of Nature is crying within them for physical, mental and moral pabulum, and we are giving them the stones of a barren routine, or an indigestible man-made dietary.

There is a disposition on the part of some teachers to do away with the old-fashioned, open-air recess. They advocate in its place calisthenics, or some kind of formal exercise. In the whole range of educational subjects there is no question fraught with more important consequences to the children than that of proper sanitary surroundings, and ample provision for healthful outdoor exercise. As previously indicated, the brain of the child is unstable and easily irritated. Nerve force rapidly accumulates in the motor centers, and unless frequent opportunities be given for its discharge in muscular movements, the attempts to inhibit these movements by will power will not only set up irritation of the brain, make the child peevish and unamiable, injure its health and interfere with its proper physical development, but will at the same time weaken the mind and defeat the very object for which long sessions are intended, namely, the accomplishment of the largest amount of work in a given time.

Oxygen is necessary to produce nerve force,³ to stimulate the respiration and circulation of the blood, to develop the muscular system and to destroy the poisons continually accumulating in the system, and since no room with from 40 to 60 pupils can be occupied much over an hour and the air be fit to breathe without dangerous drafts being created, pupils should have a 15-minute, open-air, out-door recess in the middle of each long session. During the recess the windows should be thrown open and the rooms thoroughly ventilated, the foul exhalations eliminated and the air vitalized. This out-door exercise is best for the child because it removes him from the monotony, formalism and routine of the schoolroom and enables him, yes, compels him, to inhale full draughts of nature's life-giving element, pure air, to free his system from accumulated poisons and spontaneously to develop his powers and adjust himself to his environment.

A properly conducted recess not only increases the sympathy and fraternal feeling between pupils, increases their physical strength and enlarges their intellectual and moral horizons, but it also draws them closer to mother nature, the source from which to derive true power and inspiration.

While I do not want to be understood as opposing calisthenics and gymnastic exercises, because properly conducted they are very useful adjuncts and give gracefulness, vigor, bodily symmetry and pleasure, I do want to protest against the custom of supplanting the out-

door recess by these exercises, which in recent years has crept into some of our schools.

Notwithstanding the fact that the great majority of our educators and nearly all our most eminent physicians strongly endorse out-door recesses with free, unrestrained, spontaneous play, still enough teachers supplant them by calisthenics to do a great deal of harm.

During spontaneous play the motor nerve centers discharge their stored-up nerve force involuntarily, spontaneously and without effort on the part of the higher brain centers, while on the other hand, calisthenics and gymnastic exercises require considerable effort of the will in directing their various movements, so that at their close the higher brain centers, instead of being rested and strengthened, are more fatigued than at their beginning. Such exercises soon become distasteful and a drudgery, and as the distinguished author and educator, Joseph E. Baldwin, very tersely says: "Drudgery hurts, and does not help. Work and then play is the Divine plan. We may easily quadruple the value of our schools by studying to keep our pupils fresh. Strong men find recreation a necessity; how much more must immature pupils play as well as work, and thus grow. He who helps to lead the school-world to play wisely deserves to be crowned as a benefactor." As to the frequency of recesses, he speaks as follows: "The hygienic and educative benefits of the hourly recess are incalculable; young children soon become fatigued, and so we make their periods of work very brief. The periods of work are lengthened as the pupil advances. The fatigue limit is a great practical study. Much may be done to keep pupils fresh by having easy work follow difficult work. Change rests, but periods of absolute freedom are indispensable. In schools of the future it is believed a recess of ten minutes will be given at the end of each hour." In contrasting romping and calisthenics, the eminent surgeon, Frank H. Hamilton, says: "Calisthenics may be very genteel, and romping very ungentle, but one is the shadow, the other the substance of healthy exercise. Girls need health as much, nay, more than boys. They can obtain it as boys do, by running, tumbling, by all sorts of innocent vagrancy. At least once a day girls should have their halters taken off, the bars let down and be turned loose like young colts."⁴

In the middle of the day the pupils should have a full hour or more in which to eat a warm lunch, and give the digestive process a chance to be properly begun. Giving pupils a short intermission at noon in which to eat a cold lunch, composed principally of pickles, rich cake or pie, which are the only things their perverted appetites crave, is the fertile source of many digestive, assimilative and developmental troubles which curse their subsequent lives.

Children Should Be Given Free and Ample Opportunity to Attend to the Calls of Nature.—To most persons it may seem that this admonition is entirely superfluous, and that the dictates of humanity and common sense would make this privilege universal. From my own personal experience as a member of a school board, as a practicing physician and from quite an extensive correspondence with teachers, educators and physicians, I am sorry to say that the practice of denying pupils this privilege is more prevalent than I would have believed it to be without a thorough investigation. Indeed, I am satisfied that even superintendents and principals of schools do not fully appreciate how frequently teachers err in this matter. This can probably be explained in part at least by the fact that it is a delicate subject about which parents do not like to make com-

plaint and which does not receive the attention and discussion in teachers' meetings that its importance deserves.

Whatever may be the causes of the practice, it exists to a greater or less extent, and exerts a most baneful influence both morally and physically on the pupils subjected to it.

As every one should know, the disregard of, or failure to attend to, the calls of nature promptly is the source of many physical ills, and may be the cause of life-long disease and misery. In the first place, it may produce chronic constipation, which, as every physician knows, is a regular Pandora's box of evils, and may lead to the gravest consequences. The toxins produced by the retained fecal matters are absorbed into the circulation; they penetrate to the most remote cells of the body; they poison the blood and the brain, lower the vitality of the body and weaken the mind. This poisoning causes headache, neuralgias, lassitude and malaise, which make work a drudgery and life a burden. It is even asserted by Dana "that organic changes in the central nervous system are doubtless due to the absorption of toxic substances produced by microbic processes in the alimentary canal." By clogging the system with effete matters digestion is impaired, nutrition rendered imperfect and growth and development retarded.

The strain on the bladder caused by efforts at retention may lead to paresis, incontinence of urine and chronic inflammatory conditions of the bladder, and the irritation and congestion thus produced may cause irritation of the sexual organs and lead to secret vices, thereby wrecking the child, not only physically, but morally as well.

Too Much Home Study Outside of School Hours Is Required, Especially of Young Children and Girls at Puberty.—This question as to the amount of home study that pupils should do outside of school hours is a very important one, and one about which there is a wide divergence of opinion. There can be no doubt that if children could have plenty of out-door exercise in pure air, surrounded by proper moral safeguards, and the time now devoted to entertainments, parties and other social dissipation were largely spent in sleep or devoted to healthful recreations, or a judiciously selected course of general reading, they would enjoy much better health and be better off in every way without any formal home study. Such conditions, however, are difficult to secure, and when it comes to a choice between allowing children to run the streets and be brought in contact with the demoralizing influences which they must meet with there, I think they had better have at least enough home work to keep them away from evil associations.

Whether home study will be beneficial or hurtful to a child depends much on the surrounding conditions, and the motives or incentives that prompt it. If done through enthusiasm, or a love of truth for the truth's sake, the results will likely be beneficial; if, on the other hand, the child is compelled to study by the slave-driver's lash or threats of failure and disgrace, the effects will in all probability be injurious.

Unfortunately, under our cramming, high-pressure method of education, with its frequent examinations and grand-stand plays for public show and approval, truth is lost sight of and the children are spurred on and incited to cram, memorize and fill themselves up for examinations and public exhibitions, regardless of the permanent effects of such a course. This sort of work keeps the child in a constant state of worry, anxiety and excitement; the brain is irritated, the vitality lowered,

the mind weakened and the importance of truth and honesty lost sight of. Under such a system even the brightest and best pupils will lie awake nights and worry over their grades, their examinations and their promotions, when never a thought or care on such matters should disturb them. Nor is this evil confined to the higher grades of the schools, but applies to many pupils in the primary grades.

The period of puberty is one of rapid development and growth, and makes great demands on the strength and vitality of the child, who, as a consequence, should be very carefully protected against mental worry, overstimulation, undue excitement or anything that will divert the vital forces from the great work which they have to perform.

Dr. Miller² very clearly depicts the condition of the child as follows: "The child fatigues much more readily, that is, his organism is much more quickly depleted and poisoned during the period of most rapid growth. The average boy has the most rapid growth between the ages of 14 and 16." In these two years he increases in weight by as much as he did during the entire six years preceding the age of 14. At this period of most rapid growth, the period of pubescence, the brain loses considerable weight, because of the fact that the usual blood-supply is lessened by a portion being withdrawn to nourish the viscera and other organs undergoing revolutionary changes during this period. While the weight of the brain is only one forty-fifth of the weight of the body, it requires one-eighth of all the blood to nourish it. At no time in his whole school career is the boy so deserving of sympathy as at the time of most rapid growth. In all learning, two features are involved: proper presentation of material by the teacher, and proper attitude of the mind on the part of the pupil. Seldom, if ever, can the latter condition be supplied by the boy or girl in the midst of the physical and mental revolutions and evolutions of pubescence. The great curse of the age is the demand for rapid education. Parents and teachers crowd the children through a long year's work. Health is sacrificed for promotion. What is learned while the child is fatigued is soon lost, the mind's force being equally dissipated. Vital force is required faster than it is generated. The work of today is done on to-morrow's credit, and the system of a child is wholly at a loss to protect itself against disease and accident."

While the above is true of the boy, it applies with still greater force to the girl, on whose system the physiologic processes of puberty make greater demands than they do of the boy, and in addition to performing the same work as her brother in school, her parents are not only ambitious that she shall take high rank in the regular studies, but also that she shall acquire the accomplishments, such as music and painting, at an early age. Is it any wonder then that under this high pressure and stimulation the girl, robbed of rest, sleep and exercise, fails to develop into perfect womanhood. The nervous force so necessary at puberty for the establishment of the menstrual function is wasted on what may be considered trifles compared with perfect health, and the poor sufferer adds another to the great army of neurasthenics and sexual incompetents which furnishes material for the neurologists and gynecologists. Every physician who has given any thought or attention to the subject can doubtless recall many cases of broken health, unhappy homes and wrecked lives due to over-work and lack of exercise while in school.

Examinations.—The question whether the present

methods of conducting examinations do more harm than good is very important and deserves careful consideration. There can be no doubt that where pupils are subjected to an everlasting grind of monthly examinations, term-examinations and annual examinations, and are continually being reminded that if they do not do this or accomplish that they will fail to pass and not receive their coveted promotions, great injury is done. I believe that when pupils are subjected to such a system, and in addition have the misfortune to be under teachers who, failing to realize or appreciate their true needs, give them puzzling problems or work that will mystify them, or is too difficult for them to perform, the examination becomes a menace rather than a help to the pupils. They are worried, annoyed and kept in a constant state of mental excitement from the time they enter the primary department of the public schools until the doors of the university close upon them.

Insufficient or no time is given for original observation and investigations, for that calm deliberation, serious reflection and earnest thought so necessary to make thorough students, ripe scholars, good citizens and the best type of ladies and gentlemen. These things are sacrificed in order to give place to facts and details which will make a brilliant show before the public, that will convert the pupils into smoothly working machines which turn out elaborate and highly ornate work to dazzle the dear people and impress them with the wonderful things the educators are doing.

This system of substituting names and shadows for things and realities, especially when conjoined with the pernicious practice of awarding prizes, not only impairs or ruins the health of the pupils, but has a very degrading effect upon them from a moral standpoint; because, instead of imbuing them with a love of truth for the truth's sake and impressing them with the fact that truth, honesty and justice are the grandest possessions in the world, a high grade or class standing is made the *summum bonum*, often regardless of the manner in which it is obtained.

Any teacher, by a careful system of grading recitations and a systematic preservation and inspection of the work done by the pupils, together with a general review of the subject-matter gone over, say three times during the school year, can arrive at a much fairer and better knowledge of the capability and progress of the pupils than can be obtained by continual examinations.

Moral Training.—During the plastic years of childhood and youth more attention should be given to implanting correct moral and ethical principles; because it is better to inspire the heart with a noble sentiment than to teach a fact of science, and because truth, honesty, nobility of character, good manners and a proper regard for the rights and feelings of others are of much greater value to the child than all the mere book-knowledge in the world. It ought not to be necessary for me to suggest that the personal actions and behavior of the teacher are of supreme importance in moral training. Teachers who are not perfectly truthful infect their pupils with falsehood and deceit; those who can not control themselves and disregard reasonable rules and regulations destroy the regard for law and order in their pupils, and help to increase the army of anarchists. The child should be taught to rely on his own powers, and be made to feel that he is an important element in the social organism; that it is his duty to work, not only for his own individual advancement, but to do everything in his power to promote the health, happiness and welfare of his fellow men.

Punishments.—The pendulum of public and professional opinion has swung far in the opposite direction from the harshness and undue severity of our forefathers. While in the great majority of cases this benign rule is salutary and highly commendable, still in many instances it is so obscured by namby-pambyism and hypercritical pretensions on the part of a certain class of judges and teachers, who strive to gain popularity by condemning corporal punishment in any form, that it not only demoralizes the pupils and furnishes a constantly increasing supply of material for our jails and penitentiaries, but it is also supplanted by much more brutal and inhuman forms of punishment. How many teachers and superintendents who would not give a boy a richly deserved whipping on a switch or soft strap, for fear of leaving discolorations on the skin, will pull his ears, strike him over the head with a heavy book or the hand, grasp him by the shoulders and jam him down into his seat. If it is necessary to resort to corporal punishment in a school, let it be administered only after careful investigation and due deliberation, calmly and without passion. Superficial discolorations, caused by a light switch or soft strap will not injure any boy who really deserves corporal punishment, but may do him a great deal of good.

Conclusions.—In conclusion, then, I desire to emphasize the following points:

1. The physical, intellectual and moral powers of the pupils should be developed at the same time.

2. Parents and teachers should thoroughly appreciate the fact that in its development the child is an epitome of the development of the race, and possesses many of the impulses and passions incident to the savage, barbarous and semi-civilized phases through which the race has passed, and that, in order to attain the best results, the instruction must be carefully adapted to the ever-changing, ever-varying needs and to the comprehension of the child.

3. As "teaching is the art of promoting human growth," the successful teacher must understand his own powers and limitations; he must understand the growing pupil and be able to put himself in the latter's place, and he must have a thorough knowledge and grasp of the subject taught. Teachers should have a more thorough and comprehensive knowledge of the laws of mental development; a better understanding of educational methods and the best means of imparting instruction. To insure such knowledge and teaching power, the rank and file of teachers should have a more thorough education, a more careful professional training and preparation for their work, and, last, but by no means least, they should be better paid, and thus encouraged to make teaching their life-work.

4. We need more enthusiasm and less routine; more original investigation and search after truth for the truth's sake, and less cramming for examinations; less talking and lecturing on the part of the teacher, and more time devoted to training pupils in systematic and logical analysis, and in clearness and accuracy of expression.

5. Then, too, not so many studies should be pursued at the same time, but the work should be more thoroughly done and a stronger grasp of the fundamental principles on which all true education depends should be secured. To get time for such training, the number-drill and arithmetic, together with other formal and abstruse work should be greatly curtailed or entirely omitted from the primary grades and the children should be given greater opportunities to study natural

objects in their natural surroundings. The study of flowers, trees, rocks, birds, animals, insects, etc., in their natural conditions and environments is of infinitely greater value to the pupils than the fragmentary conception of such things that can be given to them in the schoolroom in the midst of artificial surroundings. In addition to imparting more exact information, the outdoor excursions furnish healthful exercise, inspire enthusiasm, rest and strengthen the brain and mind and elevate the pupils morally, while the indoor study of such objects soon becomes a drudgery and is of comparatively little benefit.

6. More time and attention should be given to manual training. This training of the muscles develops the motor centers in the brain, discharges the accumulating nerve force in the motor centers, develops and strengthens the association fibers between the various brain centers and permits the higher brain centers to develop normally and store up power. This gives the student a richer sensory content, a more harmonious physical and mental organization and a better-balanced moral nature.

7. Greater care should be exercised in promoting the health and proper physical development of the pupils.

8. All harsh and dangerous punishments should be banished from the schools.

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THE CONTROL AND PREVENTION OF EAR DISEASES AMONG SCHOOL CHILDREN.*

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History shows that it is difficult to develop equitably the mental and physical nature of human beings, and that periods noted for great bodily vigor are often deficient in corresponding mental growth. Even now, with added wisdom as to their co-relation, and the best intentions, undue stress is too often laid on one or the other. So in the recent past the mental condition of the child has received the bulk of the attention of educators and it has remained for the past decade to bring into prominence the fact that mental health and activity is not an independent entity, but is inextricably connected with the physical condition. To-day physical examinations are instituted in nearly all our colleges, in most of our preparatory schools and in many advanced private as well as public schools.

Perhaps no physical function lends itself more to mental activity than acute hearing. Whether in the human race hearing is present at birth or some months thereafter, it is easily observed that this faculty dominates the earliest sense impressions. As a human being is first of all a social creature, dependent on human intercourse for mental stimulation and for food-thought, the faculty by which we obtain this must affect tremendously for good or evil the mental and, indirectly, the physical condition. The truth of this can be most readily seen by noting the effect of its absence. Then the

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important part that sense plays in developing the mental condition and character becomes apparent, and we find that the word "deaf" is almost instinctively followed by "dumb," and that together they have an implied meaning beyond the statement of the physical condition, being synonymous with stupidity, moroseness, laggardness, and want of ambition. There are wonderful and noted exceptions to this, but we speak of the average.

Many a supposedly stupid child has really a bright mind, but suffering from undetected or neglected defect of the hearing, is not fitted to grasp instruction and information imparted for the benefit of large classes of normal children, and the hurried teacher or parent, unable to give the particular attention demanded, the child falls farther and farther away from the ordinary standard. Now, deafness or partial impairment of hearing is no rarity in school children. According to statistics, a degree of impairment in both sexes of one-third or more from the normal standard exists in both ears in about 7 per cent., and from 13 to 25 per cent. in one ear.¹ Of course, the deaf mutes and idiots are not included in this percentage. It is less frequent than deficient eyesight, which, according to Allport² is present in from 25 to 50 per cent. of school children. Investigations looking to the obtaining of statistics may seem to flavor a little of paternalism, but without doubt it is of direct benefit to the child, the parent and the teacher, as well as to the human race, and can readily be justified on these grounds.

It is becoming increasingly difficult for the head of a family to make a living, and his labors leave at best but an hour or two for his family, and the recognition of this overtaxed home life tends more and more to throw part of the responsibility, formerly borne by the parents alone, for the children's physical well-being on the school authorities and teachers. That part of the children's physical being which more especially concerns the teaching authorities is that concerned with the acquisition of knowledge, and, therefore, any deficiency in sight or in hearing interferes with the work they are expected to accomplish, and often explains why some children are so backward, even at times almost stupid, with their work. The advantage of testing the sight and hearing and the observation of any deficiency with a further step looking to its correction must at once appeal to all who have the welfare of the school child at heart. Recognizing these facts, several Western cities, particularly Minneapolis, Milwaukee and Chicago, have tentatively applied methods and suggestions looking to this end with advantage for a varying period of years, until now Dr. Allport's methods, or modifications thereof, have been adopted in them all. As defects of vision are more obtrusively apparent than those of hearing, eye examinations alone were originally advocated. Now the ear being included the observations are much more valuable.

Omitting all reference to the eye examinations, and coming around to the question of the hearing, we will find that the tests can be easily made with a fair degree of accuracy.

If the pupils are examined by the teacher, the work should be done in a fairly large room, preferably before school hours, and each case examined should be asked, whether he has pain in either ear, whether he ever has discharge or odor from either ear, whether he breathes freely through either nostril—he can determine this by holding the finger over either nostril, breathing through the other—whether he usually breathes through his mouth, whether when he awakes

mornings his throat is dry. Now, closing one ear with a piece of rubber placed over the end of the child's finger, ask him whether he can hear you distinctly while you are talking to him at a distance of twenty feet; ask him questions requiring direct answers while at this distance. Then take a watch and hold it about five feet from his ear and ask him to tell you when he hears it, gradually approaching it nearer and nearer to the ear. It should be heard at least three feet or more from the ear. Now test the other ear in the same way.

If, in any of these respects the pupil seems to be defective, the fact should be noted on a printed sheet and the parents notified of such deficiency and advised to consult any reputable specialist.

Of course, this work would probably be more accurate if placed directly in the hands of a school physician salaried by the city—the statistics gathered by him might prove of great value, as he undoubtedly would keep accurate records of all the cases examined, and would be able to classify cases and conditions and produce reports which would be of service to the medical profession, as well as the teaching staff, whereas the teacher, having neither time nor knowledge to do this work, can be expected only to keep a list of the children examined and to record the cases of impairment of these senses, losing all the other valuable information obtained from testing the healthy children.

Dr. Allport's original suggestion for conducting these tests of the special senses was to have an oculist and aurist appointed by the board of education, who should superintend the tests, collect data, make reports, etc. The examinations were to be made by principals and teachers; those pupils found defective, with their names, condition, etc., were to be enrolled on statistical blanks, on which in due time the result of treatment on special organs and general health and conduct should be noted. These blanks were to be handed to the superintendent and to the board oculist and aurist, who were to file them and report on their findings to the board of education.

As, however, boards of education are not always kindly disposed toward this method, objecting in some cases, to the appointment of physicians, in other cases objecting to compelling superintendents keeping statistical reports, other expedients were adopted. Such objections existed in the Chicago schools,⁴ where now the examinations are made by the teachers and principals in accordance with the instructions of Allport's combination card, and which has careful instructions for the guidance of teachers appended. The Milwaukee public schools use a sheet and warning card, by Dr. Würdemann, which is similar to the Chicago card, and contains in addition instructions for ear examinations.⁵

By means of systematically pursuing this work the teacher can become a force for good in overcoming deafness and deficient mental development of the before-mentioned 13 to 25 per cent. of school children, or detect incipient trouble when discovery and prompt treatment is worth so much to all concerned.

By such means as these are the parents aroused to take a more thorough oversight, and the common causes of ear disease⁷ in children will be the better known and avoided or overcome by their care. To-day, enlargements in the throat and nose, perhaps the most frequent of the causes of such disease among children, are usually neglected and as for catarrhal conditions, they are but rarely treated in children, unless they become sufficiently grave to affect the general health. Among the frequent underlying causes of deafness⁸ among children is the

throat and nose complication of the acute fevers—unfortunately, there is often no effort to prevent the development of ear involvement, because the disease itself demands all our attention, but even then much can be done by the prompt application of common sense to prevent it assuming often a serious form.

The enlargement of the nasopharyngeal gland, or third tonsil, results often in violent ear-pains followed by inflammation of the middle ear, with suppurative discharge, or it may cause deafness without perforation and suppuration, and even without pain.

Patients will soon learn that the thorough scrubbing of the ear, instead of being a health measure is rather a cause of disease; they will also learn that the nose douches so prevalently used are generally misapplied. When used, the solution should invariably be warm and the pressure employed be barely enough to force the fluid through the nose into the throat.

They probably will soon have called to their attention that vomiting in children is a source of ear disease, especially, I hope, will they learn that the regurgitation of food in infants may cause serious mischief in the ears. By the application of common sense with experience, they will be taught that the period of dentition is a critical period, so far as the integrity of the throat, nose and ears is concerned; that this is a period of increased activity of this region and any irritant applied here at this time is apt to be followed by ill effects.

All these thoughts will, I hope, be stimulated into existence in the average parent through such systematic examinations of these special senses and prove of great value to all concerned.

It follows, necessarily, that the examination of nose and throat is imperative whenever the hearing is deficient, and that inflammations or lesions of nose and throat liable to involve the ear, but not yet affecting them, can not be taken too seriously. Pharyngeal adenoids, so common in children, as well as enlarged tonsils and polypi, should be removed as soon as possible⁹, and catarrhal affections treated and hypertrophies reduced before the ear structures become affected. Unless this be done the needless sacrifice of life, hundreds of children dying yearly from middle-ear disease discovered only after death—as well as the sacrifice of health and usefulness—will simply continue indefinitely. Such desirable results will be greatly facilitated by the systematic examinations of the hearing of all school children and a statement of the necessities of any defective case, to the parent by the school physician or teacher. Pupils, parents and teachers would alike be benefited by such a course. The physician also would gain much, in that he would receive his cases earlier in their history, and would usually have a remedial condition to deal with in place of the thankless, tedious, up-hill fight attended with little satisfaction, either in profit or in gratitude and appreciation of his patients, and sometimes even of his brother physicians.

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THE ANTECEDENTS OF ORGANIC HEART DISEASE IN CHILDREN.*

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In every dispensary or hospital for the treatment of diseases of children, and also to almost the same extent in private practice, there are seen many cases of organic heart disease in later childhood where only few facts bearing directly on the etiology can be found. In adults the case is different, because in them many of the organic valvular defects and many of the murmurs produced by degenerative changes in the myocardium are due to wear and tear necessitated by the conditions of life. In adults also disease of the heart secondary to lesions in other organs—notably the kidneys—and to errors in metabolism is encountered more frequently than in the case of children. In childhood these factors do not enter except in occasional instances, and the occurrence of endocarditis or of myocardial changes giving rise to cardiac signs and symptoms must in them be attributed to the occurrence of infection.

Under the heading of infection should be considered not only such diseases as are accompanied by a classical symptomatology, and therefore designated by a specific name, but also the minor affections which are so frequent in childhood. This frequency is due undoubtedly partly to the "tenderness" of the skin and mucous membranes at this period of life, partly also to the fact that many of the major infections especially attacking children are apt to leave the mucous membranes in a condition very liable to infection. I have elsewhere shown that angina can readily be followed by endocarditis, and while this was no new discovery and had been recognized by others, I feel that the very occurrence of such an association should cause us to feel that other minor and frequent local lesions may be followed by inflammatory disease of the valvular apparatus of the heart. Ordinarily in obtaining the past history of cases of cardiac damage positive facts can be obtained only in regard to such diseases as the eruptive fevers, while ordinary colds, angina, gastrointestinal infections and similar apparently minor conditions are either forgotten or are considered too trivial to mention. Nevertheless any of these, it is fair to presume, may possibly give rise to visceral complications if the infecting agent is sufficiently virulent or the vital resistance of the child's tissues sufficiently lowered.

For the purpose of obtaining some idea as to the relative frequency of various diseases occurring in the past history of children with chronic heart lesions, I endeavored to study the notes of a number of cases of the latter trouble. The study was necessarily incomplete owing to the impossibility of obtaining accurate past histories of cases, especially in hospital work. Many of the histories that were available to me I did not use because of the absence of internal evidence that a sufficiently careful inquiry had been instituted by the

* Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

interne. For instance, in a very large number of cases there is no evidence to show whether the interne had questioned the child's parents in any but a most general way, while many stated that the child had "passed through the ordinary diseases of childhood." The number of cases, therefore, for study had been disappointingly small, but I hope that the figures given may at some time be combined with others and make a number sufficient to permit us to arrive at some conclusion. Excluding all those which do not come up to the standard which I had fixed in regard to accuracy, I found that there were only 75 histories remaining which I was able to study in the time at my disposal. I have purposely omitted from these cases previously reported by me as having followed minor infections, inasmuch as the addition of these cases would give an undue proportion of examples of cardiac damage following one particular source of infection. I have therefore taken without selection, save in regard to completeness and accuracy of the history, consecutive cases of cardiac disease admitted to the hospital because of heart lesion. Of these 75 cases 3 were said to have never had any prior illness before the onset of cardiac symptoms. The most frequent preceding illness was rheumatism; this, of course, would have been expected; yet among the 75 cases a history of preceding rheumatism was obtained in only 34, considerably less than 50 per cent. That this low percentage represents fairly accurately the frequency of rheumatism on these cases is rendered certain from the fact that owing to the well-recognized association of articular rheumatism and cardiac lesion, its prior existence would certainly have been determined in any case where the past history was investigated at all. Rheumatism was the only preceding disease mentioned in 16 of the cases; in the other 18 cases it was variously combined with a history of measles, whooping-cough, chorea and other ordinary infections. In a control series of 75 cases admitted for troubles other than cardiac disease, rheumatism occurred in only one case.

The history of measles was that given most frequently after the disease last mentioned. The occurrence of this disease was noted in 24 of the 75 cases, while in one case it was the only disease mentioned in the past history. It would, of course, be unfair on account of this frequency to consider measles the next most frequent causative factor after rheumatism, inasmuch as measles is undoubtedly the most frequent infection in childhood; in the 75 control cases without cardiac disease measles was noted 43 times. Whooping-cough preceded cardiac lesions in 19 cases, and was the only infection noted in one case. Among the 75 control cases, whooping-cough had occurred in 37. This relative proportion in the two sets of cases must be considered as accidental, as it is impossible to conceive of any preventive rôle that could be played by whooping-cough in relation to cardiac disease. The disproportion of chorea in the past history of cardiac and non-cardiac cases is very marked. Among the 75 cardiac cases it had been present 16 times, while it had only occurred in 2 of those without cardiac lesion. Scarlet fever had been present in 11 of the cardiac cases, in 3 of which it was the only preceding illness. Among the 75 cases without cardiac disease scarlet fever had been present in 7. The frequency of diphtheria in the past history of the cardiac and non-cardiac cases is so nearly equal—8 in the former and 9 in the latter—that it can be thought to have practically no influence. Pneumonia preceded the development of cardiac symptoms in 6 cases, while its relative frequency in children may be somewhat determined by the fact that it had been

present in 4 of the 75 cases without heart lesion. Curiously enough, variella resembled whooping-cough in the relatively greater frequency with which it had been present in the cases of children with healthy hearts as compared with those with cardiac disease. In only 5 of the cases had chicken-pox been present, while it occurred in the past history of 14 cases of diseases other than those of the heart. Mumps occurred in the past history of 4 of the cardiac cases, in only one of those without heart disease. Typhoid fever was mentioned in the past history of 4 in each class of cases. In 2 of the 75 cases of heart disease repeated attacks of tonsillitis had occurred, in one no other disease having been experienced, in the other the patient having suffered from measles and whooping-cough. The fact that among the 75 cases without cardiac disease there were none giving a history of repeated attacks of tonsillitis has but little value as positive evidence, because such attacks are not made the subject of ordinary inquiry and are not readily remembered by the parent, while I strongly suspect that in the 2 cases where such a history had been elicited the obtaining of the information was due to direct questioning by internes who knew of my interest in this subject. Among the 75 cases, the other diseases mentioned as having occurred in the history of the patient were cerebrospinal meningitis, 2 cases, one of which had had no other illness but pneumonia, and the following illnesses had each occurred in one case: meningitis, rubola, gastro-enteritis, "indefinite illness," pleurisy, chronic bronchitis, acute nephritis, cholera infantum and osteoarthritis.

Without further analyzing the results of the examination of these 75 histories, I would merely mention the main facts in regard to the diseases ordinarily supposed to be frequently followed by endocarditis. Rheumatism, as I have said, had occurred in only 34 of the cases, chorea in 16, scarlet fever in 11, diphtheria in 8, while in 14 of the cases none of these diseases last mentioned had been experienced by the child. If the small control series of cases can be taken as any guide, it would seem that measles, variella, whooping-cough and typhoid fever have little or no influence in the production of endocarditis. We must therefore attribute many of our instances of inflammatory lesions of the endocardium to the slighter infections, such as coryza, various skin lesions, affections of the mucous membranes of the throat and nose, and the infections of the gastro-intestinal tract. The number of cases analyzed by me is very small, yet I believe that as far as they go they point to the necessity, which theoretically every one realizes, of a careful examination of the heart, both during and after slight infections, and that this organ should be a matter of careful inquiry as much in those last mentioned as is the case with the more severe infections like rheumatism and scarlet fever.

DISCUSSION ON PAPERS OF DRs. BECK, STUVER, BARTLETT, LAUTENBACH, AND PACKARD.

DR. C. F. WAHNER, Fort Madison, Iowa.—I sometimes think it would be a good thing if at some time in life every physician had been a teacher. It may be I have been prejudiced by my own experience. For a number of years I was a teacher, and had quite a varied experience in this respect in academies, high schools and colleges. This is a great problem before us, because we lack the co-operation of the municipal authorities in the larger portion of the United States. We have no systematized laws existing between health authorities and schools, and when physicians wish either as private citizens or professionally to initiate reforms they meet with opposition from their professional brethren, who say that they are only doing

this to advertise themselves. You see we have trouble in our own ranks. It is true that in large cities like Chicago, Philadelphia, St. Louis and New York there is an effort made to exercise some medical supervision over the school children, but that is not yet as it should be. In the rural districts, and the smaller cities this is all left to what influence we can exert through our patients.

I want to say regarding overwork, that I have very little if any sympathy for the kindergarten system, for, already overcrowding and overramming have taken hold in these schools, and the little ones have been taken away too soon from their parents. I think we send our children to school too early, demand too much of them, and the school curricula are too extensive. In some schools there are children of 8 or 10 years of age who should be spending most of their time on fundamental principles of education, yet these children are already studying Latin, algebra and abstract thinking. The result is an abnormal product—a prodigy—of which I am sorry to say parents and the public generally are often strangely proud. Many children we know are handicapped by disease; they are choreic or have other nervous troubles; they are affected with tuberculosis or scrofula, whatever that may mean. These children should not be in schools, but should be out-doors playing and breathing fresh air instead of being confined in schools and compelled to study from 9 till 12, and from 1 to 4 o'clock, and then take home a satchel full of books and study until bed-time. This is overwork, and it produces neither a healthy physical system nor mental system. Many children are handicapped by chorea. It may be of the kind produced by an affection of the nervous system; it may be of the hysterical kind. Not very long ago, what might be called an epidemic of chorea broke out in the schools of my town. A child had been promised a bicycle, but did not receive it, and the result was an attack of chorea. Very soon afterward there were about a dozen children in that school affected with chorea. I tried to interfere, but was told it was none of my business.

I believe if there is any one thing on which we can use our influence, and which needs our help, it is the improvement of our public school system. In the large cities teachers are overworked because of the constant additions made by superintendents, often merely to gratify personal vanity. Instead of adding more work to the already overburdened pupils and teachers we should endeavor to lighten this work. I am neither pessimistic nor retrogressive in my ideas, yet I wish to ask, in spite of all the popularization of education, how many Miltons, Homers and Platos have we had in the last four centuries? We can not make scholars of all persons any more than we can make gymnasts and sprinters out of all. The examination system is the most abominable one ever devised. What is the use of a competitive examination between a pupil who learns a lesson at a glance and another who plods and studies for hours over the same lesson? You might with equal propriety institute a comparison between a thoroughbred trotter and an ox for speed and their respective merits as coaches. Could you not decide the matter without an exhibition of speed between the two? So can a teacher who has had children under her care for months, nay, years, decide which one should be promoted and which one kept back without the nerve-exhausting and unfair test of an examination every month or two. Mere knowledge, the acquisition of so many facts, is not what counts in the equation of life, but the use any one can make of what knowledge he possesses, is the real value. At present, the only thing we can do is to create healthy sentiments among our patients, until laws are passed on these lines.

DR. E. E. GRAHAM, Philadelphia.—The mere fact that these processes are developmental shows that they are normal. It is just as normal for the child at the age of 6 or 8 years to be going through certain developmental processes as it is for an infant of seven or eight months to get the first tooth, or the child of 4½ years to complete dentition. There can be no question that during the development of the function of an organ, that organ can be easily overworked; but it is a great mistake, I think, to place the blame on the former development of a function and not on the strain or overwork of that function. If we are willing to admit that during the period

of early school life—from 6 to 9 or 10 years—there are certain normal processes going on in the body, and, of course, we are willing to admit that the developmental process is very active at that time, why should we put down such normal process as a cause of disease, or of a "break-down?" Instead of making that contributing cause we should put the blame on the strain of such things as weekly competitions. In the public schools, the children are graded almost invariably every week or two. In later life, as in medical schools the grading is done at the end of the first, second, third and fourth year, and it is well known that the strain on the ordinary medical students at that time is very quickly recognized; the students are very much prostrated after examinations. Now, if the child of 6 or 8 years is put through this test every week or two; if twice a year the child is graded and made to understand that a certain examination must be gone through successfully or else the work of the previous six months is lost, there is little doubt that the nervous powers of these children will be overstrained. Again, the school hours are too long, and the terms are too long; for, while at this season of the year the medical schools are closed up, the little children in the public schools are still attending school. This is a question which we should face and consider, as we meet with it almost every day in our work. We should consider also if improper diet and insufficient sleep are not often contributing causes.

DR. J. L. SUTHERLAND, Grand Island, Neb.—We have had it impressed on us year after year, that our public school system is very faulty. The more one studies the question in all its bearings, the more he is apt to think it a stupendous undertaking to remedy the evil. To my mind, outside of the larger cities perhaps, this evil should be overcome to a great extent by simply instituting two measures. 1. Making the qualifications of the teacher greater, and 2, allowing him a little more latitude in the exercise of his functions. I mean by the first that the teacher should be required to know a little more of human nature. Teachers should be able to gauge the individual capacities of the pupils under their charge, and should grade the requirements accordingly. No teacher should be employed at the present day who has not the ability to tell, after a few months, whether any pupil under his charge is or is not fit to pass to the next grade. A little more latitude in this respect would enable us to do away with the examinations for promotion, and by this alone, a large part of the present existing evil would be thus eliminated.

Another thing, politics has too much to do in our school boards. A man who puts himself forward in the interests of our suffering school-children, is looked on as a crank, and no matter how superior his education, if he does not belong to the political combination he can not get on the school board; and even then, a comparatively ignorant majority on the board will prevent his doing much good. Whenever a physician in his own humble way undertakes individually to correct some of these evils, his motives are often impugned by some of his fellows, who claim that he does it for his personal aggrandizement. I wish to say that there is too much in our school curriculum, and much of it is absolutely unnecessary. It would be far better to let the younger element out to study birds, flowers, rocks, etc., part of the time. In a paper which I presented to our state society three years ago, I touched on this subject, taking the liberty to criticise our public school system and to offer a few suggestions. And I repeat now, that if these evils are ever to be eradicated, the medical profession will have to do the larger share. We will have to keep on in the rôle of educators, and we will have the consciousness of having tried to do our duty, and perhaps will succeed in causing both parents and teachers to see that the physical well-being of the child is entitled to some consideration, and that education means something more than the "cramming" a young head with a certain number of facts, many of which it does not understand.

DR. FRANK ALLPORT, Chicago—I am particularly interested in the examination of school children's eyes and ears, and what I say will bear on this. Some years ago, investigations along these lines were made in Germany. Ophthal-

mologists were appointed by municipal authorities, to go from school to school and personally examine scholars. Valuable deductions were obtained. The same plan was operated in Philadelphia by Risley and his associates, but while the method of examination answered very well in monarchial Germany, where people are more accustomed to obey authority, it proved too oppressive in America, and so much ill feeling and jealousy was engendered among the laity, and in professional circles, that the plan was abandoned, and never revived.

Some years ago, when living in Minneapolis, I conceived the idea of a systematic examination of school-children's eyes and ears by teachers, which I placed in operation in that city at the request of the Board of Education. The plan consists simply of the annual examination of children—under the instruction of an eye and ear surgeon, appointed by the board—by teachers, by means of simple and pointed questions, easy to ask and easy to answer. Teachers say they feel unqualified to act in this capacity. This is an untounded objection. Teachers are not expected to become physicians or diagnosticians. They are simply requested to ascertain a few easily accessible facts, and to separate those children having good eyes and ears from those having bad eyes and ears. It is surely simple enough to ascertain whether a child habitually suffers from red eyes, headaches, cross-eyes, discharging ears, mouth-breathing, and whether they can read certain print at given distances, or hear a whisper at a certain number of feet. These are fair samples of what is to be done, and I am sure you will agree that it does not require a medical education, or a great intellect.

There are ten questions to be asked and answered, and the result will disclose the existence of most serious eye or ear defects. The teacher will not know what the defect is, but she will know that *something* is wrong, and that is sufficient. If a defect is discovered, a card of warning is sent to the parent notifying him of the result, and advising that some eye and ear surgeon of repute, or the family physician be consulted, either privately or at some dispensary. Bear in mind, however, that the parent is not *ordered* to do this; he is simply *advised*. This advice he may totally disregard if he wishes, the responsibility now rests on him. Many parents pay no attention to the cards of warning at first, but do so later, after discovering beneficial results in their neighbors' children. Many never do anything, in spite of repeated warnings. This is regrettable, but it should not discourage us, as a fair proportion of cards produce responses, and good results, and this should reward us for our efforts.

School authorities sometimes complain that the extra labor by teachers is a serious objection. This was a considerable element of obstruction, when the plan was first inaugurated, and a principal examined perhaps 2000 pupils. I have, however, lately recommended that the tests be made by the room teachers, who never have more than 50 pupils under their supervision. By thus subdividing the work, and keeping a few pupils after school each day, a room can be easily examined in a week, and therefore every room in a city can be examined in the same length of time. Besides this the room teachers are better able to make the tests, as they are better acquainted with the defects of their pupils than the principals. Under such a system the 250,000 pupils of the city of Chicago have been easily examined during the last two or three weeks, without inflicting hardship on anybody. I believe that these tests will *lighten* a teacher's labor, for many children are a burden to teachers, and exact much extra work from them on account of defective eyes and ears which, when relieved, proportionately lessen the teacher's work.

An important point in favor of these tests is their cheapness. No salary is involved, and the only expense is for the printed matter, which is merely nominal. For instance, the cost to the city of Chicago will not exceed \$200 per annum. In answer to the question of a gentleman, I will say that these charts, with test letters, and teachers' instructions may be obtained from Almer Coe, optician, 65 State street, Chicago. In answer to another gentleman, I will say that the tests should be made annually, as new children come into the school each year, or pass from grade to grade, and eye and ear defects are

liable to occur in children who last year were healthy. These tests are being received with great favor, over most sections of this country, and I am recently in receipt of a letter from Mr. Bha-Bha, inspector-general of education in Southern India, requesting me to send him charts, literature, etc., as he is about to place the matter in operation in India. I find as a result of my own investigations and the investigations of others, that about 33 per cent. of school-children have defective eyes, and perhaps 20 per cent. defective ears, noses and throats, and I leave it to you to imagine the enormous benefit that must follow the general and systematic examinations of school-children's eyes, throughout the civilized world.

DR. EDWIN ROSENTHAL, Philadelphia—We very frequently notice in Philadelphia cases of hysteria among school-children, especially in precocious children. I have had such children under my care, and have sent some of them to the ophthalmologist simply to learn what effect the fitting of glasses would have on these children. I think you will find almost as many eyeglasses on the children of Philadelphia as among the children of Boston. I believe too little stress is laid on the influence of the family physician on the school life of our children. We have such inspectors in Philadelphia, but they only take into consideration the diseases that are infectious—not only diphtheria, scarlet fever and measles, but cutaneous affections of this class. The system has only been in operation in Philadelphia, about one year, so we can not say how much good will come from it. The family physician has more influence with the school-children than any one else. He has frequently criticized the attitude of the medical inspectors in Philadelphia. This is a mistake, for while these inspectors may not be prominent physicians, they endeavor to do their duty conscientiously and well. If Dr. Allport would bring up this matter of making tests before the school teachers' convention I am sure it would have a great influence for good.

DR. L. J. LAUTERBACH, closing the discussion—The *Ladies' Home Journal* stated in an article that 16,000 children had been removed from the schools of five American cities because of school break-down. This is not such a large number. If you take 250,000 children—the number in Chicago's schools—I am sure you will find a large proportion of those children who will be compelled at some time in the school year to stop their studies. Even this large number might stop work in Chicago alone without being looked on as a very large disproportion, when you consider the frequency of sickness among children. There is nothing more misleading than indefinite and inaccurate statistics. In order to make the above accurate the cities should have been named. Another interesting fact brought out to-day is the one as to the mental development of different periods of school, particularly the fact that school children of 10 years can not fix their attention on a subject steadily for more than forty-five minutes at a time. I look upon this regular annual examination as really a means of preventive medicine. As before indicated, this is not a method for ordering glasses, but when you take into account the numberless cases of chorea, and the frequent development of epilepsy or other nervous disorders arising from a peripheral irritation in hundreds of cases, and remember how busy is the average American parent and how little time he gives to the physical health of his children, the importance of having the teachers make these examinations of the hearing and sight of the pupils must be obvious. There is nothing so wonderful as the supervision, both personal and systematic, in the German schools. By persistence in definite lines of work and a limitation to a few necessary studies these children while still young exhibit a proficiency in languages, sciences and other subjects without any difficulty. One of the speakers seemed to indicate that physical examinations should perhaps be put in the hands of medical inspectors. I am afraid that this is a mistake, and that it would lead to a great deal of opposition. Our object should be to have all the school authorities—whether they be saloon-keepers, merchants or professional men, on our side. It is an unfortunate fact that the moment a doctor wants anything, no matter what it is, or what his object, he will be misunderstood both by his professional

brethren and by the general public. Therefore, everything which we do in this important matter must be so conducted that all the forces needed to help must be secured, and all opposition avoided, if such is possible.

ARTHRITIS DEFORMANS.

ITS CLINICAL FEATURES, DIFFERENTIAL DIAGNOSIS AND PATHOGENESIS.*

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If one may judge from the multiplicity of names that have been applied to arthritis deformans its nature is not so well understood, and I am confident that it often goes unrecognized and is frequently mistaken for some other disorder. In proof of this the disease is variously described as rheumatoid arthritis, chronic rheumatic arthritis, rheumatic gout, rheumatisme noueux, osteo-arthritis, pernicious arthritis, chronic villous polyarthritis, arthritis deformans, deforming arthritis, etc. The designation arthritis deformans, which is generally employed in this country and in Germany, seems to me the preferable; it is sufficiently indicative of the distinguishing features of the disorder; it suggests no relationship to any other disease, such as rheumatism, and it is non-committal as regards its etiology.

I have thought to summarize briefly the distinguishing clinical features of the disease, to speak of the differential diagnosis, and to detail the results of some recent scientific investigations which I believe materially assist in the elucidation of the nature and pathogenesis of the disease. The study of these collectively will then enable us to appreciate fully the therapeutic indications.

CLINICAL FEATURES.

As we meet it clinically, arthritis deformans may develop either acutely or chronically. If the former be the case, the affection is always polyarthritic; if the latter, it is generally polyarthritic, but it may be monoarthritic. The acute polyarthritic form, although it may manifest itself as a primary disorder, usually develops secondarily to some acute infectious process, such as influenza, tonsillitis, gonorrhoea, etc. It usually affects young women, though it is also met in later life. In many respects it resembles acute rheumatism. In fact though the occurrence of acute arthritis deformans is generally conceded, Spender states that while it would be rash to assert that there is no such thing as acute arthritis deformans, the condition so described is usually a pyrexial rheumatic forerunner. This, he believes, in predisposed persons leads on to arthritis deformans proper. In the great majority of persons, however, there is no such predisposition.

The disease generally commences acutely in the smaller joints of the hands and feet. Sooner or later the larger joints share in the process and the disease may sometimes rapidly progress until there is scarcely an unaffected joint in the body. The joints involved present an almost pathognomonic spindle-shaped appearance—the fusiform variety of Garrod as contrasted with the crippling. In some cases there is considerable accumulation of synovial fluid and the ligaments and periarticular tissues seem stretched and tense; in other cases the interarticular fluid is less in amount, but the ligaments are more infiltrated, thickened and softened,

and the joint is correspondingly soft and doughy to the touch. Pain is usually a fairly prominent symptom. At times, where contrasted with the manifest alterations of the joints, it seems rather insignificant. It may, however, be marked, and is always increased on manipulation and motion of the affected joints. Fever usually accompanies the attack, but it is only moderate and of short duration. Muscular atrophy is almost always present from the inception of the attack. It is especially characterized by its selective action on certain muscles or groups of muscles. The lymph-glands in the neighborhood of the affected joints are often swollen and may be tender to pressure. In addition there may be slightly increased perspiration of the extremities, which are often cold; mottling and freckling of the skin; and other vasomotor and trophic disturbances. While, after the lapse of a certain time, the general health of the patient may improve somewhat, the condition of the affected joints gradually becomes worse. Deformities increase; motion becomes more restricted; adhesions between the articulating surfaces of the bones develop; the ligaments become thickened and indurated; osteophytic out-growths in and about the ligaments, bursas, tendons and their sheaths make their appearance; muscular atrophy becomes more marked; dislocations may occur, until the clinical picture resembles that presented by the disorder when chronic from its commencement. In the later stages of the affection, the nature of the case under consideration can be recognized only by a knowledge of its clinical course.

Chronic polyarthritis deformans may be a primary or a secondary affection and it may develop in a variety of ways. It usually comes on insidiously—without premonition. In some cases, however, there are premonitory symptoms, such as paresthesias, neuralgiform pains, irregular mottlings or frecklings, local perspirations, muscular pains, increased myotatic irritability, accelerated action of the heart, etc., but if present they generally pass unnoticed, or are attributed to some fleeting affection. And indeed in many cases such symptoms are correctly ascribed to some other disorder, even if arthritis deformans does subsequently develop. Generally, as intimated, there arises more or less suddenly a painful swelling of one of the small joints of the hand. Soon after, the corresponding joint of the opposite hand may become similarly affected. The pain and swelling may then entirely subside, only to recur, however, in a short time and to progress until the disease is fully developed. Inquiry in these cases will usually elicit the information that the patient is a woman in the fifth decade of life. Garrod found that of 500 cases but 89 occurred in males. Some evidence of hereditary predisposition may be ascertained. The woman's family relations or more immediate ancestors may have suffered with arthritis deformans, gout, rheumatism, tuberculosis, or some one of the long list of nervous disorders. It has been asserted that the daughters of gouty fathers are somewhat prone to develop arthritis deformans. Heredity, however, is of much less significance in arthritis deformans than it is in any of the other diseases mentioned. In addition, the patient will probably have suffered with some derangement of the menstrual functions or she will have had positive disease of the genital organs; she will probably have been unusually exposed to the inclemencies of the weather, or she will have been subject to want, privation, worry, fright, undue fatigue, mental anxiety, or depressing emotions. In younger women the first manifestations of arthritis deformans may follow re-

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peated pregnancies in rapid succession, prolonged lactation, or a puerperium imperfectly recovered from. In other cases, those in which for instance, the foot or ankle is first involved, the patient may be under the impression that the joint must have been sprained but he or she is unable to definitely fix a date for the occurrence of such accident. Under other circumstances, after some undue exertion a sense of weakness, tiredness, or stiffness develops in the back or in the posterior region of the neck. In a few days the corresponding vertebrae become more or less fixed and the disease is localized to this region. In still other cases a distinct injury seems to have preceded the definite localization of the disease in a certain joint; whereas in other instances, an attack of acute rheumatism or gonorrhoeal rheumatism appears to bear an etiologic relationship to the development of the arthritis deformans. There are various other ways in which the disease commences, but the foregoing will serve as types.

In whichever manner the disorder develops, in their subsequent course, all cases present many features in common. Perhaps one of the interphalangeal joints or a metacarpal-phalangeal joint is the first attacked. Not uncommonly, the joints of the first and second fingers are the first involved. Soon, however, the corresponding joints of the opposite hand may become implicated. Or a wrist may be the first diseased and a short time afterward the other wrist may present signs of similar involvement. Curiously the thumb often escapes implication, in some cases entirely, in others for a long time only, while in still others only its metacarpal-phalangeal articulation may become affected. In some unusual instances the last named joint is the one first involved. Usually the disease soon spreads to the foot and the metatarsal and phalangeal articulations exhibit alterations similar to those observed in the hands. Then the knee may become diseased, and this may be followed in more or less rapid succession by disorder of the elbow, shoulder, the temporo-maxillary articulation, and the joints of the trunk. Finally, such may be the ravages of the disease that not a joint in the body will be spared. The patient is then rendered absolutely helpless, but despite this, the poor unfortunate's life may be prolonged twenty or thirty years, until death ensues as a result of some intercurrent affection.

The two distinguishing clinical features of arthritis deformans are the deformities of the joints and the atrophy of the muscles. The former is such an obvious manifestation of the disease as to amply justify its incorporation into the designation given the disease. These deformities are especially characterized by their symmetric distribution and by the marked tendency they exhibit to involve the small joints of the hands and feet and the knees. The appearance of the enlarged joints varies somewhat in different cases and also at different stages of the same case. The enlargement may be slight or excessive and the joints themselves may assume almost any shape. The skin covering exhibits many and varied trophic alterations. It is usually thinned, glossy, and reddened. At other times it presents a bluish tint that is considered quite characteristic. As the conformation of the joint depends in part on accumulation of synovial fluid within the joint cavity and adjoining bursas, in part on thickening and infiltration and the structures about the joint, and in part on osteophytic new-formations and lipping of the articular surfaces of the cartilages and bones, the ap-

pearances vary in different cases. The joints are usually more or less spindle-shaped and this is especially the case in acute cases in which the accumulation of synovial fluid is likely to be marked, as also in acute exacerbations of chronic cases. In some chronic cases also the spindle-shaped appearance of the joints is well marked. In other cases, however, there is more or less of a depression between the heads of the articulating bones. This is evidently produced by softening and disintegration of the ligaments, whereby separation and misplacement of the bones readily result. In the eminently chronic cases, however, the swelling, as a rule, is extremely irregular. In these cases not only is there more or less accumulation of synovial fluid and infiltration and thickening of the ligaments, but there occur in addition, osteophytic out-growths and bony deposits in the ligaments, joint tissues, tendons, sheaths, bursas, etc., as well as lipping of the articulating surfaces, and the utmost distortion results. In some cases the bursal enlargement is markedly disproportionate to the bony outgrowth and leads to great irregularity in the conformation of the joint. This is sometimes well seen on the posterior aspect of the wrist; in many cases, however, it is well observed about the small joints of the hands. In certain cases such is the disproportionate enlargement of the bursas that their contour can be well made out. In some cases the synovial fluid is relatively inconspicuous and the joint is correspondingly dry.

Bannatyne, writing of the clinical aspects of these joint lesions, describes them so well that I am constrained to reproduce his words. He writes: "As to the eye, so to the touch, we find three conditions: *a.* A tense, elastic and resistant swelling with distinct fluctuation, often with secondary sac-like protrusions of synovial membrane—best seen in the joints of the fingers, and evidently caused by the presence of a considerable quantity of fluid under some tension. *b.* A soft, flabby, doughy feeling, as if joints, ligaments and all the surrounding tissue had undergone maceration. Over the joint-cavity there is a sort of depression in the middle of the otherwise generalized swelling and everything feels doughy or pulpy. There is seldom much fluid present in such cases, but they are most acutely progressive. It is usually a secondary stage of the acute form, and shows that much disorganization of the joint has taken place. *c.* The third condition is that described by the French under the name 'arthrite sèche.' In these cases the joints are enlarged and nodular and one feels that the heads of the bones have undergone enlargement; there is much crepitation on movement; joints can with difficulty be moved, and this even, if passive, causes much pain; and there may be ankylosis. It is usually a sequel of the more acute stages."

In every case of arthritis deformans there exists more or less deformity, but the degree of this varies somewhat in different cases. It is usually most evident in the hands and about the knees. In well-marked cases the deformities of the hands consist in deflection, extension and flexion of the fingers. Usually all three are evident in the same case, but in varying degree. The fingers are generally deflected to the ulnar side, rarely to the radial side. The ulnar deflection occurs from the metacarpal-phalangeal articulation, but in addition to this there is often a radial deflection of the terminal phalanx. The latter is generally attributed to osteophytic outgrowths occurring upon the ulnar side; the deflection of the entire finger, however, is

dependent especially on relaxation and softening of the ligaments, in part also on bony outgrowths and the action of certain muscles—the extensors. The fingers, in addition, are usually flexed and extended on the hand, and sometimes they overlap each other. In the early stages of the disease, these deflections may be more or less readily overcome; but as time passes they become permanent and irreducible. This results in consequence of the abundant growth of periarticular osteophytes. Deformities similar to these sometimes arise in the feet, but they are less common.

The knees are usually markedly deformed; they are flexed and fixed. Charcot long ago described the chief deformities, about the knees, as follows: 1. The lower end of the femur projects in front of the head of the tibia. 2. The internal condyle becomes less prominent. 3. The patella, thrown outward, rests on the outer condyle. 4. The head of the fibula projects externally. The ankle-joint is usually firmly ankylosed and the foot and great toe abducted.

Sooner or later the joints become ankylosed. This ankylosis is usually of the fibrous variety, which fact may be recognized by the slight motion possible on careful manipulation. At times, however, even very careful manipulation is provocative of much pain, and, in an effort to prevent it, the passive movement of the joint is resisted either voluntarily or involuntarily by the patient, and thus the character of the ankylosis is again disclosed. Under rather rare circumstances true bony ankylosis results, particularly in the vertebrae. In other cases, the ankylosis is more or less bony in that it is due to the interlocking of osteophytic outgrowths. Crackling on motion is usually well marked in all the joints. Except in the later stages, however, it is not essentially different from that elicited in other forms of arthritis. When complete denudation of the articular surfaces of the bone has occurred a peculiar, quite characteristic and almost pathognomonic grating sensation is produced.

Dislocations, though they do not arise in every case, are very common. They usually become more marked as the disease advances, but they are likely to be less evident in cases with extensive osteophytic outgrowth than in those in which marked destruction of the joints has taken place rapidly. They seem also to be less marked in joints that have been moved more or less, in the hand, for instance, that has been compelled to perform some labor, than in joints kept for a long time at rest. The dislocations may be complete or incomplete. They may result from extensive destruction of the structures that enter into the formation of the joints and from the increased tonicity of one set of muscles augmented by a relatively greater atrophy of the opposing set of muscles. They are especially liable to affect the fingers, wrists, knees and hip. In the fingers the dislocation is usually forward, the distal phalanx being displaced beneath the proximal ones; the wrist may be displaced either forward or backward; at the knees the tibia is generally displaced backward; at the hip the femur may be displaced in any direction, though it is usually backward.

Next to the joint deformities, atrophy of the muscles is the most conspicuous clinical feature of arthritis deformans. It is a very early and persistent symptom and is especially characterized by its marked selective tendency. It varies much in different cases; at times it is relatively slight, again it is extremely aggravated. It affects the interossei and the extensors principally, though dystrophic alterations will be found in all the

muscles of the limb. At times but a single muscle of a group will be implicated; again all the muscles of that group. There sometimes occur muscular spasms that are of variable intensity and duration. At times they are extremely severe and produce great pain and the most grotesque distortions. Increased myotatic irritability is usually to be observed, and the tendon reflexes are generally slightly exaggerated. Sometimes there are fibrillary twitchings, and rarely slight reactions of degeneration—the latter, however, only in the presence of distinct peripheral neuritis.

Brief reference may be made to a number of other clinical features of arthritis deformans that are of only relatively less importance than the joint lesions and the muscular atrophy. There is rarely, if ever, any fever, except in the acute cases, as already intimated. At times, however, careful measurements of the temperature will show some fever in the chronic cases. Pain is a constant symptom, though it is variable in intensity. It may be due to a variety of causes, such as the alterations in the joints, neuritis, and rarely to involvement of the spinal roots in disease of the vertebrae. There is usually marked acceleration of the pulse-rate. This is considered by Spender and others to be a quite characteristic symptom. The pulse-rate usually increases with the progress of the disease and in the later stages it may reach a frequency of 120 and more per minute—and this without any discoverable lesion of the heart or blood-vessels. The pulse sometimes returns to its normal frequency, and this may be interpreted as a sign that the progress of the disease has been arrested. Commonly, however, the pulse remains rapid despite the evident arrest of the affection. In contrast to the pulse of gout and rheumatism, the pulse of arthritis deformans is usually fairly soft and compressible, unless, of course, there be arteriosclerosis, which is uncommon. Cutaneous pigmentation and various dystrophic alterations of the skin are quite generally met. Spender is especially impressed with the diagnostic importance of disseminated freckles, which he thinks occur in at least two-thirds of the cases. He believes their occurrence especially significant of early arthritis deformans. In addition, the skin is thin, glossy and of a pinkish hue, rarely of a bluish tint. There may also occur local sweatings of the forehead and extremities, which are usually cold; disturbances of nutrition, especially longitudinal striation of the nails; subcutaneous fibrous nodules and fibrinous exudates, especially in the neighborhood of the affected joints; enlargement of the lymphatic glands, especially those of the groin and axilla, as well as those in the neighborhood of the affected joints; edema of the legs; neuritis; anemia; purpuric hemorrhages; scleroderma; and rarely various disturbances of the abdominal and thoracic viscera. Affections of the endocardium and pericardium, though uncommon, do occur. This occurrence, long ago commented upon by Charcot, is especially insisted upon by Bannatyne and others. The Garrods, however, state that valvular lesions are not more common among those affected with arthritis deformans than among those not thus afflicted, and believe that when found in a patient affected with arthritis deformans they are to be attributed to a previous rheumatic infection. During the past winter, I had occasion to observe in the medical wards of the Hospital of the University of Pennsylvania, under the charge of Dr. Musser, a woman with well-marked arthritis deformans, who had a mitral stenosis.

The partial or monarthritic form of arthritic deformans affects chiefly old men, and its origin in many

cases seems to date from an injury. It is characterized by the slight tendency it manifests to spread, though the other joints do not enjoy complete immunity. At times there may be slight involvement of the opposite hip, or disease also of the spine or of a shoulder. The condition is often described as *morbus coxae senilis*. Heberden's nodes is the name given to small nodosities that develop slowly on the lateral aspects of the distal phalanges. These are the result of osteophytic out-growths at the articular surfaces of the bones, which present in addition the other alterations characteristic of arthritis deformans. They are sometimes found in persons otherwise unaffected with arthritis deformans, though they are also found in persons with the localized form of the disease in the hip, or the vertebrae. They are rarely if ever encountered in persons presenting the usual lesions of the disease in the hands and feet. Arthritis deformans as it occurs in children is much like the arthritis deformans of older people, but it presents in addition some peculiar and interesting features, the discussion of which is not pertinent at present.

DIFFERENTIAL DIAGNOSIS.

The recognition of arthritis deformans and its differentiation from other disorders that more or less closely resemble it, are matters of extreme importance. The diseases with which it is most likely to be confounded are, of course, rheumatism and gout. There can hardly be much question that many cases of arthritis deformans are incorrectly diagnosed either rheumatism or gout and that the true nature of the arthritis is not recognized until it has given rise to extreme and irremediable deformities. These three diseases—gout, rheumatism, and arthritis deformans—formerly held to be more or less related to each other, are now recognized as being totally distinct affections. The relation consists in a more or less superficial resemblance clinically, and in the fact that one disease may follow the other in the same patient.

As already stated, acute arthritis deformans most closely resembles acute rheumatism, and in many cases, in the early stages at least, differentiation is most difficult. The acute forms of arthritis deformans may be distinguished from acute rheumatism by the fact that the former is much the more intractable affection of the two; fever, when it develops in arthritis deformans, is less high and of shorter duration than that which attends rheumatism; arthritis deformans does not exhibit any especial tendency to flit from joint to joint—a joint once affected generally remains so, and other joints become involved; the affected joints are less red, and less painful than in rheumatism; in arthritis deformans the small joints are especially prone to be affected, the profuse sweats that accompany acute rheumatism are not present, though slight perspiration is common enough, the erythemas that accompany rheumatism are absent, there is less likelihood for the development of endocardial and pericardial complications—by some it is even denied that such are ever due to arthritis deformans or its cause—the abundant deposit of urates in the urine, so common in rheumatism, is usually absent and finally the disease does not respond well to treatment with salicylic acid and the salicylates. The same facts hold good with reference to the differential diagnosis in the more chronic cases and their acute exacerbations. In acute rheumatism the articular alterations subside without impairment of the functions of the joints, whereas if the disease be arthritis deformans, sooner or later, deformities make their appearance. There occur ankylosis, absorption of the articulating

cartilages, eburnation and abrasion of the bones, lipping of the cartilages at their edges or the growth of new cartilage in the synovial sheaths, osteophyte formation, relaxation and softening of the ligaments, muscular contractures and dislocations. Chronic rheumatism, of course, does often localize itself in the joints, and even in the small joints of the hands, less frequently in those of the feet, but it never results in the deformities, lipping of the cartilages, osteophytic new-growths, etc., so characteristic of arthritis deformans. In rheumatism the enlargement of the joints is fusiform and regular, and the joints affected usually manifest some evidence of local inflammation. The deformities that occur are the result of disuse and alteration of the capsules and ligaments. The joint involvement is markedly asymmetric in its distribution and the temporo-maxillary joints and the vertebrae are rarely if ever implicated. The acute exacerbations, which are quite common, show rapid migration from one joint to another and they usually quickly subside under the influence of the salicylates. In arthritis deformans the muscular atrophy is also more early in its development and more rapid in its course than in rheumatism. In chronic rheumatism also we may elicit a history of previous attacks of articular involvement with intervals of complete intermission, or a history of previous chorea or erythema nodosum. Again, examination of the heart may reveal a valvular lesion. We must remember, however, that in young children arthritis deformans may manifest deviations from the typical course observed in older persons. It affects many joints in rapid succession and causes their great enlargement and well-marked muscular atrophy. The swelling is sometimes excessive and unaccompanied by the characteristic deformities—for a time at least. In children the disease is much more rapid in its course and more quickly destructive than in adults and elderly persons, in whom it is usually slower, but accompanied by well-marked deformities.

Spender considers that what he speaks of as the collateral symptoms of arthritis deformans are of considerable significance in the diagnosis. Thus he states that, examining a case of arthritis of doubtful nature, if we count the pulse, we may find a steady tachycardia of between 90 and 120 per minute; or there may be a growing melasma on the face, or perhaps numerous spots or little stains on the arms; or the hands may be cold and sweating; or there may be neuralgic twinges in the upper and lower limbs. He believes that if any one of these symptoms be present beyond question, and if it can be proved to have been synchronous with the arthritis in beginning and progress, the nature of the arthritis is demonstrated thereby. He states that he does not pretend to yet explain the connection of the facts, but only to record them.

There can be no question that many cases of arthritis deformans have been and still are mistaken for gout. This is a most unfortunate occurrence when we consider the indications for treatment, which are almost diametrically opposite in the two affections. Care and patience, however, will usually enable us to make a differential diagnosis. Arthritis deformans is pre-eminently a disease that affects women of the poorer classes, who have been exposed, as already intimated, to want and privation, prolonged fatigue, worry and anxiety, and to the inclemencies of the weather, or who have had disease of the genitalia. On the contrary, gout is a disease that especially affects men who are well-to-do, well nourished, who have not been exposed to depressing influences, but

who have enjoyed the good things of this life and are popularly known as good livers. The etiologic factors in arthritis deformans therefore are chiefly nervous; those of gout are chiefly dietetic. In gout there is usually a distinct hereditary tendency which is much less apparent in arthritis deformans. The nervous factors that play such an important rôle in the etiology of arthritis deformans, when they occur during the course of the disease, cause an aggravation of the symptoms; the same factors are without such influence in gout. In arthritis deformans the onset is usually slow and insidious, there is often but little pain or swelling at first, and the patient frequently does not feel impelled to seek the advice of the physician until the disease is more or less advanced. In gout, on the contrary the onset is usually sudden, there is considerable pain, swelling, heat, tenderness and infiltration of the soft tissues about the joint or joints affected. Arthritis deformans generally affects one of the small joints of one hand, then other joints of the hands, and finally it may spread to almost all the joints of the body, including the temporo-maxillary joint and the vertebrae, but it exhibits no especial predilection for the great toe; gout, on the other hand, generally commences in the great toe; as it spreads it tends to implicate the larger joints; it involves the fingers in the later stages only of the affection, if it does not leave them entirely unaffected; it practically never involves the temporo-maxillary joints, and but most exceptionally the vertebrae. The symmetric distribution of the lesions so commonly observed in arthritis deformans is, as a rule, entirely absent in gout. The characteristic deformities of the hands, such as the ulnar deflection, never develop in gout. The deformities that do occur in gout are due to tophaceous deposits—to the presence of sodium bicurate—in the joints and the periarticular tissues. In arthritis deformans these deposits are never encountered unless gout has preceded or possibly followed the arthritis deformans; the deformities are due to destruction of the articulating surfaces of the bones, to lipping of the cartilages, and to osteophytic outgrowths. In gout chalky deposits are also found in the external ear and in other portions of the body; these are never observed in arthritis deformans. In gout, uric acid is usually found in excess in the blood and in the urine; this is not the case in arthritis deformans. Arthritis deformans is improved or the progress of the disease is at least stayed by a good, full, plentiful diet. Such is usually poison to a gouty patient; his condition is improved by a very abstemious and restricted diet. In fact, indulgence in certain articles of diet, such as the sugars and certain acids, and the drinking of certain alcoholic beverages, more particularly the malted beverages, are almost certain to provoke an acute paroxysm of gout. These attacks, which are quite characteristic of gout, are often of extreme violence, but there are often intervals of comparative or absolute freedom from suffering. Arthritis deformans is of long duration, progressive from the commencement, but there occur more or less acute exacerbations which, however, are never of the violence of those that characterize gout. Finally, complications, such as the arteriosclerosis and chronic nephritis which are so common in gout, are extremely uncommon in arthritis deformans.

Tuberculosis of the joints resembles in a superficial way arthritis deformans, but in tuberculosis there are rarely if ever so many joints implicated as in arthritis deformans, the course and origin of the affection is different, the characteristic deformities, the extreme muscular

atrophy and the symmetric distribution of the lesions are not observed, and the diseased joints break down and permit of the recognition of the nature of the affection by an examination of the extruded material or of the joints themselves. Sciatica may be differentiated from the monarthritic variety of arthritis deformans localized to the hip by the presence of pain along the distribution of the sciatic nerve, and by the absence of rigidity and restriction of movement at the hip-joint. The joint lesions that accompany locomotor ataxia, syringomyelia, hemophilia and gonorrhœa are distinguished primarily by the recognition of the underlying disease, as well as by other features, the narration of which at present would carry us beyond the justifiable limits of this communication. We must remember, though, that certain isolated cases of arthritis deformans run their course unattended by manifestations other than the joint lesions and the muscular atrophy.

PATHOGENESIS.

When we consider the pathogenesis of arthritis deformans we are immediately confronted by the fact that the disease not only presents characteristic joint lesions, but that it also exhibits lesions of the muscles and various trophic, vasomotor and constitutional symptoms that are no less a part of the disorder. It is because of the difficulty of adequately accounting for the varied manifestations of the disease that most of the theories heretofore propounded to explain its development have been found wanting. That theory that does not explain the disease in its entirety must be abandoned—at least modified or added to.

That the disease is allied to either rheumatism or gout is now no longer held by competent authorities. That rheumatism, and in some cases gout also, may precede the development of the arthritis deformans does not permit of much doubt. That arthritis deformans itself is a hybrid, the consequence of a mixture of gout and rheumatism, can no more be maintained than the fancy that it results from one or the other of these two affections. That it is the consequence of anemia, as has been held by Forsbrooke, or of wear and tear, as has been suggested by Lane, or of reflex action induced by some disease of the uterus or the viscera, as maintained by Ord, does not agree with the facts at hand. That anemia is present in most cases is true; that the result of wear and tear is particularly evident on the articulating surfaces of the bones after the disease has existed for some time is also true; but that the disease is the consequence of either one or the other of these conditions does not admit of proof and is negated by many well-known facts. There remain but two theories that are at present at all worthy of our consideration in an attempt to fathom the nature of the disease. These are the neural or nervous theory and the infectious or bacterial theory. The former was propounded a number of years ago by the late J. K. Mitchell, of Philadelphia, and has been maintained by a number of distinguished clinicians ever since; the latter, or bacterial theory, is of much more recent date, and still lacks the endorsement of the great body of clinicians and investigators. It seems to me that in the present state of our knowledge neither theory is entirely without justifiable objection. I believe, though, that a germ of truth is to be found in each.

The principal reasons that have been adduced to support the neural theory are: 1. The nature of certain of the etiologic factors of the disease. These have already been referred to, and mention has been made of the etiologic relationship of worry, anxiety, emotional dis-

turbances, fright, undue fatigue, etc. 2. The occurrence of the disease at a time when, in many instances, nervous disturbances manifest themselves; that is, about the time of the menopause, or during the exhaustion following repeated pregnancies, prolonged lactation, etc. 3. The symmetry of the joint lesions. 4. The tendency of the disease to spread centripetally. 5. The association of various vasomotor and trophic disturbances. 6. The fact that similar joint disorders occur in the course of certain evident diseases of the nervous system. Those who from time to time have upheld the neural theory have not been in unison with regard to the nature of the nervous factors that originate the joint lesions and other manifestations of the affection. By some they have been ascribed to reflex action, and the reflex disturbances incidental to disease of the female genitalia and to the menopause have been pointed to in support of this supposition; by others, the disease has been held to be a trophoneurosis and in support thereof the various trophic and vasomotor disturbances have been instanced; by others the affection has been attributed to a peripheral neuritis, and it has been pointed out by such that there can be no question that peripheral neuritis has been found in some cases; by still others, the disorder has been held to be a spinal disease.

Including, however, for the time being, all the preceding under the generic heading of the neural theory, when we come to examine this critically, there are many points that it leaves obscure. For instance, in locomotor ataxia, syringomyelia, ataxia paraplegia and other nervous disorders associated with arthropathies, the latter are found in connection with some definite disease of the nervous system—with a disorder the lesions of which are readily recognized. In arthritis deformans no lesions of the nervous system have been found, with the exception of the isolated cases in which some peripheral neuritis has been detected, and the other rare cases reported by Folli, Klippel and Bannatyne. Folli had an opportunity to examine at necropsy four cases. Two of these were typical cases, and they revealed alterations in the anterior horns of the gray matter of the cord. In one case the lesions were merely atrophic, in the other they were both atrophic and degenerative. Bannatyne found degeneration and vacuolation of the ganglion cells of the anterior horns of the spinal cord in one case. These, however, are isolated observations; the nerve lesions are relatively inconspicuous; they have not been found with any regularity—with that regularity we should expect after so many years of observation, and they can not possibly be held answerable for the widespread destruction of the joints, the muscular atrophy and the other clinical features of the disease. When we assign the development of the disease to reflex action we must be immediately conscious of the exceptional status we accord the affection. There is in the entire domain of pathology no counterpart of such a destructive disease resulting from reflex action, and the viscera when examined reveal but most inconspicuous, if any, alterations. Usually attributed to morbid impulses originating in the female genitalia, it must be remembered that a certain percentage of the cases occur in males, and still another percentage in young girls, at an age when reflex impulses from the genitalia are generally supposed to be wanting. And again it must be borne in mind that the uterus is very largely under the domination of the sympathetic nervous system as contrasted with the cerebrospinal axis. With regard to the idea of its being a trophoneurosis, it may be stated that evidences of trophic and vasomotor disturb-

ances are most conspicuous. In respect to the neural theory also we must remember that the disease sometimes arises in the absence of the depressing etiologic influences of nervous character; that it often, in fact usually, does not arise symmetrically, but first one joint is affected, then the corresponding joint of the opposite member, and ultimately the disorder becomes symmetric, and that in many instances the disease does not manifest any tendency whatever to spread centripetally. All these we should expect were the affection of purely nervous origin.

Let us now for a moment examine the infectious or bacterial theory. We find that Schüller first suggested the infectious nature of this disease. Since his original communication this phase of the subject has been investigated by a number of observers, of whom may be mentioned Schüller himself, Chauffard and Ramond, Bannatyne, Wohlmann and Blaxall and von Dungere and Schneider. Schüller found in the diseased joints a bacillus with polar staining, with cultures of which he was able to produce in the joints of animals lesions similar to those observed in man. Bannatyne, Wohlmann and Blaxall, examining the synovial fluid obtained by aspiration in twenty-five cases of arthritis deformans, obtained in twenty-four of the cases a minute bacillus which exhibited polar staining. They also detected the same bacillus in several pieces of synovial membrane obtained during aspiration, and in the cartilages, synovial membrane and periarticular tissues in a few sections. By microscopic examination, they found it also in the blood in several acute cases, but never so characteristically as to warrant them in diagnosing the disease from this alone. Inoculation experiments were unsatisfactory. Some joint lesions were produced in rabbits, but they were not of a definite character. This bacillus is probably identical with that discovered by Chauffard and Ramond. These authors were able to isolate what they termed a slender diplobacillus from the synovial fluid and from scrapings from enlarged glands in the neighborhood of the diseased joints in cases of arthritis deformans. The bacillus described by Schüller is probably a different organism from the two preceding, and Schüller himself in his latest communication, states that his bacillus is the cause of chronic villous polyarthritis—a disease that he sharply differentiates from arthritis deformans. The last-named disease he attributes to disturbances of metabolism. Von Dungere and Schneider examined the fluid taken from the knee and wrist joints during life and that taken from various joints and the gall-bladder after death, of a patient suffering with arthritis deformans. Microscopic examination of the fluid from the gall-bladder revealed a micro-organism, and cultures from the fluid from all the joints as well as that from the gall-bladder revealed the same bacterium. This was a small diplococcus that could not be identified with any of the known organisms, though it resembled the lancolate bacillus. When injected into rabbits' knees it produced lesions identical with those found in the joints of the patient. The authors believe that an attack of acute rheumatism from which the patient suffered seventeen years prior to his death and eight years prior to the commencement of the manifestations of the arthritis deformans, predisposed his joints to the arthritis. The development of the chronic polyarthritic deformans is attributed to infection from a chronically inflamed gall-bladder.

Bannatyne, who is an ardent supporter of the infectious nature of arthritis deformans, urges the following in support of his contentions: 1. the frequency of the

occurrence of arthritis deformans as a sequel of other forms of known infective diseases; 2, its numerous nerve symptoms for which no adequate nerve lesions have been found; 3, the occurrence during its course of such complications as pneumonia, pleurisy, pericarditis, endocarditis, etc.; 4, its polyarthritic character; 5, its course and progress, and 6, the presence of enlarged glands proximal to an affected joint.

Personally, I am inclined to accord considerable importance to the results of the above cited bacteriologic investigations, and to the views enunciated by Bannatyne and concurred in by Luff and others. I believe, though, that Bannatyne and others, possibly in the enthusiasm of their discoveries, take a too restricted view of the subject, and forget, or at least overlook, the demonstrated significance of the neural element in the etiology of the disease. Were I to express my own opinion, based on my own limited observation and study, I would state that I believe arthritis deformans to be an infectious trophoneurosis, and I further believe that the facts at our command bear out this opinion.

I have already alluded to some of the shortcomings of the purely nervous theory, but I trust I have at the same time pointed out sufficiently clearly the importance of the neural element in the etiology of this disease. I have also indicated that the present state of our knowledge does not warrant us in assuming that the disease is of spinal origin—in fact, the information that we possess indicates that the disease is certainly not of spinal origin. I have also shown that it can not be considered the result of a peripheral neuritis—indeed, it is to be wondered that such a supposition could have been seriously entertained; nor are we warranted in supposing that it results in consequence of reflex action, the impulses being emitted from some viscera, particularly the female genitalia, the seat of real or fancied disease. Of the various phases, therefore, in which the neural theory has appeared from time to time, there remains the trophoneurotic, and it is of this nature I believe the neural element in the etiology of arthritis deformans to be.

If we endeavor to supply the defects in the purely neural theory by assuming that the disease is an infectious trophoneurosis, we have firm foundation from which to proceed in the fact that bacteria have been found in the diseased joints in a considerable number of cases by competent investigators and clinicians of wide experience. We know that arthritis occurs in the course of or following certain infectious diseases, such as tuberculosis, pyemia, gonorrhea, scarlet fever, typhoid fever and acute rheumatism. We know that in some of these infections there exists more of a predilection to joint involvement than in others, and we know also that any one of them may exist without joint implication. This is as true of rheumatism as it is of any of the other infections mentioned. There may occur rheumatic infection without involvement of the joints similarly as there may occur typhoid infection without intestinal lesions. Arthritis deformans sometimes occurs after certain infectious diseases, such as rheumatism, influenza, suppurative tonsillitis, diseases of the gastrointestinal tract, etc.—under conditions, therefore, that permit of the ready entrance into the body of bacteria. In certain of these infections the joints, though they may not become diseased, are yet subject to the irritative influences of the toxins circulating in the blood. It is not unnatural to suppose that in the condition of diminished resistance thus brought about the joints readily become the prey of the bacteria provocative of arthritis

deformans. In many cases under the influence of the trophoneurotic etiologic element the joints become especially prone to disease; in other cases, such as the physical wear and tear to which certain joints have been subjected, that they readily succumb to the morbid agencies provocative of arthritis deformans. This is seen especially well exemplified in the involvement of certain joints that have been accustomed to perform an undue amount of work. Other joints in the same patient may remain entirely unaffected. Then again we are justified in assuming that the special bacteria concerned in the causation of arthritis deformans possess a selective tendency to involve the joints—just as other bacteria find a congenial soil in certain special tissues of the body and there proliferating give rise to their deleterious consequences.

The events subsequent to the invasion of a single joint by the bacteria are such as we should expect from our knowledge of infectious diseases in general. A single joint is at first involved; then, possibly under the influence of the nervous system, the corresponding joint of the opposite member becomes diseased. But sufficiently often several joints of one limb are implicated before the affection spreads to the opposite side of the body. Corresponding joints of the two sides of the body do not become simultaneously involved as we should expect were the disease of purely nervous origin. Indeed, in some cases, the affection is not at all symmetric; it is very irregular in the distribution of its joint lesions. It may rarely be distinctly one-sided. The supposition that the disease is of purely nervous genesis because the joint lesions spread centripetally is contradicted by the fact that sufficiently often the disease does not spread centripetally, but in a most irregular fashion.

The bacteria having lodged in the joint not only engender the local lesions, which have already been referred to in sufficient detail, but they also produce a toxin. This being absorbed into the circulation gives rise to the other symptoms of the disease. It is to the operations of the toxin that the fever, the anemia, the slight sweatings, the local asphyxias or erythemas, the mottling of the skin, the pigmentations, the alterations of the nails, the atrophic glossy skin, the scleroderma, the tachycardia, the purpuric hemorrhages, the muscular atrophy, etc., are to be attributed. It will be observed that practically all of what may be termed the secondary symptoms of the disease are due to derangement of the nervous system. As no definite lesions have been detected in the nervous system, though they have been diligently searched for, these derangements may, with good reason and from analogy, be ascribed to the action of a toxin. From what we have learned of the action of bacterial toxins, we are aware that they are capable of setting up not only structural alterations, but also disturbances of nutrition, the latter of which escape detection by the microscope, but may sometimes be studied by the physiologic or pathologic chemist. The nutritional alterations precede the structural, and reasoning from this point of view, it is not surprising that histologic alterations should have been absent from the spinal cords examined. Nor is it to be wondered at that a few observers, as has been mentioned, should have found slight changes in several cords. We are well aware that the action of a toxin, if prolonged, may lead to such alterations as have been detected. And the same may also ensue in case the toxin be of increased virulence. The neuritis found in some cases may also be ascribed to the same cause.

That the tachycardia is the result of the action of a toxin is attested by the fact that in some instances when the disease has been arrested—therefore, when the bacteria have ceased their activity—the pulse-rate returns to the normal. In most cases, however, the disease is steadily progressive, more and more toxin is constantly elaborated, and the tachycardia gradually becomes worse.

The muscular atrophy, so characteristic of the disease, has been the subject of much study on the part of clinicians and investigators, and various theories have been adduced to explain its occurrence. It has been said that this atrophy results from disuse of the joint or joints—it being well known that when joints are no longer used the muscular apparatus concerned in their previous functioning tend to progressive atrophy. This view is negated by the fact that the muscular atrophy the result of disuse is much slower in its development and less well marked than is that characteristic of arthritis deformans; by the fact that it affects all the muscles of the limb; by the fact that the atrophy of arthritis deformans is out of all proportion to the atrophy observed in cases of disuse from causes other than arthritis deformans; by the fact that it exhibits marked selective tendencies, and by the fact that in the majority of cases the tendon reflexes are slightly increased. The idea that the muscular atrophy is due to central spinal causes can not be entertained in the absence of demonstrable spinal-cord lesions, nor can it be maintained that it is due to peripheral neuritis, as has been claimed by Pietres and Vaillard, in view of the exceptional occurrences of peripheral neuritis in this disease. All the facts at our command indicate that the atrophy is of a mixed nature. It resembles that found in association with other joint disorders in that it tends to affect the extensor muscles more than the flexors; it is therefore spoken of as *relax*. But that it results largely from the action of a toxin is attested by many facts. In its marked selective tendency, Bannatyne sees a significant indication of its toxic origin. In support of this view he compares the atrophy of arthritis deformans with that the result of the operation of alcohol, in which the extensors, especially of the leg, are affected; with that of lead, which affects chiefly the extensors of the wrist and fingers, and with that of the diphtheria toxin, which exhibits a marked affinity for the muscles—and their nervous supply—of the pharynx and the internal muscles of the eye. He draws attention also to the fact that in some cases only the motor filaments of a nerve are affected, and he states that there is good reason for the supposition that even trophic and vasomotor filaments may be especially picked out. In the aforementioned instances there occurs a peripheral neuritis to account for the atrophy of the muscles: in arthritis deformans it is much more likely that the atrophy is the result of some central disturbance, some alteration of the nutrition of the cells in the anterior horns of the spinal cord. This view is supported by the fact that there is usually increased myotatic irritability and slightly increased reflexes—indications of an irritative lesion somewhere. In a few cases the reflexes are diminished and there may supervene also the reactions of degeneration. These cases usually reveal a peripheral neuritis, or there may be degeneration of the peripheral motor neuron.

In some cases doubtless the bacteria circulate in the blood. Evidence of this we find in the discovery by Bannatyne and Wohlmann of micro-organisms in the blood of patients affected with arthritis deformans, and

in the detection by Chaffard and Ramond of bacteria in the lymph-glands to the proximal side of the affected joints. To this may also be attributed the enlargement of the lymph-glands, the enlargement of the spleen said to have been found by several clinicians, certain subcutaneous fibroid nodules which have sometimes been known to undergo central necrosis, and lesions of the endocardium and pericardium, the occurrence of which is admitted by a number of observers, though denied by others.

In arthritis deformans certain disturbances of metabolism have been found. These have consisted, on the one hand, in the detection by Schüller, of diminution in the lime-salts and the earthy phosphates in the urine, and on the other hand, in the detection by Bain of a diminution in the excretion of uric acid and phosphoric anhydride, without disturbance of the normal relationship between the uric acid and the alloxur bases. Schüller, who, as has already been mentioned, differentiates sharply between chronic villous polyarthritis and arthritis deformans, attributes the latter disease to disturbances of metabolism. These are characterized by the diminished excretion of lime-salts in the urine and the deposition of such salts in the articulating extremities of the bones, and in the periarticular tissues about diseased joints. I prefer, for the present, however, to consider these conditions not the cause of arthritis deformans, but the consequence of the factors that induce the arthritis itself—a part of the disease, therefore.

Finally, that arthritis deformans is in great part an infectious disease, is indicated by the markedly infectious character of all the acute cases. In these cases probably the bacteria are of excessive virulence, and are capable of producing their deleterious effects unaided, or but slightly aided, by a neural etiological fact. In the chronic cases, however, we have to deal with an infectious trophoneurosis. The trophoneurotic factors predispose the tissues to bacterial invasion. This accomplished, the subsequent manifestations are in part controlled by, and produced through, the operations of the nervous system.

This view with regard to the infectious trophoneurotic nature of arthritis deformans, of course, permits of much further elaboration, but enough has been said on this occasion. I trust, though my remarks may not have seemed conclusive and convincing, that they have at least been suggestive.

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SEPARATION OF THE RECTI ABDOMINIS
MUSCLES AND STRETCHING OF
THE LINEA ALBA.

UNNOTICED FACTORS IN THE PRODUCTION OF ABDOMINAL
AND PELVIC DISTURBANCES IN WOMEN.

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Since the publication of Glénard's work on enterop-
tosis in 1885, in which attention was directed to dis-
placement of the abdominal viscera as a cause of suffer-
ing, especially in the female sex, numerous observations
have been made corroborative of many of the statements
of the French writer. At the present time there is a
consensus of opinion among prominent clinicians as to
the importance of the subject, but the profession at large
have given it very scant consideration. Investigations
made by me during the last two years have con-
vinced me that alterations in intra-abdominal pressure,
associated with visceral displacements, are the chief
source of trouble in many cases in which abnormal
symptoms are considered as neuroses or as reflex dis-
turbances due to some pelvic lesion. Much just criti-
cism has been heaped on the gynecologist because of the
marked prominence given by him to various minor pel-
vic conditions, such as endometritis, laceration of the
cervix, catarrhal patches on the cervix, etc., as causes
of suffering in women. Such criticism has greatly
helped to do away with much of the meddlesome gyn-
ecologic practice of former years, but careful observa-
tions made by scientific workers in the department of
women's diseases have led to the same end.

The nature of the normal relationships of the abdo-
minal and pelvic contents and the methods by which they
are altered is a somewhat complicated problem, involv-
ing a consideration of anatomic, physiologic and phys-
ical factors which are not yet thoroughly understood.

It is not my purpose to refer to these in detail, but
rather to direct attention particularly to one factor, viz.,
the abdominal wall. This structure, composed of a var-
iety of tissues, the most important of which are the
fascial and muscular layers, normally exhibits a certain
degree of tonicity helping to maintain the position of
the trunk and to exert pressure on the abdominal con-
tents. The latter function it shares with the diaphragm
and pelvic floor.

The average specific gravity of the viscera and contents
is very little more than that of water—the liver, for ex-
ample, is about 1.05 sp. gr.—and it is customary to re-
gard the visceral mass as a body of water, so far as the
physics of the abdomen is concerned. This being the
case, it is evident that the pressure at the surface is dis-
tributed at right angles to the latter in all directions.

In addition, the influence of the weight of the mass
has to be considered. This varies according to the po-
sition of the individual. In the erect posture it causes
a slight bulging of the lower part of the abdominal wall
and the pelvic floor is slightly lowered. If the position
be altered so that the pelvis is higher than the thorax,
the bulging of the lower abdominal region and pelvic
floor is lessened, while near the thorax the abdominal
wall is pushed slightly forward.

Schwerdt has endeavored to calculate the intra-abdo-
minal pressure experimentally. He measured it within
the stomach in the erect posture by means of a water
manometer and found it to be 11 cm. In the rectum
it measured 39 cm. The difference of 28 cm. represents

the weight of the viscera supported by the pelvic floor.
The vertical distance between the diaphragm and the
pelvic floor was 36 cm. and it was therefore evident
that the pelvic floor did not sustain the whole weight
of the viscera. At first sight it might appear that the
difference of 8 cm. represented the support given to
various viscera by their ligamentous attachments, and
this might seem to be all the more probable when it
is remembered that the specific gravity of the viscera
is very little more than that of water. Were the com-
parison to free fluid absolutely correct, the water man-
ometer placed in the rectum would register the weight
of the whole column of 36 cm. of water.

Are we then to conclude that the difference of 8 cm.
is due to ligamentous support of the viscera? Cer-
tainly not, because the stomach and intestines contain
air and gases, and the specific gravity of the whole
column extending from diaphragm to pelvic floor must,
therefore, be less than that of water. Schwerdt cal-
culates that the proportion of the weight of the viscera
supported by the ligaments is one-eighth, but it is likely
that this is too high an estimate and several workers
think it doubtful if, under ordinary circumstances, the
ligaments act as supports at all. Symington has shown
that normally the suspensory ligament of the liver
is not tense, and Buist points out that this organ,
whose greatest vertical diameter is 8 cm., must easily
be supported by the subjacent viscera, since Schwerdt's
experiment shows that the manometer registers in the
stomach a pressure of 11 cm. So it is with the intestines.
There is no proof that, under normal conditions,
their mesenteric attachments act as constant supports
or are ever meant to be such. Their structure is not
of the consistence to make them efficacious for this
purpose. Indeed, whenever pathological conditions are
introduced which put continued strain on the ligaments
they always prove to be unfit for the work thrown
upon them and undergo gradual elongation. This
being the case, it is evident that the important factor
in sustaining the viscera in their normal relationships
is the strength of the abdominal wall and pelvic floor.

Normally, there are variations in the intra-abdo-
minal pressure, depending on different conditions, mainly
on the state of fascial and muscular structures in the
parietes. The stronger these tissues the more the
resistance offered to the pressure of the viscera and
the better the latter are supported.

The importance of the pelvic floor has long been
recognized. The various hernial developments associ-
ated with weakness or laceration of different parts
of its structure have been well investigated and many
measures have been devised by gynecologists for the
relief of the symptoms accompanying these conditions.

The other factor, the abdominal wall, has received
very little attention. Several writers, Prochnowik,
Landau, Tuffier, Fritz and others have referred to it,
but their writings have received little notice. Recently,
Wolkow and Delitzin have drawn attention to the im-
portance of the abdominal wall, anatomically and
physiologically, in giving support to the abdominal
viscera. They have experimented on the cadaver, weak-
ening the wall, by removal of one or the other of its
component parts, and thus bringing about descent of
various viscera.

There is a difference of opinion as to the relative
values of the fascial and muscular structures. Stan-
more Bishop, for instance, urges the prime importance
of the fasciae, and speaking of the anterior part of the
wall, he states that the recti muscles are of compar-

atively little value as a source of strength. From the experiments of Wolkow and Delitzin, however, it would appear that these muscles are of considerable importance, their removal being followed by a stretching of the linea alba and a bulging due to descent of the viscera.

When one considers the effect of certain physical exercises in strengthening and thickening the abdominal wall it is easy to understand the importance of the musculature.

Weakness of the abdominal wall following muscular atrophy from dress-pressure and disuse is an additional corroboration.

The effects of local weakness in the abdominal wall have been fully described in surgical works under the various forms of hernia. General weakness of the wall has been known as "lax abdominal wall" and "pendulous belly," but there has been no detailed study of the latter conditions.

From my investigations I am convinced that in

sible to dissect any extensive portion of it as a distinct layer. The fact that the stretching in its earliest stages is generally found at the umbilicus is evidence that this point is the weakest in the middle line of the abdominal wall.

As a result of stretching of the linea alba separation of the recti muscles takes place. In extreme degrees of the affection, the recti may be separated in the middle region of the belly as much as five or six inches, the intervening portion of the wall being bulged by the enteroposited viscera.

In the past two years, I have not examined a single case of pendulous belly in which these conditions were not present. In no instance was there any general stretching of the abdominal wall, unaccompanied by marked separation of the recti muscles.

Etiology.—In almost all cases the diastasis is found in women who have born children. The most marked examples occur in those who have gone through several labors, though they may be found in those who have

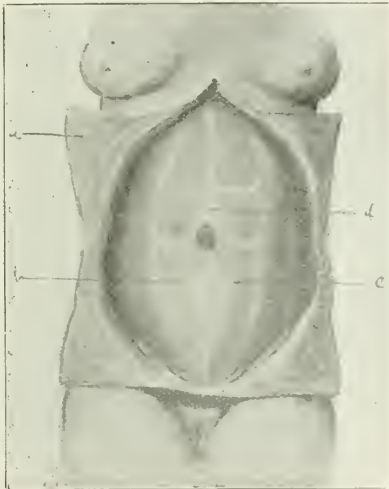


Fig. 1.—Dissection of anterior abdominal wall in a nullipara. The normal relationships are shown. a. Skin turned aside; b, c, recti abdominis muscles seen through their anterior sheath layers; d, linea alba.

women general laxity or weakness is a very rare condition and that what is described as such is, in the main, a local disturbance consisting in separation of the recti muscles and stretching of the linea alba. My observations prove that these alterations, in moderate degree, are very frequent, are important causes of ill-health in women and are to a considerable extent amenable to treatment. So far as I am aware, their significance is, in the practice of medicine, generally overlooked. Many variations are found in the extent to which they are developed. In the least marked cases they are recognizable usually only in the region of the umbilicus. In more marked stages the area affected may extend an inch or more above the navel and a similar distance below, though rarely the part above or that below may be affected. In the most advanced conditions the diastasis extends from the pubes to near the ensiform cartilage.

The more marked the case the more thinned is the linea alba; sometimes, it is so stretched that it is impos-

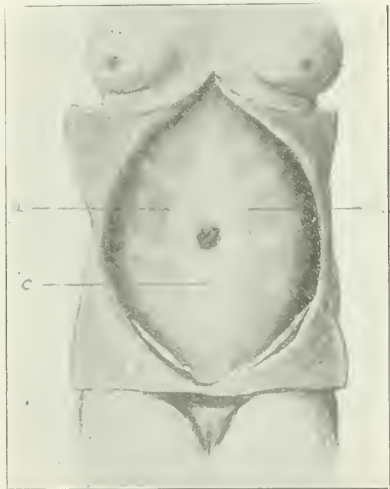


Fig. 2.—Dissection of anterior abdominal wall in a multipara, with diastasis of the recti muscles. a. Inner edge of right rectus; b. Inner edge of left rectus; c. Linea alba stretched and thinned.

had only one or two children. Indeed, the examination of the abdomen of primigravida in a large number of maternity cases has convinced me that in the great majority of women there is some degree of separation of the recti in the region of the navel as a result of the distension of pregnancy. After labor, in many instances, however, owing to retractility of the abdominal wall, all evidence of stretching may disappear, though in a considerable proportion of cases, permanent widening remains, which is likely to become increased in succeeding pregnancies.

All conditions increasing intra-abdominal pressure in pregnancy tend to favor the development of the diastasis. Thus, women who work hard in the second half of pregnancy, especially those who lift or carry heavy weights, are more apt to become affected. Sometimes a sudden strain or fall is the starting-point of the condition. Among all classes, the wearing of corsets in pregnancy is not infrequently an important associated cause. It is very easy to understand how this should

act detrimentally. The intra-abdominal space being artificially constricted above and being gradually encroached on by the growing uterus from below, the various viscera are more and more compressed into the intermediate area, where the weakest and least resistant portion of the abdominal wall is at the umbilicus. In all women, flatulence and constipation, abundant adipose tissue in the mesentery and omentum must be regarded as favoring causes. So also is any condition which induces excessive coughing in pregnancy. General weakness or emaciation also predisposes, by lowering the tone of the tissues of the abdominal wall.

Of equal and perhaps greater importance is the effect of these conditions after delivery. In this period perhaps the two most important factors concerned are tight-lacing in one class of women and too-early hard work in another. A certain degree of diastasis having been established as a result of pregnancy, it

women who have not been accustomed to wear corsets, tie the skirts tightly around the waist or engage in heavy or vigorous exercise. In those women with slight or moderate diastasis, whose mode of dress or work leads to increased intra-abdominal pressure, the visceral displacement most frequently found is prolapse of the right kidney. In such cases it is very difficult to estimate the frequency of descent of other viscera, especially the hollow ones, by physical examination of the abdomen.

In a number of cases in which I have performed abdominal section for pelvic troubles I have found the transverse colon and, sometimes, the stomach, lower than normal, whereas by external examination I had been previously able only to distinguish prolapse of the right kidney.

Where marked stretching of the linea alba takes place, descent of the viscera and elongation of their attachments occur. In the most extreme degrees the

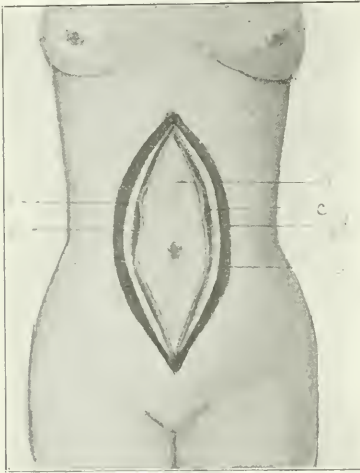


Fig. 3.—Operation for repair of weakened abdominal wall. The drawing represents the inner edges of the separated recti muscles exposed. a. Stretched and thinned linea alba. b. Anterior layer of sheath of rectus. c. Edge of rectus muscle exposed by opening sheath. d. Skin and subcutaneous tissue.

is easy to understand how increased intra-abdominal pressure resumed after labor may lead to a continuance or intensification of the pre-parturient weakness.

In nulliparous women slight degrees of stretching of the linea alba are occasionally found, marked degrees rarely. I have never met with an extreme case.

It is thus evident that of all the factors which may be associated with the development of this condition in women, pregnancy is the most important. Occasionally, cases are found in which the chief cause is distension due to tumors or ascites.

Results.—The inevitable result of marked or continued stretching of the linea alba is enteroptosis. This is met with in different forms and degrees, considerable variations existing as regards the order and range of descent of the viscera.

In cases in which the diastasis is only slightly or moderately developed, the variations are most marked. These, I believe, depend largely on the mode of life and dress. Thus, in some cases, no descent of any of the viscera can be made out. These are almost always

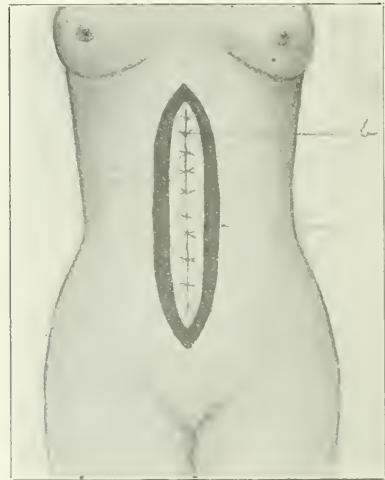


Fig. 4.—Operation for repair of weakened abdominal wall. The drawing represents the recti muscles with the fascia covering them drawn together and sutured by strong linen. a. Fascia forming anterior sheath layer of rectus. b. Line of junction of the muscles and sheath. c. Skin and subcutaneous tissue.

belly is very protuberant and pendulous, the projecting portion being filled with small intestines, omentum, transverse colon and, sometimes, the stomach. Great variations are found as regards the extent to which the viscera are prolapsed. Alterations in the shape and position of the liver are probably, as Hertz has shown, chiefly related to the influence of corset-constriction.

Downward displacement of the right kidney is frequently found, the left organ being much less often affected, and to a less degree. The spleen is occasionally displaced.

The abdominal wall between the recti usually becomes thinned. The recti themselves are pushed laterally as the linea alba is stretched and extend in a curved line from sternum to pubes, the convexity reaching well out into the lumbar region.

Prolapse of one or other part of the pelvic floor is frequently met with. This is mostly found where the floor has been injured in labor. It is very easy to understand why this complication should be brought about as a result of enteroptosis. Retroversion of the

uterus, with or without prolapse of the floor is also often found.

Symptoms.—The symptoms vary greatly. They are those which have been described in recent literature in connection with enteroptosis. In severe cases the patient may complain of weakness and dragging in the back and abdomen, aggravated on long standing, walking or working. The bowels are usually sluggish. Pains may be felt in the iliac, lumbar or other regions. Various dyspeptic symptoms may be present. Pulsation of the aorta may disturb the patient. Nausea and vomiting may be distressing. The patient often loses weight and a neurasthmatic state is frequently induced. Not even in the most marked cases are these symptoms always present. Often some are absent and, in many instances, one complaint is prominent above all others.

When the linea alba is not much stretched, there may or may not be symptoms. In this class they are very rarely absent, in some degree, in those who constrict the abdomen by their dress, stand long or engage in heavy work. Frequently in such cases the chief cause of distress is marked downward displacement of the kidney. Patients of a nervous temperament are most easily affected. Of all the symptoms those which I have found most constant are weakness and dragging

tracts the abdominal muscles this part of the wall bulges forward. Frequently, palpation between the recti causes a feeling of soreness which the patient states to be similar to that which she feels while walking or working.

In the most extreme cases in which the recti muscles are pushed far out, palpation of the lumbar regions may lead the physician to think that he is feeling a prolapsed kidney or some other swelling. In my clinic this error is frequently made by students. The mass which is felt is mainly made up of an abnormally-placed rectus muscle.

In extreme cases associated with great descent of the intestines the lower portion of the abdomen bulges markedly when the patient sits or stands.

Treatment.—In every case the patient should be advised to give up the corset and suspend the skirts from a loose waist or from the shoulders. This procedure is sufficient to relieve all symptoms in many cases in which the trouble is not very marked, even though there be considerable displacement of the right kidney. When there has been atrophy of muscles constricted by the corset and tight skirt bands, a course of massage to improve the affected parts should be recommended. This may be profitably combined with mod-



Fig. 5.—Patient (Mrs. D.) with marked separation of the recti. The photograph represents the marked bulging between the recti as the head and chest are raised from the table, the abdominal muscles being thus made to contract.

in the abdomen and back, aggravated by long standing or exertion.

Diagnosis.—The diagnosis of diastasis of the recti is easy. The patient should be made to lie flat on her back and the abdomen palpated in the following manner: The physician places the finger tips of his right hand on the middle line of the abdomen near the navel. His left hand grasps the patient's hands and she is asked to raise her head and chest somewhat from the table, in order to contract the recti muscles. As the muscles shorten they tend to approach the middle line. In this way the physician gauges the extent of their separation, thus determining the degree to which the linea alba is stretched.

In many cases in which the condition is marked this procedure is not necessary. As the patient lies relaxed, the edge of the separated muscles may be easily palpated. The vertebrae may be felt with great ease, especially in thin women, and pulsation of the aorta is often visible.

Often a distinct groove may be noticed along the middle line of the abdomen, and when the patient con-



Fig. 6.—Patient (Mrs. D.) with marked separation of the recti. The photograph is taken as the upper part of the body is being raised from the table. The physician's fist is buried in the gap between the muscles, which are contracting. In this case there was pronounced pendulous belly. As the patient lay relaxed on her back, the distance between the muscles at the level of the umbilicus measured $5\frac{1}{2}$ inches.

erate gymnastic exercises calculated to bring these muscles into action.

In marked cases the above treatment may often give some degree of relief as long as the woman avoids every form of exertion tending to increase the intra-abdominal pressure. But as it is impossible to be assured of this avoidance in the majority of women, it is best to have recourse to other measures.

First, the patient may, in addition to the adjustment of her clothing as above described, wear continually a broad silk-elastic abdominal binder. Such a mechanical substitute for the normal abdominal wall, by supporting the viscera, often gives great relief.

This method of treatment is open to the following objections: The binder must be worn continually, resulting inevitably in atrophy and weakening of many of the trunk muscles. It is often unpleasant to the wearer, especially in hot weather. It has to be renewed at intervals of a few months, a serious consideration for a poor woman. It is least effective and most

quickly gets worn when the patient engages in daily work.

For these reasons I have introduced the following surgical procedure as a means of restoring the abdominal wall to a more satisfactory condition.

An incision is made in the middle line of the abdomen, dividing the skin and subcutaneous fat until the linea alba is reached. Its length varies according to the extent of the separation of the recti. In very bad cases it may extend from the symphysis nearly to the ensiform cartilage. The umbilicus should be entirely removed if it be deep and difficult to clean thoroughly. Otherwise the mesial incision may be carried on one side of it. When the linea alba is exposed the skin and fat should be dissected off the fascia on both sides of the middle line, until the edge of each rectus is reached. The sheath of each muscle should then be entered at its inner border, near the lower angle of the wound, and this incision should be carried along the edge of the muscle as far as is necessary, the anterior layer of the sheath being divided where it becomes the stretched linea alba. The muscles are then loosened from their internal attachments to the sheath. A series of sutures are then passed from side to side through each muscle and its corresponding anterior sheath-layer. When these are tied the muscles lie in

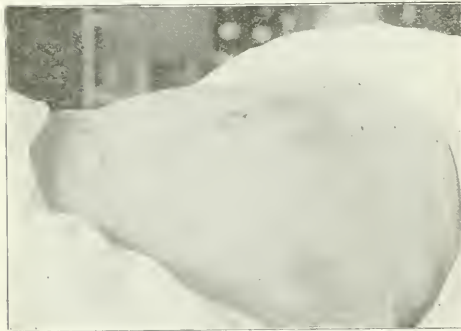


Fig. 7.—Abdomen of patient (Mrs. D.) after operative repair. The wall is considerably reduced in size and the bulging much less prominent.

apposition close to the middle line covered by the fascia. As suture material, I have always used strong linen prepared by a modification of Gubaroff's method. It is left permanently buried. Careful apposition of the fascial edges may be made by catgut. The edges of the incision through the skin and superficial fascia and fat are then closed.

This is often followed by a bulging of the skin along the line of the incision in cases in which separation of the recti has been very marked, and is an evidence of the reduction in size of the abdominal wall due to approximation of the muscles. Owing to retraction in the tissues the bulging of the skin afterward disappears. In marked cases I have removed a strip of skin and fat from each edge of the wound before closure, in order to diminish the bulging.

This operation was first performed by me in November, 1898, in the Royal Victoria Hospital, Montreal. Since that date I have performed it in 51 cases. The results have been most satisfactory. In only two instances was there any trouble with the stitches from infection. These were slight, only a small extent of the healed area being affected.

In nearly every case there was more or less downward displacement of the kidney. In less than 8 per cent. of these, where the organ descended very low I performed nephrorrhaphy. In 55 per cent. of the cases retroversion or prolapse of the uterus was present and was treated by operative measures.

The operation has always been followed by improvement; in most cases by complete cure. Some patients who had been much run down and neurasthenic generally recovered health very slowly.

In several women in whom the right kidney was considerably dislocated, nephrorrhaphy was not carried out, in order that the repair of the abdominal wall might be tested as to its value in supporting the viscera. I asked all of these to write to me if symptoms developed which might possibly be connected with the kidney. Only one has communicated with me, complaining of some dragging in the back, and she has desired to have the right kidney fixed by operation.

I urge all who undergo this operation to abandon corsets and support their skirts from shoulders. Particularly are they enjoined to avoid all severe or sudden exertion for at least six months. During the early weeks of convalescence daily massage of the abdominal parietes is advisable. Afterward, light gymnastic exercises, calculated to improve the abdominal muscles, may be carried out.

In cases where the enteroptosis has been marked, the patient should wear a broad silk-elastic binder for six or eight months after operation.

Cocainization of the Nerve Trunk as a Means of Surgical Anesthesia.—Instead of anesthetizing the entire lower part of the body as in medullary narcosis, Jaboulay proposes to cocainize merely the nerve trunk innervating the region to be operated on. The *Semaine Méd.* of November 14 states that he has successfully applied this method in a scapulo-humeral disarticulation in which septicoemia prevented the employment of general anesthesia. After local anesthesia of the soft parts an incision was made for the ligature of the subclavian artery. The nerve plexus and the artery were denuded at the same time and after the ligature had been applied, a few drops of a 2.5 per cent. solution of cocain were injected into the two principal branches of the brachial plexus. As soon as the upper portion of the arm had become insensible, the disarticulation of the shoulder was accomplished without pain. The patient merely experienced a shock when the inner portion of the flap was cut in the domain of the intercostal nerves. Anesthesia of the upper members is particularly favorable by this method, but Jaboulay thinks it is equally applicable to the lower members and to other regions, such as the territory of the trigeminaus for example.

Physical Signs of Pleuritic Effusions.—The *Semaine Méd.* of October 10, mentions among the other signs of effusion described by A. Pitres in his recent works, the increased frequency of the respiratory movements, which is, however, by no means proportional to the amount of the effusion. The type of the breathing was superior costal in 42 per cent. of his cases and mixed in 51 per cent. The normal type was only observed when the effusion was less than a liter in amount. Dulness over Traube's space is occasionally observed in healthy persons who have never had pleurisy, and consequently is not a sign of the affection. The wooden sound produced by percussion of a sound lung is very faint if there are nodules. The sound is brassy in case of a gaseous effusion, but clear and silvery directly over a fluid effusion in the pleural cavity, unless it is masked by a tumor or old adhesions. He always attaches a manometer to his aspirating apparatus and stops when the negative pressure reaches 20 m. of the mercury column. The amount of fluid withdrawn is of less importance than the difference in the intrapleural pressure from removal of the fluid.

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SHALL THE CONCEPTION OF INFLAMMATION BE
ABANDONED?

Andrew H. Smith discusses the question whether it is advantageous to recognize the existence of inflammation as an intermediate process. Would it not be gainful, he asks, if a more direct interaction between the morbid agent and the reparatory effort was admitted. He points out that the conception of inflammation as an intermediate process is incorrect and in reality confusing. "If we inject sterilized oil of turpentin into the cellular tissues the place becomes red, hot, swollen and painful, not because it is the seat of "inflammation," but because it is the seat of so and so many drops of oleum terebinthinae." It is claimed that in the textbooks inflammation may be defined correctly enough, but it is treated as systematically and exhaustively as many real pathologic and nosologic entities, the etiology, symptoms, progress and treatment being duly set forth. It is contended that as long as inflammation is conceived as the disease or "as the dominant process in disease" it may tend to obscure the exact relationship between the cause and the effect. An exhaustive, unprejudiced study of the various forms of noxæ on the one hand and the reactive and the reparative changes in all the various tissues on the other hand, would leave no room for "inflammation," because the phenomena currently designated as inflammatory would have received proper consideration in connection with each morbid agent. Smith consequently proposes that the entire doctrine of "inflammation," as well as the designation "itis" should be abandoned.

We are confronted at once with the question of nomenclature. With *tuberculosis* as a precedent, the action of other organisms, according to Smith, may be expressed by such terms as *streptocosis*, *staphylocosis*, *gonocosis*, etc. An undetermined infection would be *microbosis* or *bacteriosis*. In the same way *pericardiosis* would signify infection of the pericardium, *pericardial pneumocosis*, pneumococcus infection, etc. For other inflammations not necessarily infective the words *traumosis* and *toxosis* are suggested; *fibrosis* and *cirrrosis* are terms already in use for the designation of chronic tissue changes often classed as of inflammatory nature. Should this new nomenclature gain general acceptance, we would have good reason to expect some interesting developments in the coinage of new terms by the dermatologists, who so far seem to be the most fertile nomenclators. All

efforts toward greater exactness in medical science are deserving of encouragement. Whether the substitution of certain names for terms now in use, as *pericardial pneumocosis* for *pneumococcus pericarditis*, would materially advance matters may be questioned, however. But that great advantage is derived from an exact nomenclature, in which the etiologic factors are given as prominent a place as possible, can not be disputed. This is quite feasible with the help of the old terminology. The fact remains that the reactions to injuries of various kinds and the process of repair have so many and such essential characteristics in common that in the present state of our knowledge it is of great importance to be able to study these phenomena from a general standpoint, as is now done under the heading of inflammation.

That the use of the word "inflammation" and of the ending "itis" should be allowed to obscure the etiologic relationship and to lead to the establishment of faulty therapeutic principles, depends on an imperfect and erroneous conception of the true nature of the inflammatory changes. To ignore the causes underlying such important manifestations as the various inflammatory processes and diseases would be a step backward indeed. At the same time, as successful treatment must be directed against the various bacterial and other causes of inflammations, it is to be borne in mind that at certain times and places inflammatory changes are so poorly controlled as to require immediate intervention by the physician, regardless of the cause at work, as, for instance, in occlusion of the entrance to the larynx from exudation into the surrounding tissues, in the excessive accumulations of fluids in the pleural and other cavities, etc. Inflammation is not always our friend, as suggested by Smith, but may become directly dangerous. Hence the necessity for occasionally "treating inflammation" as such, so as to gain time for attacking the fundamental cause at work.

BACTERICIDAL ACTION AND OSMOTIC DISTURBANCES.

Alfred Fischer,¹ professor of botany in Leipzig, has studied the action of different kinds of serums and other fluids on the bacterial cell, in order to throw more light on the nature of the bactericidal effects of serums. Heretofore the theory of the bactericidal action of serums almost universally adopted is Buchner's alexin theory, which explains the bacterial destruction as caused by digestive ferments. In fact, alexin—or protective body—is held to be a proteolytic enzyme.

Baumgarten and his pupils, however, have rather persistently opposed Buchner's theory, claiming that much of the bactericidal action is due simply to disturbances of nutrition, and of osmosis in the bacterial cells placed in serums of varying composition outside of the body. Alfred Fischer also shows that the sensitiveness of bacterial cells to osmotic disturbances induced by sudden changes in the concentration of the

1. Zeltschr. f. Hyg. u. Infektionskr., 1900, xxxv, 1-55.

fluids has not been taken into proper account in the studies of bactericidal agents. He shows that the well-known Pfeiffer phenomenon—disintegration and transformation into balls of comma bacilli when introduced into the peritoneal cavity of immune animals—is the result of osmotic disturbances, the increased pressure within the bacterial cell forcing the protoplasm out in the form of small balls. This phenomenon Fischer calls *plasmoptysis*, in contradistinction to *plasmolysis*, in which the protoplasm is separated from the cell membrane and broken up into small masses. Plasmoptysis occurs in the case of many bacteria when placed in various serums; it also occurs on transferring bacteria to salt solutions of greater concentration than the ordinary media, and from salt solutions to water, bouillon and other fluids of less concentration. The presence of nutritive substances in some of the solutions used was found to delay the deleterious effect of osmotic disturbances. In plasmoptysis the wall of the bacterial cell bursts and the contents are forced out; in flagellated bacteria this occurs at the points of departure of the flagella, because of the weakness of the wall at those places. Death undoubtedly occurs after plasmoptysis, especially if the fluids are poor in nutritive substances. Most serums are of poor nutritive quality and of greater concentration than the ordinary bouillon, hence osmotic disturbances have not been excluded in the earlier studies of so-called bactericidal serums. Without entering into further details, suffice it to say that new evidence is necessary to establish the truth of the alexin theory, and in the experiments undertaken for that purpose osmotic disturbances of all kinds must be excluded rigidly. If bacteria are destroyed by digestive ferments in serums, evidences of digestive transformation ought to be demonstrable chemically; so far this has not been done.

While Baumgarten and his students would explain the bactericidal action of serums outside of the body as the result of osmotic and nutritive disturbances, Meltzer² suggests that similar disturbances may take place in bacteria that have gained entrance into the body, which is thus protected from the dangers of the infection. Perhaps some of the diplococoid and other forms of the colon bacilli described by Adami and his pupils are explainable on the score of osmotic changes.

THE INDISCRIMINATE USE OF ALCOHOL

There has been much warm discussion and comparatively little demonstration bearing on the question whether alcohol is a food or a poison, and we are inclined to the intermediate view taken by Dr. H. S. Anders in THE JOURNAL a short time ago, that it may be either or neither in accordance with the purposes for which it is used, the dosage and the frequency with which it is administered and the susceptibility of the particular individual. In these respects alcohol agrees with numer-

ous other substances of the materia medica, which are equally capable of good and of evil according to varying circumstances.

It must be admitted that the question of custom is not without influence in this connection. Thus the use of opium in India, of arsenic in Styria, of alcohol, tobacco, tea and coffee throughout the civilized world, has apparently stamped these with a certain food-value, however limited, but it surely will not be contended that any of them is necessary to life or health, except of course, as they may be needed for therapeutic purposes. Now, in so far as these substances are incapable of harm the physician and the hygienist may be somewhat indifferent to their indiscriminate employment, except that here again moderation must be counseled, as in all other things, for extremes in practices, of themselves healthful, are likely to be injurious. Therefore, with regard to the use of alcohol the evidence should be weighed judiciously and a decision reached in accordance with the conclusion whether the greatest good is to be secured by sanctioning and indulging in its unrestrained, or even its limited, use, or by forbidding altogether its employment except for therapeutic purposes.

A most interesting contribution to this subject is made by the distinguished alienist, Professor Forel,¹ who relates that, having been brought up in the midst of a country of vineyards, he became accustomed from childhood to the daily use of wine. In adolescence he suffered from disorders of digestion, especially cardialgia and headache; but it was not until he became director of the Burghölzli Hospital for the Insane, and professor of psychiatry at Zurich, that he realized the necessity for total abstinence personally and the application of the same principle to the patients under his care, so many of whom owed their illness and their tendency to relapse to alcoholic intoxication. The results that followed this departure amply confirmed the wisdom of its institution, permanent cure being effected in a considerable proportion of cases in which previously relapse had been the rule.

Forel goes on to point out that in all countries where the alcohol-habit prevails it accounts for from one-half to three-quarters of the crimes, a large proportion of the suicides, of cases of mental disorder, of deaths, of diseases generally, of poverty, of vulgar depravity, of sexual excesses and venereal diseases, and of dissolution of families. One of the worst features however is the hereditary one, a larger proportion of the children of alcoholics being idiotic, epileptic, neurotic, alcoholic, degenerate and deformed than the children of healthy parentage. These results, it may be contended, are due to the excessive or long-continued indulgence in alcohol, but this is a question of individual tolerance and susceptibility, and it is scarcely possible to fix on any definite demarcation between moderation and excess.

2. Trans. Cong. Am. Phys. and Surg., 1900, v. 12 25.

1. American Journal of Insanity, lvi. No. 2, p. 297.

The only safeguard, therefore, would appear to reside in total abstinence, and Forel contends that the physician who is not a total abstainer can not enforce such abstinence on the part of his patients.

IRRITABLE BREAST.

The breast is a compound tubular gland whose function is only periodically called into activity. A few drops of milk, however, may occasionally be found present at birth and at puberty, and it is said that the application of a child to the breast quite independently of pregnancy may excite the secretion of milk. Accumulation of milk in an acinus whose secretory duct has become occluded or otherwise obstructed, gives rise to a cyst, or galactoecele. The breast is further peculiarly susceptible to disease as a result of infection during the period of nursing, and is frequently the seat of hyperplasias or new-growths, benign and malignant. Hypertrophy of the mammary glands is a physiologic manifestation of pregnancy, continuing throughout the period of lactation. Adenoma, fibroma and carcinoma are common forms of new-growths in the breast.

In a communication presented at a recent meeting of the Boston Society for Medical Improvement, Dr. R. C. Cabot¹ reported a condition in two spare, pale, neurotic, unmarried young women, attended with the presence of a tender and painful lump in the upper outer quadrant of one breast. In one case the lump was about the size of a large horse-chestnut, and in the other a little larger. In both it was flattened from before backward, and it was felt with greater difficulty when the breast was pressed against the thorax than when it was grasped in the fingers from side to side. In one case the axillary glands were not affected, while in the other they were slightly enlarged and somewhat tender. There was no retraction of the nipple and the tumor was freely movable beneath the skin, and not accurately circumscribed. In each case the tumor diminished in size, while another appeared in the opposite breast. Marked improvement followed general treatment.

The condition agrees with the descriptions of irritable breast, but its nature and pathology are obscure. It has been thought to be of inflammatory origin, but Cabot suggests the possibility of its being a galactoecele. The question of prognosis is rendered somewhat uncertain by the fact that some observers believe that carcinomatous transformation may take place. If this belief is well founded surgical removal would be justified; but, on the other hand, the tumors have often been reported to disappear in the sequence of local applications and improvement in the general condition. In the discussion it was pointed out that the disorder is observed especially at two periods of life, namely, that of adolescence and that of the menopause. It appears, likewise, to be related in some way with disease of the

uterus and its appendages, or with menstrual irregularities; and relief can sometimes be afforded by abstraction from the uterus of two or three ounces of blood, repeated several times at intervals of a month. Good results have been attributed in some instances to the application of galvanism—from 15 to 20 milliamperes for ten or fifteen minutes twice a week. In some cases that have been operated on a diffuse fibroid condition of a portion of the breast has been found, with secondary retention-cysts. When the breasts are large and pendulous, support and slight pressure have yielded beneficial results. Massage also may prove serviceable.

"A COMPLICATION OF DOCTORS."

"Death from bowel trouble and a complication of doctors," was the verdict of a coroner's jury in a recent case in Aurora, Ill. It appears that six physicians were called in at different times, and several more were sent for, but failed to come, most of them without any knowledge of the services of the others. The patient's condition was apparently not considered dangerous until toward the last, and it is quite possible that it suddenly took a serious turn. There was probably no glaring error in diagnosis on the part of any one of those who were called and who, it may be reasonably presumed, did only what might safely be done for such a case as apparently existed. The verdict therefore is a rather gratuitous insult to the medical profession, and was probably intended as such. It, however, points a moral, which is generally applicable, namely, the necessity of full inquiry into the most trivial case, and the possibility that such a case may, however slight its apparent importance, take a more serious aspect. Another moral illustrated by this case is the danger of calling one physician after another in the way here practiced. It does not appear, however, that this point was appreciated by the jury or intended to be noticed by them in their peculiar verdict.

PARASITIC HEMOPTYSIS.

In the latest Public Health Report of the Marine-Hospital Service, based on the report of Stiles and Hassall,¹ attention is called to an Asiatic parasite that appears to have found a lodgment in this country, the *Paragonimus Westermanii*, a lung fluke that produces the disease known as parasitic hemoptysis in Korea and Japan. It was first found in a cat and dog in 1894 and 1895, but recently the government inspectors have met with it repeatedly in hogs at the Cincinnati packing-houses. It is thought probable that with the increasing intercourse with the Orient, sporadic cases in man will sooner or later be encountered. The human infection is described by Manson in his recent work on "Tropical Diseases," where the parasite is called *Distomum Ringeri*. The symptoms are cough and hemorrhage from the lungs, and in cases where the parasite attacks the brain, localized or Jacksonian epilepsy. The sources of infection to man are not very well known, but are probably through some invertebrate, and are conveyed

1. Boston Medical and Surgical Journal, Nov. 29, 1900, p. 555. See Abstract Dec. 15, p. 1583.

1. See also abstract of paper read by Dr. C. W. Stiles before the Philadelphia Pathological Society, Nov. 22, p. 1647.

through drinking water, hence the importance of attention to this point. Infected animals and human sputa or hemorrhages are dangerous because of their disseminating the ova, and with them the range of disease, but the meat of infected animals is not dangerous *per se*. It is well that the medical profession should receive this timely warning and cases of hemoptysis or localized convulsions in ex-residents of the Orient, whether native or foreign, will bear inspection. As to the need of abattoir inspection there should be no need of amplification.

TEMPERANCE IN FRANCE.

The reported passage of a resolution by the French house of Deputies against the manufacture and sale of alcoholic liquors pronounced hurtful by the Academy of Medicine, and especially of absinthe, in France, is an evidence of the interest aroused in the alleged causes of national degeneracy in that country. According to all reports, France is suffering in several ways, and her experience should serve as a warning to other countries where the same evils exist to a greater or less extent. Absinthe is an extreme evil, but there seems to be a general awakening in several continental states in regard to the evils of drinking, not only of absinthe, but also of other forms of alcoholic beverages. The temperance workers should derive some encouragement from even a partial prohibition measure in France, which has only recently come to realize its dangers from this and other causes.

PROFESSIONAL SECRECY AND CRIMINALS.

According to a newspaper report, a Chicago physician is supposed to know the whereabouts of the principal in a recent murder case and refuses to give any information on the ground that he is bound to protect his patient by the ethics of his profession. In commenting on this supposed fact, the newspaper assumes that the medical profession has set up such a rule as would require physicians to conceal criminals, and says: "Too often fugitives from justice are aided in their attempts to escape by doctors who are over-zealous in their observation of so-called professional ethics. It is time for the medical profession to define clearly where it stands on this important matter." There is a serious misapprehension of facts in the above quotation. Medical secrecy does not demand anything of the physician that would make him an accessory after the fact in a criminal case. Physicians are not justified in doing anything to balk justice or to mislead authorities. They are not, however, detectives or policemen, and it is not to be expected that they should desire to usurp their functions. The physician in question has no excuse in medical ethics if he did anything actively to mislead the authorities, such as concealing the times of his visits, or acting in any way differently from what he would in an ordinary case, one in which there was no suspicion. Criminals have no special privilege as regards medical secrecy, and there is no reason why a physician should plead medical ethics as an excuse for concealing their location, certainly not if it required him to dissemble or mask his own actions. For alleged reasons of public policy, laws have been passed in some states making

professional communications to physicians privileged, but there has been no such legislation in Illinois, and a physician secretly treating known criminals who are wanted by the police might easily be subjected to serious inconvenience and possibly to penalties. The situation is not a satisfactory one and the wisest plan might perhaps be to treat all suspicious patients as emergency cases; apply first aid needed and then refer to a hospital.

A HOSPITAL STRIKE.

A recently reported occurrence in a Chicago hospital is of interest as possibly pointing a moral. According to the newspaper account, a nurse in a private hospital was detailed to attend a certain patient. It developed, however, that the case was one of scarlet fever, and she refused to obey and was consequently promptly discharged. As contagious diseases were not usually received in the hospital the other nurses held that their associate had been wronged, and they went on a strike. What the final outcome to the affair was, has not, to our knowledge, been published, but assuming the facts to be as stated, the occurrence illustrates certain possibilities that are not altogether satisfactory to contemplate. A strike of nurses in a hospital is a disagreeable matter and might easily be a very serious one, involving possibly the comfort, the welfare and, it might be, even the lives of helpless patients entrusted to their care. A sympathetic strike, however altruistic the course may seem to its partakers, is even more an evidence of an inconsiderate and one-sided view of their duties and their relations. When so much is said, as is at present, about the high professional ideals that exist among hospital trained nurses and their efforts to realize them, the report of such a performance as the one here noticed is an unpleasant disappointment, indicating as it does that the alleged ideals and professional feelings are not always effective on conduct, if existent. If nurses wish to be considered as anything more than ordinary mercenaries in the battle against disease and for human welfare, such occurrences will have to be extremely infrequent, and that a single instance has occurred is a disaster to their prestige as a class.

THE CROTTE CURE AGAIN.

At the Columbus meeting of the AMERICAN MEDICAL ASSOCIATION desperate efforts were made by a representative of a Frenchman, named Crottié, to have the ASSOCIATION endorse his electrical method of treating consumption, for which he claimed great virtues. In spite of the fact that he failed to get recognition in any of the devious ways attempted, he caused to be sent out through the press dispatches the announcement that the ASSOCIATION had not only endorsed his treatment, but that the members had tendered him a banquet in token of the great work he had done for suffering humanity. Through efforts made by THE JOURNAL, the same publicity was given to a general denial that had been given to the false announcements. Later, we find these people working in another way to get medical endorsement of the method. Asserting that medical men would not give the method a fair trial, and claiming that by it the results were "100 per cent. of cures in the incipi-

ient stages, 75 per cent. in the secondary stages, and 50 per cent. in the cases that would under regular treatment be considered hopeless." The St. Luke's Hospital, of New York, consented to experiment with the method. From the *Medical News*, of December 15, we learn with what result. In spite of the careful tests detailed, which we copy from the *Medical News*, the unbiased scientific opinion of all who observed them was that there is nothing in the treatment, and this opinion is most positively conveyed in a circular sent out by the hospital in answer to all inquiries.

The treatment was given regularly and systematically. Not only were the bacteriological examinations and blood-counts made at the Hospital, but the sputum was sent to the New York City Board of Health, where experiments were made upon guinea-pigs with the supposedly attenuated virus to see whether there was any actual lessening of virulence of the tubercle bacillus. These experiments were carried on carefully, exactly and hopefully for three months with *absolutely negative results*. None of the changes that were claimed would take place eventuated, from the bacteriological standpoint. The effect of placing the patient in front of the static machine was as ineffectual as placing him before a mirror. None of the patients of the experiment improved any more than did others of like degree of infection on the same good food, regular hours and rest.

In spite of the unfavorable verdict, the experiments at St. Luke's are, it is said, being quoted by the promoters of the scheme as evidence that the treatment has been adopted and endorsed by the authorities of this reputable institution. Reference has been made to them in medical meetings and medical literature, and always with the assumption that the test experiments were successful. It is a case of touching pitch and being defiled; denials are useless, the quack's point has been gained. It may be necessary or useful sometimes to test these exploited "cures" in hospitals; we do not say it was not so in the present case, but it has its disadvantages. Hereafter the Cotté treatment can be safely let alone, unless it should become necessary by legal proceedings to stop the misrepresentations of its promoters.

THE MEDICINAL TREATMENT OF PULMONARY TUBERCULOSIS.

As we mentioned in our editorial columns,¹ the newspapers recently discovered a new specific for pulmonary tuberculosis, but, unfortunately, reportorial judgment in this instance was in error, while if the published doses had been administered the mortality would have been not inconsiderably increased. The fact is that the recommendation made in a medical journal of a line of treatment that had proved successful in the hands of competent observers was jumped at by the enterprising, but not equally discriminating, reporter as the exploitation of a specific. Dr. Adolf Hoff,² one of the assistants at the clinic of Professor Stoffella, of Vienna, described the plan of treatment pursued with outpatients suffering from pulmonary tuberculosis. The fundamental formula is as follows:

R. Arsenous acid	1
Purified potassium carbonate	2
Cinnamic acid	3
Distilled water	5

Boil and make a perfect solution. Then add:

Cognac	2 5
Aqueous extract of opium	3
Distilled water	2 5

Make a solution and filter. Dose: 6 drops after the midday and the evening meal, gradually increased to 22 drops.

In addition hydrotherapeutic measures are employed. These consist in applications to the chest and the back of cold water, with friction at night before retiring, followed after the skin has been well dried by the donning of an armless jacket well wrung out in cold water, and covered by a shirt. The jacket is worn throughout the night, being removed, however, in the morning before the patient gets out of bed. The chest and the back are then thoroughly dried and the cold wet rubbing is repeated, after which the patient gets up and dresses. In a small number of instances the persistence of the fever requires the employment further of the following formula:

R. Cinnamon-water	70
Tincture of chinoidin	2 5
Quinin sulphate	155
Aromatic sulphuric acid	165
Simp of cinnamon	20

Mix. Dose: 1 tablespoonful thrice daily.

When the cough is especially troublesome and unyielding, iodonin may be prescribed in the following combination:

R. Iodonin	2-35
Purified ammonium chlorid	3-5
Sodium chlorid	10

Mix and divide into 10 equal parts. Dose: as many as four a day.

Medical News.

CALIFORNIA.

DR FRANK T. FITZGIBBON was appointed city vaccinator of San Francisco, November 30, to succeed Dr. W. G. Hay, deceased.

YAB CHOW, the San Diego Chinaman, arrested for practicing medicine without a license, has forfeited his bail and left for the North.

DR. HENRY A. L. RYKFOGEL has resigned as city bacteriologist of Oakland and Dr. Charles W. Rowe has been chosen as his successor.

THE ASSOCIATED PHYSICIANS' HOSPITAL SOCIETY has been incorporated at Bakersfield by Drs. J. L. Catson, Thaddeus W. Hehn, Thomas E. Taggart, and others, with a capital stock of \$10,000.

THE SAN FRANCISCO Board of Health has petitioned the board of supervisors to appropriate funds for the purchase of an X-ray apparatus for the City and County Hospital, and for the installation of electric lights in the operating rooms in that institution and in the Central Receiving Hospital.

COLORADO.

ST. LUKE'S HOSPITAL, Denver, by decree of its board of directors, will allow no member on its medical staff who is connected with any other hospital.

ON ACCOUNT of the typhoid fever epidemic at Fort Collins, where more than 200 cases are now reported, the local board of health has employed Dr. William C. Mitchell, Denver, bacteriologist of the State Board of Health, to investigate into and report on the cause of the outbreak.

THE NEW HOSPITAL of the Denver and Rio Grande Railway at Salida is nearly completed, at a total cost of about \$45,000. The employees of the road who support the hospital are making strenuous efforts to have its management left with them rather than with the railway company, as heretofore.

DR. THOMAS J. CARLIN, Health Commissioner of Denver, has applied to the city council for an appropriation for the proper medical inspection of schools. He has also drawn up a set of rules regarding the use of disinfected cuspidors, which will be given to proprietors of stores, and compliance with which will be enforced.

1. THE JOURNAL A. M. A., Dec. 8, p. 1484.
2. Wiener Med. Wochenschrift, Nos. 47 and 48, 1900.

CONNECTICUT.

DR. EDWARD P. WOODWARD, the oldest practicing physician in Bristol, Conn., had a paralytic attack, November 27, but is improving.

DR. EDWARD T. BRADSTREET, Meriden, has been appointed medical examiner to the coroner of New Haven county, succeeding Dr. G. H. Wilson, who resigned after 18 years' tenure of office.

DR. THOMAS D. CROTHERS, Hartford, has been appointed professor of diseases of the brain and nervous system, with especial reference to the effects of alcoholic and drug poisons, at the New York School of Clinical Medicine.

ILLINOIS.

DR. S. M. WYLLIE, Paxton, left for a trip to Costa Rica, December 18.

DR. WILBUR P. ARMSTRONG, Springfield, who has been critically ill for several days, is now said to be improving.

THE NEW INFIRMARY at the Illinois Northern Hospital for the Insane, Elgin, constructed at a cost of about \$38,000, was opened December 4. The building will accommodate 110 patients.

THE MARIETTA PHELPS HOSPITAL at Macomb is now completed. It contains 14 rooms, besides the necessary operating-room, bath-rooms, etc., and is thoroughly fitted and equipped for its work.

THE COMMITTEE of the city council of Moline appointed to investigate the City Hospital scandal, has reported that the physician and director of the hospital charged with using violent and profane language in the operating-room, and with adding croton oil to a bottle of port wine to detect theft of the latter, should be severely criticized for his conduct and should resign.

DR. MORRIS MEYEROVITZ, chairman of the committee on lodging-houses and sanitation of the State Board of Health, will recommend the following regulations for lodging-houses: 1. Mattresses must be made of washable rubber. 2. Houses must be fumigated at least once a week. 3. Better toilet arrangements must be provided. 4. Each lodging-house shall have a temporary isolation room, for use in case of an outbreak of communicable disease, and before the local health board is able to act.

Chicago.

DR. ALBERT B. HALE has recovered from his recent illness, returned to Chicago, and resumed practice.

DR. BAYARD HOLMES, who has been seriously ill with wound-infection and erysipelas, has recovered and is regaining strength rapidly.

DR. CHARLES M. CLARK, surgeon of the Thirty-ninth Illinois Volunteer Infantry during the Civil War, is lying seriously ill at his home, 1030 W. Twelfth St.

NO INFLUENZA deaths have been reported since December 7, although the influenza bacillus is found frequently in the laboratory examinations. Diphtheria is also much less severe than usual.

SUIT HAS BEEN BROUGHT against the Commissioner of Health and others by a woman, who claims \$50,000 damages for being confined in the isolation hospital, where she contracted smallpox, and thereby destroyed her beauty.

DURING the thirty days from November 7 to December 7, 129 calls were made from various schools, for medical inspectors. In 86 instances children were excluded; 54 exclusions being on account of diphtheria, and 8 school-rooms were disinfected.

A TOTAL of 444 deaths was reported for the week ended December 15, being an annual death-rate of 13.59 per 1000. Of these 238 were males; 205, females; 90 under 1 year and 84 over 60 years. Consumption caused 43 deaths, pneumonia 75 and violence 24.

THE PRESIDENT of the "diploma-mill," whose latest name was Metropolitan Medical College, was sentenced on December 15 to serve one year in the Du Page county jail and to pay a fine of \$500. Sentence on the other two defendants was deferred until the next term of court.

SMALLPOX is causing great concern. At present the few cases are imported. This fortunate condition of affairs can not be expected to continue, as the disease is epidemic in other parts of the country. The warning given by the Health Department is: "Do not neglect vaccination."

INDIANA.

A DOCTORS' BUILDING seven stories in height, is under construction opposite the Denison House, Indianapolis.

AN ITINERANT osteopath, clairvoyant and magnetic healer, was fined \$25 and costs at Delphi, December 1, for practicing medicine without a license.

DR. LYMAN E. OTT, Franklin, has resigned as a member of the board of pension-examining surgeons, and has been succeeded by Dr. John W. Dixon.

THE MEDICAL COLLEGE OF INDIANA is about to erect a large addition to its present college building. The addition will be four stories high, and will be used for laboratory work.

DR. RALPH DRAYER, city bacteriologist of Fort Wayne, has resigned because the president of the city board of health had failed to report or to enforce quarantine regulations in a case diagnosed by Dr. Drayer as diphtheria.

IOWA.

SIoux CITY has enacted an ordinance that all members of any family in which diphtheria develops, shall be inoculated with antitoxin.

THE CENSUS of the insane of the state shows that 2901 are under restraint in the three state asylums, 987 in the 52 county institutions, and 453 in the 4 private hospitals, making a total of 4341.

DR. WILLIAM D. MIDDLETON, Davenport, dean of the medical department of the Iowa State University, has been honored by the medical students of the university, who have named their new scientific society the "Middletonian."

THE BOARD OF HEALTH of Sioux City has two unpleasant facts to face: 1, that the appropriation for the year is exhausted four months before its close, and 2, that smallpox is prevalent in the town and country around Sioux City.

DR. WILLIAM T. WRIGHT, Denison, had a runaway accident, November 20, while making a night call. His team became frightened, and he jumped out, but his foot caught in the lines and he was dragged for nearly half a mile. He was badly bruised, and nearly frozen, but it is thought that he will recover.

MARYLAND.

DR. CORNELIUS DEWESE, for four years pathologist at the Maryland Hospital for the Insane, Spring Grove, has resigned to accept a similar position at the Government Hospital for the Insane, Washington, D. C.

DR. ABRAM CLAUDE celebrated his eighty-second birthday in Annapolis, December 4. Dr. Claude has been mayor of Annapolis a number of times and held the professorship of natural science in St. John's College from 1871 till 1883. He is a graduate of St. John's College and of the University of Maryland.

MARYLAND is the only state which does not have a pharmacy law. At a meeting of the Maryland Pharmaceutical Association, held December 12, in Baltimore, Dr. Alfred R. L. Dobne reported that he had canvassed the entire drug trade of the state in the interest of a bill to restrict the practice of pharmacy to competent persons.

Baltimore.

DR. WILLIAM OSLER has been elected president of the Laecme Society at Johns Hopkins Hospital.

THE PROCEEDS of the "Zoo" on December 20 and 21 will be given to the Maryland General Hospital. The lady visitors of the hospital will have charge of the entertainments on those days.

WITHIN SIX DAYS two physicians of the city, Drs. Marshall Smith, health warden of the Twentieth ward, and S. Griffith Davis, were attacked by diphtheria, but both are reported as doing well.

BIDS for the proposed National Temperance Hospital have been submitted and are under consideration. The building is to be erected on Baltimore street, near Carrollton avenue, and will cost about \$30,000.

PROF. JOHN J. ABELL, of Johns Hopkins Medical School, was seriously injured by an explosion of chemicals December 11, while experimenting in his laboratory with epi-nephrin, the active principle of the suprarenal capsule.

THERE have been performed at the Johns Hopkins Hospital 15 operations for perforation of the bowel in typhoid fever, the operators being Drs. Finney, Cushing and Mitchell. Of these, 6, or 40 per cent., recovered, an unusually large proportion.

THE DEAN of the University of Maryland, School of Medicine, reports 332 students in that school. Of this year's matriculants, all but three were able to furnish the evidences of scholarship required by the American Medical College Association. The total number of matriculants in the law, medical and dental departments is 790. There is also a flourishing nurses' training school.

DR. WILLIAM OSLER has had executed and placed in the hall of the Medical and Chirurgical Faculty a life-size bust crayon portrait of Dr. Charles Frederick Wiesenthal, the physician of Frederick the Great, who settled here in 1755, and who is re-

garded as the father of the medical profession of Baltimore. He established a medical school shortly after his arrival, and during the Revolutionary War was a surgeon in the Maryland line.

MICHIGAN.

DR. COLLINS H. JOHNSTON, Grand Rapids, who went to Custer to investigate the smallpox outbreak there, reports that in that town of not more than 300 inhabitants, there were about 100 cases of the disease, and that until a short time before, no steps had been taken to prevent or limit its spread.

THE SUPREME COURT has decided that members of state boards shall not receive more than the usual compensation for their services, whatever those services may have been. This decision will probably affect in a material degree the amounts to be paid to the members of the State Board of Health who have been investigating the smallpox epidemics, and who have heretofore been allowed \$25 a day for such services.

MINNESOTA.

ASBURY HOSPITAL, Minneapolis, which was under quarantine on account of smallpox for nearly a month, was re-opened December 6. The disease was confined to the original patient affected.

THE NEW city hospital at Owatonna was opened December 15.

THE WALKER SANATORIUM, which was re-opened only a short time ago, was burned December 8, fortunately without loss of life. The loss was \$7000, with an insurance of \$2000.

DR. HENRY M. BRACKEN, Minneapolis, has prepared an exhaustive review of all the cases of leprosy in the northwest. The number is 75, 61 of which are Minnesota cases, although only 17 patients are now living in Minnesota. He thinks that the establishment of a leprosarium in the state should be seriously considered.

NEBRASKA.

DR. ANDREW JOHNSON, Omaha, has been appointed superintendent of the Institution for Feeble-Minded at Beatrice.

DR. GEORGE H. BRASH, Beatrice, has been appointed a member of the State Board of Health in place of Dr. Benjamin F. Crummer, of Omaha, who has done most effective work as a member of the board.

NEW JERSEY.

DR. WINTHROP D. MITCHELL, who has been city physician of East Orange for six years, has resigned.

BECAUSE of the outbreak of diphtheria in the Elizabeth General Hospital the institution has been quarantined. The Blake Memorial Hospital for Women, which adjoins the General Hospital, has been ordered closed by the board of health. There have been 8 cases of diphtheria at the General Hospital, with 1 death.

THE FRIENDS of Dr. Samuel A. Helfer, Hoboken, who, at the time of the steamship fire in June last, was incessant in his labors in caring for the injured and recovering the bodies of the dead, have petitioned the German minister at Washington to bring the matter before the Emperor and to recommend that a medal of honor be awarded Dr. Helfer.

THE STATE BOARD OF HEALTH has instituted suit against the Trenton Abattoir Company, charging it with bringing diseased cattle into the state. It is further charged that cows found to have been suffering from tuberculosis were bought by this company and subsequently sent to Trenton, where the milk from the animals was sold. Health Inspector Bell demanded that the animals be killed at once. Two witnesses were present when the diseased animals were destroyed. A penalty of \$25 for each head of cattle may be imposed.

THE STATE BOARD OF HEALTH is considering the advisability of disinfecting the books used in circulating libraries of the state, and have decided that they must be fumigated at regular intervals. Experiments are being carried out which, it is hoped, will determine the best method of disinfecting books. It is said that this action was due to the fact that books have been sent out to a town in the country where scarlet fever was prevailing and were then transferred back to the library. At present there are forty-four distributing libraries over the state. The books are to be disinfected as they are returned.

NEW YORK.

DR. FREDERICK W. MANLEY has resigned as house-surgeon of St. Joseph's Hospital, Syracuse, and will practice at Rensselaer. He will be succeeded by Dr. Aloney I. Rust, whose place as house-physician will be taken by Dr. Thomas F. Foreman.

Buffalo.

DR. HAL B. BROWNELL has been appointed examiner in lunacy by Judge Emery.

THE COMMITTEE OF JUDGES appointed by the council of the Academy of Medicine to act on the Marcel Hartwig prize essay, announce that all papers presented by fellows of the Academy during the year will be eligible for the prize of \$50. Three copies of each paper, either printed or typewritten, must be sent to the committee, of which Dr. Grosvenor is chairman. All papers must be handed in before the next annual meeting to be held in June.

THE SPENCER LENS COMPANY, of which Dr. Roswell Park is president, is making an attempt to establish under American conditions a scientific institution similar in methods to that of Carl Zeiss, in Jena. To this end it has secured the services of Dr. (Phil) Hermann Kellner, for many years assistant to Professor Abbe, as scientific director, and of Carl F. Dieckmann, formerly of Göttingen, and more recently of Jena, as general superintendent.

ACCORDING to figures compiled in the department of health, scarlet fever has increased nearly 25 per cent. in the present month, and there is every indication that an epidemic may prevail here before the winter is over. All school principals are being notified of cases within their jurisdiction. The number of cases of diphtheria is also increasing and probably 90 cases will be reported before the end of this month. Typhoid fever is abating. In October there were 52 cases, in November 57, and in the first 11 days of December only 8 cases were reported.

New York City.

THE NEW government hospital, which has been erected at a cost of \$200,000, was accepted by the sinking fund commission December 11.

THE REPORT of the health department shows that there are now twice as many cases of typhoid fever in the city as there were at this time last year. This is explained by the long mild autumn.

THE COMMISSIONER OF CHARITIES has applied to the board of estimate and apportionment to condemn property on Lenox avenue, between 136th and 137th streets, that a new hospital may be built thereon to take the place of the old Harlem Hospital, which is unfit for habitation.

SMALLPOX continues to spread slowly, several new centers of infection having arisen as a result of a street-car conductor continuing at work after the eruption had appeared. So far there have been 54 cases taken to North Brother Island, of whom 8 have been discharged and 3 have died. Vaccination, both public and private, is proceeding rapidly.

ACCORDING to the annual report of the State Charities Aid Association, the most urgently needed additions to the department of public charities are: a new Harlem hospital, a separate hospital for cases of consumption, a convalescent hospital, a small municipal lodging house for women and children, and nurses' homes in conjunction with the hospitals on Randall's and Blackwell's Islands.

OHIO.

DR. ROBIN W. C. FRANCIS, Cincinnati, has been appointed demonstrator of physiology in the Medical College of Ohio.

THE 48 women in the state penitentiary at Columbus ask for nearly as much medicine as the 1800 men there confined, according to the prison physician, Dr. Thomas.

LAKEVIEW HOSPITAL, Cleveland, has received a gift from H. Melville Hanna of 1000 shares of Northern Pacific preferred stock, the present value of which is about \$82,000.

DR. LOUIS MALONEY, who has been serving as acting-assistant surgeon in Cuba and the Philippines for the past two years, has been invalidated on account of fever contracted in the tropics.

THE ANNUAL REPORT of the Cleveland State Hospital for the Insane shows that 1466 patients were treated during the year and that, on November 15, 1055 patients were under treatment. The percentage of recoveries was 31.75. The per capita cost of maintenance was \$142.54.

"DR." HULETT, Columbus, state secretary of the osteopaths, has advised those of his faith in the state, not to take the state examination, on the ground that the State Board of Medical Registration and Examination has no right to grant certificates, even if the examination is passed.

ON ACCOUNT of the prevalence of smallpox in that district of the state, the board of health of Jackson has ordained that all school children be vaccinated; that those unable to pay will be vaccinated free of charge; that all public balls and dances are prohibited until further orders, and that all cases of chicken-pox or other contagious diseases be reported at once to the board.

PENNSYLVANIA.

DR. JAMES B. MONAGHAN, Shenandoah, has been appointed physician to the Schuylkill County almshouse at Pottsville.

THE LAW authorizing school directors to assume certain functions of boards of health has been accepted by only 56 out of 2700 directors.

THERE have been 275 cases of smallpox with 8 deaths reported in the state during 1900, in 50 localities. Diphtheria has been partly suppressed in 38 places, and scarlet fever in 19.

DR. FRANCIS X. WEIL, health officer of York, reported 46 cases of diphtheria during November, three-fourths of which occurred in one ward of the city. The board of health has distributed antitoxin freely to the physicians of the city, has ordered a formalin lamp and has raised the salary of the health officer from \$30 to \$40 a month.

THE STATE BOARD OF MEDICAL EXAMINERS has published the statistics of candidates recently examined. The result is as follows: Of graduates of the University of Pennsylvania, 121 were examined and 2 failed; of Jefferson Medical College, 38 were examined and 4 failed; of the Medico-Chirurgical College, 20 were examined and 4 failed; of Western Pennsylvania Medical College, 67 were examined and 9 failed; of Woman's Medical College (Philadelphia), 16 were examined and none failed; of Baltimore Medical College, 12 were examined and 5 failed; of Maryland Medical College, 4 were examined and 3 failed; of the College of Physicians and Surgeons, Baltimore, 3 were examined and 2 failed; of graduates of other institutions and miscellaneous, 38 were examined and 8 failed. The total number examined was 327, of whom 41 failed.

Philadelphia.

A PROVISIONAL bequest of \$5000 has been made to the Presbyterian Hospital by Mrs. Helfenstein of this city.

DR. J. HENDRIE LLOYD, who has been for many years on the staff of the Philadelphia Hospital as neurologist has resigned.

AN INCREASE in the number of assistant medical inspectors and other employees of the board of health has been asked for, namely, two medical inspectors, at a salary of \$1200 a year; one assistant disinfecter, at \$900; one milk inspector, at \$1020; two collectors of milk specimens, at \$720, and three assistant inspectors of house drainage, at \$1200.

IN THE CASE of Dr. Gerald D. O'Farrell, Jr., who was prosecuted for not reporting a case of what was called diphtheria, the defendant stated that it was a mistake, and when he stated on the card returned to the school that it was "diphtheria" he was thinking of another case of this disease which he was treating at the time. The magistrate dismissed him with a warning.

IN ORDER to satisfy itself of the needs of the insane department of the Philadelphia Hospital (Blockley), members of finance committee of council paid a visit to that institution on December 10. Dr. John V. Shoemaker, president of the Board of Charities and Corrections, and Superintendent Geary escorted the visitors through the institution. An appropriation of \$50,000 has been asked for.

THE HEALTH of the city continues to be much better than for the corresponding periods of previous years. The total number of deaths for the week ended December 15 was 369, which is 76 less than for the corresponding period of last year and 112 less than for the same period of 1898. The principal causes of death were: Nephritis, 18; cancer, 15; tuberculosis, 47; heart disease, 27; pneumonia, 53; diphtheria, 16.

THE MEDICAL INSPECTORS of public schools have made their report from January 1 till October 31. It shows that 5876 cases were reported. Of these 3446 were contagious, chief among which were sore throat, 1520; ringworm, 753; conjunctivitis, 397; pediculosis, 212; measles, 152; mumps, 118; impetigo, 112; chicken-pox, 73; influenza, 31; whooping-cough, 20; ivy poisoning, 13; diphtheria, 12; scabies, 8; scarlet fever and syphilis, each 4, and consumption, 2. More than 1000 cases of markedly defective vision were also found.

SOUTH DAKOTA.

DR. LYMAN F. BARCOCK, city physician of Deadwood, has resigned because his suggestions were not acted on, and because he had not been given any authority with which to enforce these suggestions as to the public health.

A PRESBYTERIAN minister of Wilmot has applied to the circuit court to compel the State Board of Health to issue him a license to practice medicine. He has been arrested several times for practicing medicine without a license, but has escaped on the ground that his prescriptions were given only in emergencies and that he made no charge for his services.

THE SUPERINTENDENT of the state asylum at Yankton, in his report, details the need of increased accommodation for patients, as the institution is overcrowded and as insane patients are now being held in county jails because there is no room for them at the state asylum. He also advocates that the name of the institution be changed to the "State Hospital," and asks for an appropriation of \$204,672 for the next two years.

THE SMALLPOX cases having increased to 30 at Deadwood, owing to refusal by the city officials to exercise proper quarantine, and so aid the physicians in preventing the spread of the disease, as noted in last week's JOURNAL, neighboring towns threatened to quarantine against Deadwood unless there was an immediate change in policy. The city now admits the presence of the disease and is taking every precaution to prevent its further spread.

TENNESSEE.

DR. JAMES A. ALBRIGHT, secretary of the State Board of Health, reports that between March 5 and November 16, 1389 cases of smallpox were reported in the state, three-fourths of which occurred in negroes.

DR. JOSEPH W. JOHNSON, Chattanooga, who has been studying in Paris and Vienna for several months, has been recalled to America by the death of his father, and as soon as the estate matters are settled will practice in Chattanooga.

THE CONTROVERSY between the State Board of Health and certain local physicians regarding the diagnosis of cases known as chicken-pox, measles, "Cuban itch," etc., has been followed by an outbreak of smallpox, just as it has been in many other localities. In Campbell county, 20 cases of smallpox were found diagnosed as chicken-pox; in McMinn, 17 cases were reported, and also a number of cases in Hamilton County. Eighteen deaths have been reported.

TEXAS.

DR. J. M. NIXON, Bell County, and president of the county medical society, has been accepted as a medical missionary to the Methodist Episcopal church, and ordered to China.

DR. JONN M. MCCITCHEON, Temple, has been re-appointed health officer of Bell County. The commissioners intend to act upon his suggestion and establish an isolation hospital on the county farm.

UTAH.

THE STATE BOARD OF HEALTH has issued an order that no child who has not been vaccinated shall be admitted to a public school in the state.

DR. EUGENE W. WHITNEY, Salt Lake City, has been appointed inspector of contagious diseases among school children. He is to receive a salary of \$150 per month and is to give his entire time to the duties of the office.

A RIFLE QUARANTINE has been established at Scofield, where there are 17 cases of smallpox. This has been done without sanction of the State Board of Health, which has been endeavoring to learn particulars of the epidemic and to adopt measures for the limitation of the disease.

AN ORDINANCE was passed by the Salt Lake City council December 4 making it a misdemeanor for persons knowing of the existence of measles, chicken-pox and all eruptive diseases not to report the same to the health authorities. The penalty attached to a violation of the ordinance is a fine of from \$5 to \$100 and ninety days in jail.

VERMONT.

A BILL looking to the incorporation of a public hospital at Brattleboro has been passed by the House of Representatives of the state.

THE STATE BOARD OF HEALTH held its biennial meeting for organization at Burlington, December 4. Dr. Charles S. Caverly, Rutland, was elected president; Dr. Henry D. Halton, Brattleboro, secretary, and Dr. Truman R. Stiles, St. Johnsbury, treasurer. Dr. J. H. Hamilton, Richford, who has been secretary of the board for ten years, resigned, and resolutions of regret were passed by the board.

AT THE ANNUAL MEETING of the directors of the Mary Fletcher Hospital, Burlington, held December 5, the following staff was elected for the ensuing year: Drs. Patrick E. McSweeney, Samuel E. Maynard, William R. Prime and Harris R. Watkins, attending physicians; Drs. Leroy M. Bingham, John B. Wheeler, Donly C. Hawley and Henry C. Tinkham, attending surgeons, and Dr. Marshall C. Twitchell, ophthalmologist.

AN AMENDMENT to the law regulating the practice of medicine in Vermont has been presented to the House of Representatives which provides that the board of censors shall issue certificates permitting practice by any persons who present diplo-

mas from medical colleges and also pass examination before the board. Applicants shall pay a fee of \$5 to the board for examination. Only state medical societies shall elect boards of censors.

WEST VIRGINIA.

THE HARRISON COUNTY HOSPITAL COMPANY, of Clarksburg, has been incorporated with a capital stock of \$50,000.

THE STATE BOARD OF HEALTH examined 34 applicants for license to practice medicine, at Wheeling, November 15. Of the applicants, five were colored.

A PLAN has been formulated by a resident of Morganstown whereby a hospital shall be established in that place for the benefit of students at the university.

DR. W. C. BILLINGS, U. S. M.-H. S., has been sent to Clarksburg to take charge of the smallpox situation. There are now 10 cases in Clarksburg and more than 100 in Harrison and Wetzel counties.

WYOMING.

THE CITY COUNCIL of Cheyenne has adopted regulations providing for the appointment of a sanitary inspector to look after the dairies furnishing milk to the city.

PROPOSALS for construction of a post hospital and hospital steward quarters at Fort Mackenzie have been advertised for by Major J. W. Pope, chief quartermaster, Denver.

GENERAL.

DR. IRA C. BROWN, formerly of Buffalo, has returned to Manila on the *Thomas*, having been appointed chief surgeon for the district of Panay, P. I.

DR. FRANCIS M. NESMITH, superintendent of Garfield Hospital, Washington, D. C., has severed his connection with that institution to accept a like position at the Presbyterian Hospital, Chicago.

GOODWIN BROWN recently contended before the industrial commission that vigorous legislation was necessary to protect the country from the influx of insane immigrants. He declared that quite 50 per cent. of the patients in the New York State insane hospitals were foreign born. The foreign-born insane are said to cost that state over \$1,000,000 annually.

DR. CLARENCE TREHOLTZ, asst.-surgeon, U. S. A., with his wife, will attempt to make a winter trip to Fort Egbert, Alaska, traveling part of the way by steamer, part by railroad, and over 500 miles by dog sleds. Under orders from Gen. Shafter, Dr. Treholtz purposed to start this week on his long journey. The distance from White Horse to Egbert is 560 miles.

UNIQUE OBSTETRIC FEES.

The first medical convention of the physicians of the Lake St. John, Chicoutimi and Saguenay district in Canada assembled in a general convention November 11 at Chicoutimi, Quebec, according to the *Bull. Méd. de Québec*. Among the questions discussed was that of fees, and all agreed not to accept less than \$3 for an ordinary accouchement, with 25 cents additional for every hour over six, \$4 for a twin accouchement, and 50 cents for adhesion of the placenta or hemorrhage.

ASSOCIATION OF MEDICAL LIBRARIANS.

The "exchange" of this association has been moved from Philadelphia to Baltimore, and is now located at the Hall of the Medical and Chirurgial Faculty, under charge of Miss Noyes, the faculty's librarian. The object of this association, which was founded in Philadelphia in May, 1898, is "to foster medical libraries and to maintain an exchange of medical literature among its members." The exchange was founded last October, and a large number of books and periodicals have been procured by exchange, gift or purchase, and distributed to the membership libraries. Already there are over 150 medical libraries in existence, over 100 of these being separate medical libraries and the rest branches of general libraries. In many large towns the members of the profession have begun to make collections and they will receive important aid from this exchange.

THE ARMY EFFICIENCY BILL.

DR. H. L. E. JOHNSON, Washington, D. C., chairman of the committee on national legislation of the AMERICAN MEDICAL ASSOCIATION, under date of December 18, telegraphs as follows: "The committee on national legislation has been in conference with the military committee of the Senate and House of Representatives considering the Army Efficiency Bill, 4300, and has recommended a substitute for Medical Section 18, according to the wishes of the civilian physicians of the United States and of the surgeon-general. The committee on national legislation appeals to every member of the AMERICAN MEDICAL ASSOCIATION requesting him to write or telegraph at

once to both the chairman, Senator Hawley and Representative Hull, urging them to vote for and favor the passage of the substitute presented by the committee. The original bill is highly objectionable.

NATIONAL QUARANTINE STATIONS IN PORTO RICO.

The Marine-Hospital Service expects to have its quarantine stations in Porto Rico well equipped for the coming quarantine season. The floating disinfecting plant for San Juan is finished. It was found impracticable to locate a floating plant in the harbor of Ponce, on account of the unprotected character of same. Authority has, therefore, been obtained for stationing such a plant in the harbor of Guanica, about twenty miles west of Ponce, on the southern coast of Porto Rico. An excellent hulk has just been purchased by the Service for this purpose, and, as the machinery is already completed, all that remains is to remodel the hulk and install the machinery. It is, therefore, only a question of a few months until this barge will also be ready to be towed to its destination. Porto Rico will then be able to handle with efficiency and dispatch any infected vessels which may reach the island.

QUARANTINE ON DELAWARE RIVER.

In order to facilitate the conduct of the national quarantine service on the Delaware River and Bay, and to afford the shipping interests of Philadelphia greater facility in receiving information regarding vessels detained in quarantine and other matters pertaining to the quarantine service, the surgeon-general of the Marine-Hospital Service has detailed Surgeon H. W. Austin, in command of the Service in Philadelphia, to be quarantine officer for the Delaware Bay and River. The routine of the stations at Reedy Island and Delaware Breakwater will be conducted by the medical officers in immediate charge thereof, but they will be under the general supervision of Surgeon Austin, who is authorized to make periodical inspections of the stations and to visit them at any time when requested by the medical officer in immediate command.

THE HEALTH OF HAVANA, CUBA.

The report of Major W. C. Gorgas, surgeon U. S. Army, chief sanitary officer of the city of Havana, Cuba, for November, 1900, shows such a rapid decline in the prevalence of yellow fever that the disease is expected to disappear by the middle of December. During the month 206 cases were under treatment, of which number 54 were fatal. Immigrants from Spain furnished 240 of the cases and 44 of the deaths. It is stated that nearly 20,000 immigrants have arrived during the period January 1 till November 30, 1900. Notwithstanding the prominence of yellow fever in the mortality lists of the month, the number of deaths from all causes was only 444, which, on an estimated population of 250,000, is equivalent to an annual death-rate of 21.31 per 1000 living. The absolute number of deaths is smaller than that reported not only in any month of the year but in any month of the past ten years. Major Gorgas calls attention to the small number of houses in which yellow fever has occurred in 1900, compared with the total number of houses in the city, and to the relatively large number in which disinfection has apparently been successful. During the year 847 houses were infected. As no second case occurred in 668 of this number the measures taken to eradicate the disease appear to have been effective. In 122 of the infected houses a second case occurred after disinfection. These were again carefully disinfected and in 790 no third case occurred. He is of the opinion that the results of isolation and disinfection are well worth the labor, money and time spent on them.

CANADA.

THE VICTORIA HOSPITAL FOR SICK CHILDREN, Toronto, is now only \$19,000 in debt. Six years ago there was a debt of over \$100,000. The different lodges of the fraternal societies have been especially generous in the respect of financial assistance.

DR. W. H. ANDERSON, a graduate of Toronto University, has been appointed bacteriologist at the Williams Head Quarantine station in British Columbia in succession to Dr. Higgins, who returns to the government experimental station at Outremont, Montreal. Dr. Higgins was appointed to the Williams Head station when bubonic plague was at San Francisco, at Honolulu and in the Orient.

EXAMINATION OF SANITARY INSPECTORS.

DR. WYATT JOHNSTON, Montreal, recently conducted an examination of the sanitary inspectors in the employ of the health department of that city. As a result many of these will be dismissed, as they are not considered to have the requisite knowledge for one employed in such a capacity. Hereafter

Montreal will employ men of more marked intelligence and ability in the conduct of this work.

TORONTO WOMAN'S MEDICAL COLLEGE.

The friends of this college are agitating for a special hospital. A meeting was held last week and the movement placed in the hands of Dr. Wishart, the secretary of the college. The women doctors of Toronto claim that they are accorded no privileges in any of the hospitals, with the single exception of the Western Hospital, and even in that, they are not allowed to treat any of the charity cases. The women of Canada will be asked to contribute twenty-five cents each toward founding such hospital.

SMALLPOX IN THE YUKON.

DR. MONTZAMBERT has at last succeeded in tracing the origin of the smallpox outbreak in Yukon. He states the disease found its way into that country through a man from Seattle, who had gone direct to the creeks, and in that way spread the disease. From the Yukon, the epidemic spread to Skagway, and was thence carried to Victoria, B. C., by the steamer *City of Seattle*. There were 350 passengers on board this steamer and these were kept in quarantine off Williams Head the requisite length of time.

ONTARIO HEALTH REPORT.

The November monthly report of the Ontario Provincial Board of Health shows that the total deaths registered during that month numbered 1906, as against 1501 for the corresponding month of last year. From typhoid fever alone 130 deaths occurred, this being the highest number on record. Of scarlet fever there were 10 deaths; diphtheria, 49; measles, 3; whooping-cough, 20; tuberculosis, 156. Typhoid fever has been very prevalent throughout Ontario all fall, which is set down to the dryness prevalent during the greater part of the season.

THE DOMINION CATTLE BREEDER'S ASSOCIATION AND TUBERCULOSIS.

This association met at the Winter Fair held at the Ontario Agricultural College at Guelph last week, and adopted a very strong resolution in regard to the tuberculin test in cattle. It reads as follows: "Resolved, That in the opinion of the cattle breeders of Canada, here assembled, the regulations relating to the importation of pure-bred animals, which requires the injection of tuberculin as a sure indication of the presence of tuberculosis, are unsatisfactory and likely to bring serious injury to the cattle-breeding industry of Canada; that while the test may be used as an aid in the detection of the disease, it is not sufficiently exact to be relied upon; that the disease may exist in such parts of the animal which makes it impossible to be transmitted by contagion or otherwise, and that no real service to the country is being rendered by its use in that connection. Therefore we earnestly request that the Minister of Agriculture take such steps as may seem desirable in order to discontinue its use in that connection."

"MEDICAL ALLIANCE OF AMERICA" SCHEME.

The Medical Alliance of America (Limited), of which notice appeared in *THE JOURNAL* over a year ago, has now invaded the city of Toronto, and apparently the physicians of that city are unmindful of the warning of the *Montreal Medical Journal*, as published in its September issue of 1899. The physician is first approached with an ordinary member's contract or application; \$1 for admission and 15 cents per week, a whole year's assessment being required to be paid by the physician at once in advance. For this he receives the assurance that when sick himself his doctor's bill and medicines shall be paid for him just as for any ordinary member. The physician who joins this alliance is assured that he will be paid \$1 for an office visit and not more than \$1.50 for an outside visit. The contract, however, reveals the peculiar reading of the scheme. The prospectus of this alliance sets forth that their objects are to do away with the lodge-practice system, bad debts, and the taking of nostrums as well as the counter-prescribing of druggists, all no doubt commendable features, but other features are open to objection. It is to be sincerely hoped that the profession will look well into the propositions of the alliance before subscribing their names to any of these contracts. Their agents are claiming that over 200 doctors in Montreal, the Canadian home of this institution, have become members of the alliance.

FOREIGN.

THE FAMOUS English surgeon, Sir William MacCormac, has been authorized by the queen to accept the decoration of the French Legion of Honor conferred on him by the French government in appreciation of his care of French wounded soldiers in 1870, besides his scientific achievements.

LIETARD calls attention, in *Janus*, to the *Gazette Hebdom. de Méd. et de Chir.* for the last week in 1871. It contains a letter from Dr. Dechambre, resigning his post as editor rather than countenance the appearance of any advertisements on the cover of his journal. Lietard regards it as a historical relic worthy of recognition.

Daneffe has reported in *Janus* six metal trusses found on skeletons dating from the fifth and seventh centuries. The leather and cloth covering the pad were quite well preserved in tombs made of stone. None of the similar trusses in the principal museums of Europe, he states is older than the thirteenth century.

Ambassador Andrew D. White, acting on instructions from Washington, has written to the German Secretary of Foreign Affairs, begging him to express to Dr. Velde, of the German legation at Peking, America's sincere gratitude for the services rendered by him to American soldiers and sailors during the siege of Peking.

THE WATER-SUPPLY of Paris has been studied by an official committee which recommends that the springs, the source of the drinking water, should have a zone of protection drawn around them to prevent contamination, and in some cases more than a hundred square kilometers will be necessary. In this zone all measures must be taken to prevent infection of the water, with extraordinary precautions in case of typhoid fever.

The Austrian Lower House appointed on December 12 a committee of medical experts to investigate the prevalence of tuberculosis. In lower Austria 25 per cent. more deaths result from this disease than any other. Even smallpox, prior to the general vaccination caused a lower death-rate. The commission is to report as to the advisability of founding isolated sanatoriums for the tuberculous instead of admitting them into the general hospitals.

PROF. W. H. ERB's sixtieth birthday was celebrated at Heidelberg, November 30. The *Muench. Med. Woch.* reviews his achievements in science as a discoverer, educator and practical physician, and holds him up to posterity as the ideal physician, with the keen individualizing glance of the investigator as he approaches the bedside, the tranquility of wide experience, comprehensive knowledge and remarkable memory. Besides his achievements in neuropathology, his work on electrotherapeutics was the pioneer in this line.

LODGE PRACTICE IN PARIS.

A NEW SOCIETY has been formed in Paris, the "Co-opération des Familles," which has notified physicians that their names are on the list of the society's physicians, but that each will be expected to make a reduction of 12 per cent. in treating members of the society. The account will be presented and paid in full, as usual. An agent of the company will call later and collect the 12 per cent., 10 for the member and 2 for the administrative expenses. The *Gaz. Méd. de Paris* remarks that the medical profession can not contend effectually against this rising flood of reductions and commissions, this modern style of doing business, in Paris at least, for the societies are very powerful.

DEATHS.

Among the deaths abroad of prominent practitioners we notice that of Dr. Richard Neale, November 22, aged 73. His "Medical Digest" has been one of the best-known British medical publications. If it is discontinued by his death it will be a serious loss to the profession in Great Britain. The death of Dr. J. Mortimer Granville, who is best known for his criticisms on the treatment of insanity in England, and for various semipopular publications, occurred November 23, at the age of 67. He was for a considerable time on the editorial staff of the *Lancet*, as well as on lay journals. He was a popular rather than a scientific writer, and was, in some of his views, eccentric to say the least; he was nevertheless to be counted as among the better known medical writers of his day. Deputy-Surgeon-General George MacKay, of the Indian Army, died November 20, aged 80. He received his earlier education in Ontario, Canada, where his father was stationed as major in a British regiment. Professor Ollier, the eminent French surgeon, died at Lyons, November 26. Dr. Durand, of Gros, has recently died, one of the earliest writers on hypnotism, his first work dating from 1855. His chief works were written over the pseudonym of "Dr. Philips." He published this year "New Researches on Ethics and Morals." At one time he was a naturalized citizen of the United States, but returned to France in 1860. Dr. G. Hartlaub, of Bremen has died, in his 87th year. He had won world-wide fame as an authority on ornithology.

PRECAUTIONS AGAINST TUBERCULOSIS IN GERMANY.

The Department of the Interior of that empire has just given out the following instructions, according to report of Consul J. F. Monaghan: 1. Professional women who lay out the dead must report at once in writing to the police authorities if said person died of tuberculosis of the lungs or tuberculosis of the larynx. Should the deceased have been treated shortly before his death by a physician, the physician has to state the cause of death on the death notice at the request of the laying-out woman. This notice, with all the facts, must be handed in to the police before the person is buried. 2. Doctors must under all circumstances where they have patients with lung or larynx tuberculosis give a written notice to the police. Should they consider that the sick person endangers other persons, they must give written notice to the police. 3. All cases of lung or larynx tuberculosis in private institutions for the sick, orphan asylums, poorhouses, workhouses, hotels, and lodging-houses of all kinds must be reported by the attending physician to the police. Should there be no physician in attendance, the owner, keeper, or person in charge of the above-named institutions must report the same to the police within three days after the same has come to his notice. 4. The police are forced, as soon as they are notified of the death of a person suffering from lung or larynx tuberculosis, to have the room and articles belonging to said person disinfected as soon as the body is transferred to the house in the cemetery, where it must lie twenty-four hours before being buried. In case of persons suffering from lung or larynx tuberculosis, the room and effects of said person must be disinfected as soon as he is transferred to another place. In carrying out the disinfection, any recommendations of the physicians should be observed. It is recommended that the police in disinfecting proceed under the direction of the district physician. The cost of disinfection is to be paid out of the town or city treasury in case the person who has died or is suffering from lung or larynx tuberculosis is too poor to pay the same. The notices of such cases or copies of the same must be sent as soon as possible by the police to the district physician; also all facts or remarks relating to the same. Any person disobeying the regulations cited in paragraphs 1, 2, and 3 shall be subject to a fine of 150 marks (\$35.70) or imprisonment up to six weeks.

LONDON LETTER.

A REMARKABLE CASE OF TRANCE.

A case of trance is under observation at the Royal Infirmary, Newcastle, which is declared to be unprecedented in English medicine. Dr. Drummond gave a demonstration on the patient to a large number of physicians. He is a clerk, aged 26, who through life has been of a reserved and depressed nature and regarded as eccentric. In March he became unconscious. For seven months he has lain in a state of profound stupor, without any movement. He swallows unconsciously. But his unconsciousness was not as complete as was supposed, for now while on the road to recovery he remembered certain events which had occurred. The strongest electric current failed to elicit any response. At first he lost flesh and became a "living skeleton." He was then fed by injections, later the stomach-pump was used, and finally he was fed in the ordinary way.

DEATH FROM THE USE OF ROENTGEN RAYS.

A remarkable case has just occurred in which death is alleged to have been due to the use of Roentgen rays. A woman aged 68, while riding a bicycle, met with an accident resulting in an intracapsular fracture of the neck of the femur. In order to diagnose the exact nature of the injury the Roentgen-rays were employed, and two exposures of 35 and 45 minutes were given on April 7 and 27, respectively, with a 10-inch coil and $5\frac{1}{2}$ -inch spark. After the second exposure an eruption appeared on May 5. A gangrenous slough 6 inches in length and 3 inches in width, with a surrounding zone of inflammation, formed on the abdomen. Death took place November 5. According to the medical evidence at the coroner's inquest, the cause was exhaustion from shock, the result of fracture of the thigh and the action of Roentgen rays. No other cause of death could be found at the post-mortem examination. At the time of death the slough had been cast off, leaving a healthier surface, which, however, showed little sign of repair. The fracture did not unite. The heart was flabby and thin. The jury returned a verdict, "that the deceased met her death from shock and exhaustion following the acci-

dent and the effects of the Roentgen rays on a weakened system; no blame is attached to either the doctor or the photographer."

LATE SYPHILITIC PYREXIA—INTERMITTENT ESSENTIAL FEVER OF SYPHILIS.

At the Clinical Society, Mr. Campbell Williams reported a case of this comparatively unrecognized condition. A man aged 43 contracted syphilis in December, 1896. After the secondary stage he suffered from little except a sore tongue. He was treated mainly with mercury alternated with iodids for a period of two years, and was free from all symptoms for eighteen months before ceasing attendance. In April, 1900, he had periostitis of the right clavicle, and pyrexia. His temperature rose every afternoon, and the crisis took place in the small hours of the morning. Syphilitic fever was diagnosed and he was put on mercury. On April 25 his temperature became normal and had remained so ever since. In the discussion which followed, Dr. Sidney Phillips remarked that such cases were by no means uncommon and referred to one which he had recorded in the Transactions of the Medical Society of London. In another case under his care, a woman who had contracted syphilis ten years previously, developed pyrexia such that might be mistaken for malarial fever. Some years ago a case was reported by the late Dr. J. S. Bristowe of a man who had intermittent pyrexia of obscure origin, until syphilitic choroiditis was discovered in the eyes. Mercury was then given and the patient recovered. Dr. T. D. Savill also agreed that such cases were not uncommon and was surprised that the fact was not recorded in text-books.

DIAGNOSIS AND TREATMENT OF THORACIC ANEURYSM.

At the Medical Society of London, Dr. De Havilland Hall read a paper on this subject. He commented on the difficulty of diagnosis at the onset when physical signs were very obscure. He pointed out that a harsh, clanging cough in a middle-aged man with atheromatous vessels and a syphilitic history were very suggestive of aneurysm. He laid stress on the frequency of recurrent laryngeal paralysis, especially on the left side, and emphasized the importance of systematic laryngoscopic examination in obscure cases of intrathoracic mischief. This examination was necessary as a routine since unilateral abductor paralysis was compatible with a practically unaltered voice. Of 41 cases of aneurysm which he had seen, 22 presented hoarseness and 19 paralysis of one or other vocal cord, usually the left. He alluded to the paroxysmal nature of the dyspnea. Tracheotomy was generally useless, as the main cause was pressure on the trachea. He regarded the diastolic "thud" as the most reliable auscultatory sign of aneurysm, the presence or absence of a murmur being of comparatively small importance. The combination of loud tracheal breathing and dysphagia pointing to pressure on the trachea and esophagus was very suggestive of aneurysm. The Roentgen ray promises to be of great service in diagnosis.

As to treatment, the cases subjected to the Tufnell method required to be carefully selected. He was not in favor of restricting the diet to the quantity advised by Tufnell. He found that restriction to 10 to 12 ounces of solids and from 12 to 16 ounces of liquids was sufficient. Under this plan drugs should be avoided. He had tried subcutaneous injection of gelatin in one case, which was not benefited.

ARSENICAL POISONING IN MANCHESTER FROM BEER-DRINKING.

The extraordinary and unprecedented outbreak of arsenical poisoning in Manchester and the surrounding district, owing to contamination of beer with arsenic, has produced a profound sensation throughout the country. For some time the doctors in Manchester and the neighboring town of Salford have noticed that the number of cases of "peripheral neuritis" has been rapidly increasing. Recently they reached alarming proportions. Increased drinking in connection with the elections and rejoicings over the British successes in South Africa was thought to be the cause. But soon it was noticed that the cases presented unusual features. Large numbers were observed in the various infirmaries and they swarmed in the out-patient departments of the hospitals. The patients were beer-drinkers who sought advice on account of weakness and sensations of "pins and needles," numbness, pricking, scalding, etc.,

in the limbs. In advanced cases they were paralyzed and unable to get about. Others were seen for various rashes; erythematous, papular desquamation and keratosis of the palms and soles. Sweating was marked in some cases. In others the patients complained of colds in the head or nose, or influenza, or they became hoarse. Only a few gave a history of nausea and vomiting. The superficial reflexes were often found increased, even in chronic cases. The knee-jerks were usually diminished or abolished, but in some severe cases they were increased. Diarrhea was exceptional. For a time these patients were supposed to be suffering from alcoholic multiple neuritis, until Dr. E. S. Reynolds, assistant physician to the Manchester Royal Infirmary, discovered that arsenic was present in the beer which they drank. He announced this at the meeting of the Medical Society of Manchester on November 21. This outbreak of arsenical poisoning has been widespread in the district for two months and there is strong evidence to show that cases began as long ago as six months. In the beer, arsenic has been found in quantities varying from trace up to 0.28 grams per gallon. In the sugars used as malt substitute for brewing, 3 and 4 parts of arsenic per 10,000 were found. The source of the arsenic is the sulphuric acid used to prepare these sugars from cane sugar and starch. Sulphuric acid is made from arsenical pyrites, and therefore contains arsenic as an impurity. The greatest precautions are now being taken. Beer is being subjected to analysis all over England, and the government has ordered an inquiry into the matter. Immense quantities of beer have been thrown away. The Manchester coroner has warned all publicans that they are responsible for the purity of their beer and that if a death should occur they will be held responsible.

THIRD PAN-AMERICAN MEDICAL CONGRESS.

The following circular has been issued: The organization committee has postponed the meeting of the Third Pan-American Medical Congress until February 4. It will be held from that date until the 7th, inclusive. All literature pertaining to the Congress is in Spanish, but occasional news items will be sent to the weekly journals. Delegates can go either by the land routes, which are all via Florida, or by the water route from New York. Full particulars concerning these routes, excepting that of the Ward Line steamer from New York, will be found in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION of November 3. Those coming from south of Washington and west of Pittsburg will probably select the Florida route, while those from the northeast will find the Ward Line more convenient. The steamer *Seguranza* of the Ward Line leaves New York January 30, arriving in Cuba on February 3, the day before the beginning of the Congress. The new Ward Line steamer *Morro Castle*, holding 135 cabin passengers, leaves Havana on February 9, reaching New York February 11. The round trip, everything included, is \$60. Those going via this route will be absent from New York twelve days.

Any of the delegates going by the Ward Line, who desire it, may, by a supplementary payment of \$25, return via Santiago. This trip will take from ten to twelve days, during which time the passengers live on the ship, and have their meals there if they desire. The party goes from Havana by rail to Cienfuegos in one afternoon, there taking the steamer to Santiago, and from Santiago to Nassau in the Bahamas, and from Nassau to New York. The stay in these different ports will be for a day or more.

English-speaking members of the Cuban reception committee will meet all steamers on their arrival in Havana and escort the delegates to the hotels assigned to them. The best hotels in Havana are, Telegrafo, Mascotte, Inglaterra and Pasajoa. Rates, \$3 and \$5 a day.

The entertainment committee, appointed by the city council of Havana, for the purpose of making it pleasant for the delegates during their stay, have arranged a program which, although as yet not fully determined on in every detail, is nevertheless one which adds an attractive feature to the meeting.

There will be a large ball given at the Tacón theater. This will be under the management of a sub-committee and an auxiliary ladies' committee. The committee is sparing no pains to make the ball the great social feature of the week, and one that will be most enjoyable, not only to the delegates, but also to any ladies in their parties. (There will be a banquet given at the same place.) On another day an excursion will be made to the sugar plantation of Mr. La Costo, near Havana, on three government transports. On arriving there the delegates will be shown the manner of growing sugar cane, gathering it, grinding, cooking and refining the sugar derived therefrom, as well as all other points of interest connected with the method of making sugar, and life on a sugar estate. Refreshments will then be served either on the estate or on the transports returning. These transports will be so arranged for the guests as to give the greatest amount of comfort and pleasure during the trip. On another day there will be a parade of the police and an exhibition of the fire companies, in which they will show the promptness and skill with which they combat any fires taking place in the city. Receptions will also be given by various officials, and private dinners by numerous Cuban physicians to the delegates with whom they are acquainted.

The three general sessions of the Congress at which papers of general interest will be presented and addresses delivered by official representatives from the different countries, will be held at the Tacón theater in Havana. The section meetings will be held in the university on the first floor, and on the first and second floors of the Institute. The delegates from Mexico are at present in the lead, and a large number of abstracts have been received from them.

Mention will here be made of the names of the presidents of the different sections, all Cubans, as the presidents are representatives of the country in which the Congress takes place, and the secretaries for the United States. All communications and titles of papers should be sent to the United States secretary of the section covering the subject, or to the associate secretary for the United States of the Congress, Dr. Ramon Guitóras, 75 West 55th street, New York City. A preliminary program will be published shortly.

SECTION OFFICERS.

The officers of the different sections are the following:

General Surgery, Dr. Tomas Plascencia, president; Dr. W. P. Nicholson, Atlanta, Ga., secretary.

Medical Jurisprudence, Dr. Jose M. Cespedes, president; Dr. H. A. West, Galveston, Tex., secretary.

Anatomy, Dr. Federico Horsman, president; Dr. A. D. Bayan, 100 State street, Chicago, secretary.

Orthopedic Surgery, Dr. Tomas Plascencia, president; Dr. John Ridlon, 103 State street, Chicago, secretary.

Obstetrics, Dr. Eusebio Hernandez, president; Dr. Gustav Zinke, 13 Garfield place, Cincinnati, Ohio, secretary.

Pediatrics, Dr. Joaquin L. Ducnas, president; Dr. I. N. Love, 49 West 44th street, New York City, secretary.

Ophthalmology, Dr. Enrique Lopez, president; Dr. John E. Weeks, 40 East 57th street, New York City, secretary.

Otology, Dr. Carlos Desvermeine, president; Dr. J. F. McKernon, 62 West 52d street, New York City, secretary.

General Medicine, Dr. Carlos Finlay, president; Dr. Judson Daland, 317 South 18th street, Philadelphia, secretary.

Physiology, Dr. M. Sanchez Toledo, president; Dr. A. P. Brubaker, 105 West 34th street, Philadelphia, secretary.

Pathology, Dr. Raimundo Castro, president; Dr. A. E. Thayer, 352 West 117th street New York City, secretary.

Railway Surgery, Dr. Tomas Plascencia, president; Dr. Duane Eve, 700 Church street, Nashville, Tenn., secretary.

Medical Pedagogy, Dr. Manuel Delin, president; Dr. Otis K. Nowell, 13 Central Park, west, New York City, secretary.

Therapeutics, Dr. Raimundo Castro, president; Dr. Hobart A. Hare, 222 South Fifteenth street, Philadelphia, secretary.

Gynecology and Abdominal Surgery, Dr. Gabriel Casasa, president; Dr. H. P. Newman, 103 State street, Chicago, secretary.

Mental and Nervous Diseases, Dr. Gustav Lopez, president; Dr. Charles P. Hughes, 3857 Olive street, St. Louis, Mo., secretary.

Dermatology and Syphilography, Dr. Henry Robelin, president; Dr. A. Ravogli, 5 Garfield place, Cincinnati, Ohio, secretary.

Dental and Buccal Surgery, Dr. Erastus Wilson, president; Dr. Eugene Talbot, Columbus Memorial building, Chicago, secretary.

Laryngology and Rhinology, Dr. Carlos Desvervigne, president; Dr. G. H. Makuen, 1419 Walnut street, Philadelphia, secretary.

Military Medicine and Surgery, Dr. Eugene Sancho Agramonta, president; Maj. Jefferson Kean, U. S. A., Quemados, Cuba, secretary.

Marine Hygiene and Quarantine, Dr. Luis Cowley, president; Dr. H. M. Woodward, surgeon, M. H. S., Washington, D. C., secretary.

General Hygiene and Demography, Dr. Vicente de la Guardia, president; Dr. Alvah H. Doty, Quarantine Station, Staten Island, N. Y., secretary.

TRANSPORTATION.

Dr. H. L. E. Johnson, Washington, D. C., chairman of the transportation committee, makes the following announcement: The Southeastern Passenger Association has granted stop-over privileges in Florida to return passengers from the Third Pan American Congress of Havana, within the time limit of tickets. The customary stop-over methods pursued in the case of winter tourists' tickets must be followed. Stop-over papers and receipts for tickets must be obtained by all passengers desiring to take advantage of the privilege. Delegates and other passengers for the occasion should consult their local ticket agents for further information on this point.

In regard to railroad rates from Chicago the following may be announced: The rate from Chicago to Havana and return is \$74.95, including meals and berth on steamer from Tampa or from Miami, Fla., to Havana and return to these places. Passengers may go from Chicago by various routes. It will probably be arranged to have a party from Chicago go over one route and back another. Correspondence with those living in, and west of, Chicago is desired by the editor of THE JOURNAL, so that definite arrangements may be made in time.

REQUEST OF SECRETARIES.

Dr. William Perrin Nicholson, Atlanta, Ga., secretary of the Section on General Surgery, requests those desiring to read papers before his Section to send the titles of their papers to him at the earliest possible moment.

Dr. G. Hudson Makuen, 1419 Walnut street, Philadelphia, secretary of the Section on Laryngology, urges the laryngologists and rhinologists of the United States to attend the congress. He requests the titles of the communications which they desire to present.

Major J. R. Kenn, Columbia Barracks, Cuba, secretary of the Section on Military Medicine and Surgery, hopes that medical men with military experience will contribute papers illustrating all the many phases of this important and interesting branch of professional work. Contributions should be mailed to him as promptly as may be practicable.

Dr. Henry Parker Newman, 103 State street, Chicago, Ill., secretary of the Section on Gynecology and Abdominal Surgery, announces that he would again urge those who have papers in preparation for his Section to send abstracts, not to exceed 200 words, at once to the local secretary, Dr. Tomas V. Coronado, 105 Prado, Havana, Cuba, so that they may have a place on the preliminary program.

Dr. R. M. Woodward, surgeon, Marine-Hospital Service, Washington, D. C., secretary of the Section on Marine Hygiene and Quarantine, announces that it is desired that his Section be well represented. He has already received notices from several men prominent in sanitary affairs, signifying their intention to attend the meeting. He will be glad to furnish all necessary information to anyone interested in the subject and will see that abstracts of papers are sent to the committee in Havana if sent to him before January 20.

Correspondence.

Foreign Bodies in the Ear.

PHILADELPHIA, Dec. 11, 1900.

To the Editor:—In an abstract, from *Le Presse Médicale*, Paris, of an article by M. Lermoyez, the author says "that hundreds of lives would be saved every year if physicians, parents and nurses realized that a foreign body in the ear does no harm as long as it is not meddled with, etc." To any physician having a considerable experience with foreign bodies in the ear, such a statement will appear quite as ridiculous as it is untrue. In fact, the whole paragraph would indicate the writer to be a timid neophyte, whose first attempt in this line had resulted in nothing less than the tragic demise of his suffering patient at the hands of the trembling operator, whose death-dealing instrument had pierced some vital spot.

In no cavity of the body, scarcely excepting the orbit, is a foreign body, if allowed to remain, capable of producing more harm and greater distress than that of the ear, especially if lying close to the tympanic membrane; even inspissated cerumen, if mingled with dust and other extraneous matter, as it generally is, will produce in a short time very unpleasant subjective symptoms, and inspection will show more or less dermatitis with inflammation and swelling of the drumhead, not to mention deeper involvement if any considerable time has elapsed.

What physician has not seen the most violent and even grave symptoms following the retention of insects and other foreign bodies in the ear? And he, including M. Lermoyez, who would advise non-interference in such cases, is either criminally negligent of plain duty or too timid to practice medicine.

With a strong light and in gentle, but steady fingers nothing is so good for the extraction of any foreign body as a silver probe, flattened into a little spatula at one end, which is bent to an angle of about 45 degrees with the shaft. This can be carefully insinuated behind the object and generally withdrawn at the first effort. After this, gentle syringing with warm boric acid solution and carefully drying, leaves the meatus in the best condition for prompt recovery from any damage already sustained.

G. A. HILL, M.D.

Natural Asepsis.

SOCORRO, N. M., Dec. 15, 1900.

To the Editor:—One day last summer I was called to see a country maiden lady, 40 years of age, who had six weeks before, while walking in the barn-lot, stepped on a thorn, which ran through her shoe and into her foot, entering between the metatarsophalangeal joints of two of the toes. It was poulticed with home-made mixtures for a few days and healed without the slightest suppuration. Four weeks after this a small, hard tumor appeared on top of the foot, pain was also noticed when patient put the foot to the floor. I made a small incision over the tumor and, on slight pressure, the thorn came out. Not the slightest indication of pus. Wound of knife healed primarily. The patient then stated, and her reputation for truth is beyond question, that there had never been a drop of pus from in her body; that wounds always healed by primary union or, if very much lacerated, the un-nourished part mummified and dropped off. Thorns in her flesh became encased in a bone-like deposit and remained so until removed. She is a small, poorly-nourished woman, but fairly healthy. Did any one ever hear of a similar case?

J. F. STONG, M.D.

Marriages.

FRANCES PEELE, M.D., to George P. Beebe, both of Brooklyn, N. Y., December 8.

SAMUEL C. MUIR, M.D., to Miss Nancy Sharpe, both of Bardonia, Ky., December 6.

WILLIAM L. MCCLAIN, M.D., to Miss Kate Cravens, both of Scottsburg, Ind., December 5.

BASIL D. SPAULDING, M.D., to Miss Margaret A. Cannon, both of Richmond, Va., December 4.

PAULUS A. IRVING, M.D., Richmond, Va., to Miss Lucy Taylor, of Orange County, Va., December 12.

LAFAYETTE BENNETT, M.D., Auburn, Logan County, Ky., to Miss Annie Means Braden, of Hopkinsville, Ky., December 19.

WILL M. GARTON, M.D., U.S.N., to Miss Beatrice S. Farquhar, daughter of Rear-Admiral Farquhar, U.S.N., at Washington, D.C., December 12.

Deaths and Obituaries.

Ephraim Ingals.

When Ephraim Ingals died higher medical education lost one of its most steadfast advocates; the West a pioneer, and Chicago one of its best-known and best-beloved physicians. He was born at Abington, Conn., May 26, 1823, son of Captain Ephraim and Amasia Goodell Ingals. His ancestor, Edmund Ingals, came to America in 1628, and was the first settler of Lynn, Mass. At the age of 14, young Ingals came to Illinois and lived with his brother in Lee County. He attended school



at Princeton one winter, later was a student at Mount Morris seminary, and then took a two years' course at Illinois College, Jacksonville. He taught school two winters, working on the farm during the summers. He began the study of medicine at Rush Medical College in 1845, was a special student in Dr. Brainerd's office, and was graduated in 1847. After graduation, he settled in Lee Centre, Lee County, Ill., and started in practice with Dr. R. F. Adams. Here he remained, living the hard life of the frontier physician, practicing medicine, farming, buying and selling land for ten years, when he came to Chicago, where he afterward made his home. Shortly after his return, he was made associate editor with Dr. Brainerd of the *Northwestern Medical and Surgical Journal*. In 1859 he was appointed professor of materia medica and medical jurisprudence in Rush Medical College and a member of its board of trustees, and these positions he held until 1871, when he resigned. He again accepted the position of trustee of the college in 1896, and was made emeritus professor of materia medica and medical jurisprudence. In 1897, when the college was about to be affiliated with the University of Chicago he made a donation of \$25,000 toward the liquidation of the debts of the college. He also endowed the Ingals professorship

of therapeutics and preventive medicine. He was greatly interested in the advance of medical education and more particularly as regards the affiliation of medical colleges with universities, which he believed could make it possible for the college to accomplish much more than without that aid. He also gave \$30,000 in aid of the laboratories of the Northwestern University Medical School. He was a member of the AMERICAN MEDICAL ASSOCIATION, of the Illinois State Medical Society, of which he once was president, and of the Chicago Medical Society, of which he was a life member and three times president. About ten years ago he gave up active practice. Three years later he began to develop symptoms of weak heart. From that time he had no serious illness, although he was frequently ill and confined to the house for several weeks at a time. He had had, however, at intervals, Cheyne-Stokes respiration for five years. On December 5 he was attacked with what appeared to be influenza, attended by marked Cheyne-Stokes respiration. After a few days the symptoms of heart-weakness increased, and on December 9 he had a severe attack of angina pectoris *sine dolore*, and seemed hardly able to live through the night. During the next three days he had three or four similar attacks a day which were checked by remedies in a short time. He then rallied for three or four days. He had a cough that was continuous, but not particularly troublesome, with slight fever. On December 15 he had a relapse and grew steadily worse, but had a fairly comfortable night December 17. The next morning his pulse was regular, with slight rise in temperature and rapid respiration. At 9:20 he took some milk, and answered questions intelligently. Almost immediately the nurses noticed his pulse was weak, and in a few minutes he died. He looked upon his life-work as done and deprecated any efforts made to prolong his life, feeling that he had earned the right to rest.

EDWARD A. SMITH, M.D., in New York City, where he had lived since 1878, on December 10, aged 70. After graduating from the University of Pennsylvania medical department he became assistant physician in the Worcester (Mass.) State Lunatic Asylum. In 1856 he occupied a like position in the Pennsylvania Hospital for the Insane at Philadelphia. Six years thereafter he resigned to become a surgeon U. S. V. on hospital duty in the same city. After the Civil War he entered upon private practice and at last went to New York, here for several years he was closely identified with the New York Orthopedic Dispensary and Hospital as trustee, treasurer and finally as vice-president.

CHARLES SABIN TAFT, M.D., at his home in Mt. Vernon, N.Y., December 18, aged 65, with cancer of the throat. He was stationed at Washington during the Civil War and was present in Ford's theater when Lincoln was assassinated. He and Mrs. Taft occupied orchestra seats just below the president's box and Dr. Taft was the first surgeon to reach the dying president, with whom he remained until the end.

WILLIAM P. CALWELL, M. D., Washington University, Baltimore, 1867, suddenly at White Sulphur Springs, Greenbrier County, W. Va., December 8, aged 62. He was a son of Dr. Henry Calwell, of the family so long associated with the ownership and management of the Greenbrier White Sulphur Springs.

JOHN C. ACHESON, M.D., College of Physicians and Surgeons, New York, 1859, at his home in New York, December 12, aged 68. He was among the physicians first appointed by the New York health board as at present organized, was a frequent medical society attendant and was active in dispensary work.

CASSIUS C. DAVIDSON, M.D., Western Reserve University, Cleveland, 1876, after an illness of three weeks, at his residence in Akron, Ohio., December 9, aged 50. His fellow practitioners adopted resolutions deploring his death and expressing sympathy with his family.

WILLIAM H. JONES, M.D., University of Pennsylvania, 1858, in Bethlehem, Pa., December 13. In 1873 he was commissioned surgeon on the *Portsmouth* at San Francisco and Philadelphia, and later was stationed at the League Island navy yard, Philadelphia.

LEROY J. BROOKS, M.D., Bellevue Hospital Medical College, New York, 1872, at Norwich, N. Y., December 11, from chronic

nephritis. He was a well-known physician of Chenango county and a member of the AMERICAN MEDICAL ASSOCIATION.

HENRY T. WOODRUFF, M.D., Northwestern University Medical School, 1861, surgeon of the 100th Illinois during the Civil War, died at his home in Harvard, Ill., from Bright's disease, December 17, aged 61.

JOSEPH T. SHOEMAKER, M.D., University of Pennsylvania, 1860, at Philadelphia, December 6, aged 62 years. During the Civil War he served as surgeon of the 88th Pennsylvania Volunteer Infantry.

WILLIAM H. DAUGHTRY, M.D., University of Pennsylvania, 1865, formerly president of the Franklin Agricultural and Mechanical Society, at Sunbeam, Southampton county, Va., December 14.

WINONA JENNINGS, M.D., Laura Memorial Woman's Medical College, Cincinnati, 1899, at the Cincinnati Hospital, December 13, after a lingering illness, the result of a series of operations.

GEORGE C. ROBERTS, M.D., Atlanta Medical College, 1887, a resident and late city physician of Chattanooga, at Memphis, Tenn., December 3, after an illness of two weeks, aged 43.

ELLIOTT BAITON PALMER, M.D., Medical College of Ohio, Cincinnati, 1896, at his home in Avondale, Cincinnati, from influenza complicating heart disease, December 10.

ORLANDO J. HARRAN, M.D., Northwestern Medical College, St. Joseph, Mo., 1890, at his home in West Beatrice, Neb., after a brief illness, December 10, aged 77.

FREDERICK C. W. PLEIBEL, M.D., University of Pennsylvania, 1862, at the German Hospital, Philadelphia, December 6, after a brief illness, aged 66.

O. K. EARLY, M.D., surgeon of a Kentucky brigade in the Confederate service, at his home in Columbus, Miss., after a short illness, on December 11.

JAMES FLEURY STEWART, M.D., junior resident physician at the S. R. Smith Infirmary, New Brighton, N.Y., from typhoid fever, aged 23 years.

FREDERICK A. HOPKINS, M.D., McGill University, Montreal, 1889, instantly, by being struck by a train at Montreal West, December 1, aged 34.

KIRK C. MCKINNEY, M.D., Kansas City Medical College, 1896, from gunshot wound self-inflicted, at El Paso, Texas, December 8, aged 29.

FRANK SCOTT HARKER, M.D., Medical College of Virginia, 1892, at his home in Richmond, Va., after a short illness, December 8, aged 42.

JAMES H. MCDANIEL, M.D., University of Louisville, 1870, at his home, Centerville, Texas, after a long illness, November 26.

ADOLPH F. KRAUSE, M.D., Rush Medical College, 1895, suddenly, during an epileptic attack at Bowdle, S.D., December 5.

RANDOLPH N. HOWARD, M.D., Jefferson Medical College, 1879, suddenly from heart disease at Carrington, N. D., December 7.

P. L. HUDSON, M.D., University of Georgia, 1877, at Cochran, Ga., from an overdose of chloroform, November 30.

JOHN IGNATIUS GROSS, M.D., University of Maryland, 1865, suddenly, from heart disease, December 14, aged 61.

J. PERRIN JOHNSON, M.D., University of Cincinnati, 1860, at his home in Sioux City, Iowa, December 9, aged 72.

ADOLPH PRAMANN, M.D., University of Wurzburg, Germany, 1856, at his home in New York, aged 68 years.

SAMUEL C. TISDALE, M.D., University of Louisville, 1887, at his home, Port Lavaca, Texas, December 4.

J. S. ZUKOSKIE, M.D., University of Poland, 1867, died near Enley, Mich., November 14.

W. G. BIGELOW, M.D., Stormstown, Pa., at Du Bois, Pa., November 28, aged 87.

A. B. KARTERMAN, M.D., at Hepler, Upper Mahantongo Township, Pa.

If there is anything in a name, the title of this book ought to insure it a successful "run." This does not mean that all there is to it is the poetical title. Far from it. There is not a page but is interesting and some of the descriptions are beautiful word pictures, showing that the author, besides his other gifts, has that faculty which few writers possess—the ability to describe a scene or an occurrence so that the reader can see it as the observer saw it. Lyd-ton takes a trip to his birthplace in California by way of New York, and is snow-bound on the way; to Cuba; across the Isthmus of Panama; up the Pacific coast to San Francisco; and, after a ramble through California, home. He takes the reader with him and shows him what he saw—by photographs "taken on the spot," and by his happy way of describing occurrences and places. He visited many and various towns—on the way South, in Central America, and going North—and kept his eyes open and let nothing escape him. Consequently, he had much to tell and tells it in Lyd-ton's style. While he did not intend to do so, he has made his book instructive, and so the time spent in reading it will not be thrown away. But it is also interesting and entertaining, and this is what he intended it should be. While "Panama and the Sierras" is not as pretentious a volume as "Over the Hookah," nor possibly as deserving of praise from the literary point of view, yet it is one that will add luster to the author's name and insure his right to be placed among that steadily increasing class—The Physician in Literature.

THE PHYSICIAN'S VISITING LIST (Lindsay and Blakiston's) for 1901. Fiftieth Year of Its Publication. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co.

As the title-page indicates, this handy little book completes with this year its half century of usefulness. It is in convenient, pocket form, and neatly but substantially bound. It contains: calendar, metric system, table for converting apothecaries weights and measures into grams, dosage table, notes on asphyxia and apnea, comparison of thermometers, and obstetric table. The blank leaves are for visiting list, memoranda, addresses of patients and nurses, accounts asked for, wants, engagements, record of births and deaths, cash accounts, etc.

THE MEDICAL NEWS VISITING LIST. 1901. Thirty Patients per Week. Leather; pp. 192. Price, \$1.25. Thumb-letter index, 25 cents extra. Philadelphia and New York: Lea Brothers & Co.

This annual volume, which is indispensable in its way to every practitioner, has been very neatly gotten out by Lea Brothers, containing an arranged visiting list with the usual accessories, dosage table, poisons and their antidotes, method of examination of urine, a comparative table of the different thermometers and scales, and a table of weights and measures, with also surgical directions as to certain operations, such as ligation of arteries, and a list of remedies for all the disorders commonly met with. The book altogether is conveniently arranged. The thumb index for the departments is a feature which enhances its convenience.

HEART DISEASES IN CHILDHOOD AND YOUTH. By Charles W. Chapman, M.D. Durh., M.R.C.P. Lond., Physician to the National Hospital for Diseases of the Heart. With an Introduction by Sir Samuel Wilks, Bart., M.D., F.R.S., Physician Extraordinary to H. M. the Queen. Cloth; pp. 98. Price, 3s. 6d. London: The Med. Publishing Co., Ltd.

This little book is offered to the medical public as containing an account of the more common forms of cardiac affections as they occur in young persons. The author has omitted a consideration of the acute cardiac disorders which are for the most part complications of the general febrile states, such as rheumatic fever, and are therefore only incidentally touched upon. The book is largely made up of case records, with critical remarks appended, and it will be found an instructive work for reading by the general practitioner. Special attention is given to certain questions, such as education, sports, etc., in children, which are practical points whose inclusion will be appreciated. We agree with Sir Samuel Wilks in the introduction when he says the author has produced a book of great interest and value.

Book Notices.

PANAMA AND THE SIERRAS: A Doctor's Wander Days. By G. Frank Lyd-ton, M.D. Illustrated from the author's original photographs. Price, \$1.75. Chicago: The Riverside Press, 1900.

Association News.

Research Fund.

The Committee on Scientific Research of the American Medical Association desires to announce that it has available the sum of five hundred dollars for the assistance of researches to be undertaken in the next six months, and that the money will be appropriated if applications be received within the month of January, 1901. Applicants should state clearly the character of the research to be undertaken, and the facilities at their command. Address Dr. H. C. Wood, chairman, 1925 Chestnut street, Philadelphia.

Societies.

Western Surgical and Gynecological Association, Minneapolis, Minn., Dec. 27-28.

Medical Association of Nevada, Reno, Jan. 7, 1901.

Pan-American Medical Congress, Havana, Cuba, Feb. 4, 1901.

Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 26, 1901.

THE MARYLAND OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY, at its annual meeting, elected Dr. Hiram Woods president and Dr. Henry O. Reick secretary-treasurer.

THE KEOKUK (Iowa) MEDICAL SOCIETY has been reorganized and has elected the following officers: Dr. Wilson W. Holmes, president; Dr. R. K. Taylor, vice-president, and Dr. Horace A. Kinnaman, secretary.

THE KENOSHA COUNTY (Wis.) MEDICAL ASSOCIATION met at Kenosha, December 6, and elected Dr. William R. Cheever, president; Dr. Helen Harbert, vice-president; Dr. Paul P. Jorgensen, secretary, and Dr. George T. Kimball, treasurer.

THE SIOUX CITY (Iowa) MEDICAL ASSOCIATION was organized December 7, with the following officers: Dr. George Schott, president; Dr. Van Buren Knott, vice-president; Dr. Marshall E. Silver, secretary, and Dr. John N. Warren, treasurer.

THE SUMMIT COUNTY (Ohio) MEDICAL SOCIETY met at Akron, December 4, and elected Dr. Herman C. Thiess, Akron, president; Dr. Ezra H. Tobias, Inland, vice-president; Dr. Edward A. Monteyoli, Akron, secretary, and Dr. Charles E. Norris, Akron, treasurer.

THE MONTGOMERY COUNTY (Ohio) MEDICAL SOCIETY held its annual meeting at Dayton, December 7, and elected Dr. John S. Beck, president; Dr. Francis C. Gray, vice-president; Dr. Horace Bonner, secretary; Dr. David C. Liehlter, treasurer, and Dr. Duff W. Greene, censor.

THE DELAWARE COUNTY (Ind.) MEDICAL ASSOCIATION at its annual meeting held at Muncie, December 7, elected Dr. George R. Green, Muncie, president; Dr. Charles W. Smith, Selma, vice-president; and Dr. Ulysses G. Poland, Muncie, secretary and treasurer.

THE MINNESOTA VALLEY MEDICAL ASSOCIATION, whose twentieth annual meeting was noticed briefly in the last issue of THE JOURNAL, elected the following officers: Drs. Oliver H. McMichael, Vernon Center, president, Drs. W. S. Fullerton, Minnesota Lake, W. J. McCarthy, Madelia, and Jared W. Daniels, St. Peter, vice-presidents; Dr. George F. Merritt, treasurer, and Dr. Edwin D. Steel, Mankato, secretary.

THE ROCK COUNTY (Wis.) MEDICAL SOCIETY held its annual meeting at Janesville, December 8. The subject for discussion was "Erysipelas," and afterward the following officers were elected: Dr. James Mills, president; Dr. Samuel B. Buckmaster, vice-president; Dr. George W. Field, secretary; Dr. Ransom W. Eldon, treasurer, and Dr. Quincy O. Sutherland, censor, all of Janesville.

THE INDIAN TERRITORY MEDICAL ASSOCIATION held its twenty-fourth semi-annual meeting at Muskogee, December 4. President Dr. Le Roy Long, Caddo, in the chair. In his address, the president recommended that plans be formulated to secure congressional legislation for an insane asylum for the Indian Territory and for a system of public health boards, and a committee was appointed to take these matters in charge. Vinita was selected as the place for the June, 1901, meeting of the society.

THE ORLEANS (La.) PARISH MEDICAL SOCIETY held a meeting, December 8, at which the following officers were elected. Dr. E. D. Denegre Martin, president; Drs. Herman E. Gessner, Louis G. LeBeuf and George Stumpf, vice-presidents; Dr. W. M. Perkins, recording secretary; Dr. Marion H. McGuire,

treasurer and Dr. Sidney P. Delaup, librarian. These officers constitute the executive committee, and, with Drs. Henry D. Bruns, John Callan and Thomas S. Dabney, the board of directors. Dr. Marcus Feingold read an interesting report on the results of the examination of the eyes of 141 Jewish school children. Contrary to the common belief, hyperopia was more prevalent than myopia—a fact which explains the predisposition of the Jewish race to glaucoma. Syphilitic eye disease was entirely absent. Dr. W. M. Perkins exhibited a new plaster knife and demonstrated its application on a cast. The prominent features are: a heavy wooden handle and a strong blade, triangular on cross-section, sloping from back to edge so as to form a projecting point. The blade can be projected from or sunk into the handle by a screw.

Philadelphia Pathological Society.

Meeting Nov. 8, 1900.

President Dr. F. A. Packard in the chair.

Dr. ARTHUR V. MEIGS read a memorial address on the death of Dr. Jacob M. Da Costa.

MECHANICAL IMPROVEMENTS.

Dr. W. M. L. COPLIN exhibited an improved mechanical stage for Dölkens's microscope, which he had devised. To this he had added a wider mechanical stage for studying large serial sections, allowing a movement of $2\frac{1}{2}$ inches horizontally. A fine adjustment may also be obtained. The speaker had also devised a drawing attachment with detachable colored glasses, which slip into the cylinder of the microscope through a slot; it is useful in making drawings. Its disadvantage, however, is that it can not be used with a fluid mount. He had also modified the older form of dissecting microscope so that the elbow of the instrument allows the lenses to be rotated horizontally without changing the focus up or down. The instrument also has the advantage of an extremely long arm, thus allowing for examination of embryonic specimens.

A POSSIBLE SOURCE OF INFECTION.

Dr. M. P. RAVENEL devised a kind of nose-bag to be placed over the head of cattle so as to catch the mucus expelled by them. The nose-bag consisted of a piece of thick canvas with a rounded elbow of such size as to admit the apparatus being adjusted. It was divided into two compartments at the bottom by means of a wire screen so that on one side guinea-pigs could be placed and left exposed to the infective material ejected by the diseased cattle. He had at times examined certain solid particles coughed up by the infected cattle and found them loaded with tubercle bacilli. Of five animals he had made thirty-four examinations of such particles and found tubercle bacilli twenty times. Of forty guinea-pigs left exposed to the material ejected by these animals and confined in the nose-bag twenty became tuberculous.

XYGOTES OF PROTOZOOMA.

Dr. ALBERT WOLDERT exhibited a specimen of middle intestine of amoebae infected with the xygotes of protozooma Labbé, which had been loaned through the courtesy of Dr. Ronald Ross, of the Liverpool School of Tropical Medicine. The specimen had been obtained by Ross in 1898 during some of his earlier work in regard to the subject of the inoculation of malarial fever through the medium of mosquitoes. In this specimen there were upward of 200 xygotes. They could be plainly discerned with a low power lens, but studied to greater advantage with a 1 12 oil-immersion. With the oil-immersion they might be described as being cells more or less round in shape, having a thick, yellowish or hyalin capsule, and in the interior containing a few bright reddish pigment granules, and numerous fatty particles having a yellowish or hyalin tint. The protoplasm had a reticulated appearance and in a few localities slit-like vacuoles could be seen. The xygotes were located somewhat superficially and seemed to lie within the muscular layer of the middle intestine, that is, they were usually found lying on the epithelial cells of this organ. They were from two to three days old and ranged from 7 to 15 microns in size.

Dr. SIMON FLENNER saw recently in Cambridge, Eng., Dr. Nuttall's specimens showing the xygotes of the malarial parasite in all stages, in the middle intestine of the mosquito.

MICROSPORON FURFUR.

DR. M. B. HARTZELL made some remarks relative to the finding of the spores of the microsporion furfur in a case of tinea versicolor, and exhibited photomicrographs. Some writers had said that this organism did not invade the hair follicle, but in one case which he had recently examined and stained with gentian-violet he had been able to detect the spores extending downward throughout the hair follicle as well as in the horny layer. These findings were important from the standpoint of treatment.

PRESENTATION OF SPECIMENS.

DR. A. O. J. KELLY presented specimens from a man who had died of sepsis due to an injury of the bladder received several years ago. The bladder walls were almost an inch thick. The man was also suffering from ulcerative colitis.

DR. WM. G. SPILLER exhibited specimens stained by the Mallory method for neuroglia tissue.

DR. W. M. L. COPLIN exhibited a specimen of perforation of the esophagus. In this instance the opening was almost 2 inches in diameter.

Meeting Nov. 22, 1900.

President Dr. Frederick A. Packard in the chair.

GLIOMA OF RETINA.

DRS GEORGE E. DE SCHWEINITZ and EDWARD A. SHUMWAY reported two cases of glioma of the retina. Dr. De Schweinitz states that in Case No. 1 the posterior region of the eyeball was filled with a grayish mass, which also involved the optic nerve. In certain areas there were deposits of lime salts. In other regions were thick masses of cells, some of which had lost their staining properties. The blood-vessels were thickened and showed hyalin degeneration. The cornea was thin and showed staphyloma. None of the rosette formations described by Wintersteiner had been observed.

The second case was that of a boy who had been suffering for about a year. The anterior chamber was filled with the grayish mass. Stained with eosin and hematoxylin, one portion of the mass stained well, while others had lost this property. The sclera was infiltrated, lens cataractous. None of the masses showed the rosette formations which had been described. As to the etiology of this condition Virchow holds to the belief that they spring from the neuroglia cells. Wintersteiner lays stress on the rosette-shaped cells. He calls such formations neuro-epithelioma of the retina. Of 550 cases there had been metastases to the liver in 61 instances. Besides this locality metastasis had also occurred in the brain and mesenteric glands.

DR. SIMON FLEXNER stated that these formations differed considerably from what is known as tubular sarcoma. This is best studied when the tissue is mounted in glycerin. The rod and cone formation differs widely from that of sarcoma. He had examined a brain and found that the structure was the same as that stated elsewhere.

PARASITIC HEMOPTYSIS.

DR. CHARLES WARDELL STILES, Washington, reviewed the history of the subject and stated that Kerbert in 1878 in examining the lungs of a tiger found a peculiar parasite. In 1880 Manson also found a parasite of a similar kind in man. Writers in Japan and China had reported similar findings. Comparing these reports, it was found that the parasite which had been first found in animals and later in man, by many other observers, was identical. Examining the question further it was found that the parasite was what is termed *paragonimus westermanii*, which is very common among hogs in this country and is communicable to man. Post-mortem the disease might be mistaken for that of tuberculosis. It is essentially an Asiatic disease, and is very common in the Philippine Islands. The latter fact should cause the physicians of America to become acquainted with the condition, since there are now in those islands 65,000 soldiers, and it is safe to say that some of them will bring the disease home with them. Some believe that it is contracted by drinking contaminated water. The intermediate host has been proved to be a snail. As the disease mostly attacks the lungs the infectious agent is thrown off in the sputum, which should always be disinfected. The

dry cuspidor should be employed, since it thrives in liquids. Dogs are also susceptible to the disease, and in eradicating it infected dogs should be destroyed. It has been proved that the parasite must first pass through a snail before it can infect man. In England the disease is termed parasitic hemoptysis, a term proposed by Patrick Manson. It is very common in Japan, Korea, China and in the Philippines, where there is a kind of endemic hemoptysis. As to its frequency it is stated that in Japan there are certain towns in which 15 per cent. of the inhabitants are infected. In other places it is believed 25 per cent. are infected. The speaker had collected 59 cases. Of these 45 persons affected had been between the ages of 11 and 30 years. In the majority of instances the disease occurred among men; 38 persons had been farmers, which may be accounted for on the nature of its cause. The disease is of a chronic nature and may last for 20 years. The treatment is absolutely hopeless. There may be some cough, slight fever and cough, hemoptysis with cavity formation. The disease can be quickly diagnosed by examining the fresh sputum, when the eggs of the parasite may be found. The eggs are oval or elliptical in shape with a more or less darkened extremity. The full-grown parasite is somewhat elliptical in shape, $\frac{1}{2}$ inch long and probably $\frac{1}{4}$ thick in the middle. It is greenish-white in color. While the disease occurs most frequently among hogs, cooking will always destroy the eggs of the parasite. On this account the government could not go so far as to have these infected animals killed. [See editorial comment in this issue.—Ed.]

DR. HENRY BEATES believed the time was near at hand when the medical schools of this country should give a course in medical zoology.

EXHIBIT OF SPECIMENS.

DR. F. S. PEACE presented a specimen of hemorrhage into the pons and crus, with paralysis. The symptoms were simply those of cerebral hemorrhage.

DR. JOSEPH MCFARLAND exhibited a specimen of intestine in which the patient died from intestinal obstruction from a Meckel's diverticulum which had been simply inverted into the gut. He also showed a detached thrombus which had formed in the auricle, and another which had formed in the ventricle of the heart.

Philadelphia Academy of Surgery.

Meeting held Nov. 5, 1900.

President Dr. De Forest Willard in the chair.

INFECTION BY THE AEROGENES CAPSULATUS.

DR. JOHN B. ROBERTS reported a case of infection by the bacillus aerogenes capsulatus in an open fracture of the radius and ulna. The patient last August fractured both bones of the forearm, one bone making a small opening externally. The fracture had been dressed antiseptically. Dr. Roberts had seen the case three days after the injury occurred, at which time there was a small focus of skin near the edge of the wound that had a gangrenous appearance. The wound was opened, the gangrenous area cut away, wound thoroughly drained, and afterward dressed. High fever followed a few days later, and rubicasts were found in the urine. The wound was again examined, and it was found that the gangrenous process had extended higher up the arm, and amputation became necessary. The tissues had a crepitating feeling, as though a large amount of gas had formed in them. Two days after the amputation had been done, urticaria developed, and a small area of gangrene was on one of the flaps. The flaps were opened and the wound drained. Within a day or two the black gangrenous area became mummified. He had dissected the portion of arm removed and found that the blood-vessels had not degenerated, but clots were present in the arteries. Cultures had been made of the fluid from around the wound and smear preparations were also examined. In the former instance Drs. Flexner and Kness had found pure cultures of the bacillus aerogenes capsulatus recently described by Welch. He believed that infection by this organism had occurred at the time of fracture.

DR. MILLER thought it was strange we did not see more cases of infection by this bacillus.

DR. ROBERTS, in reply to a question, stated that he was unacquainted with that form of rapidly spreading gangrene, such as seen during the Civil War, so that he could not answer the question definitely. He believed that there might be some relation existing between this form of gangrene reported and malignant edema.

DR. F. T. STEWART (by invitation) reported two cases of appendicular abscess in the left side, in one of which there was abscess of the lung and pyothorax.

DR. H. A. WILSON reported a case of fracture of the femur in an infant, with osteotomy for deformity. He further reported two other cases operated on by Dr. H. M. Sherman, of San Francisco.

The patient had been an infant three months of age, in which there was found marked fullness just below the great trochanter with apex pointing forward. There had been no shortening. On May 5 an incision showed that the mass was a large callus. Osteotomy was done and the parts put in good position. A plaster-of-paris bandage was applied and good union followed.

DR. E. P. DAVIS gave a demonstration of how fractures in these cases might occur, and how best to prevent them. In doing version it is sometimes exceedingly difficult to prevent fracture of one of the long bones. In podalic version, one should be careful to rotate the head upward as far as possible before bringing the feet downward. In one case he had intentionally fractured the clavicle so as to permit the shoulders to droop forward and thus assist birth of child. In one case about ten days after birth he had found a fracture of the femur, and had last year seen a case in which the humerus had been fractured at birth caused by traction on the arm, made by an inexperienced person.

DR. W. REYNOLDS WILSON spoke of the manipulation necessary in these cases. In one case of breech presentation he had felt something give, and on examination found that this sensation had been due to the slipping of the child's head through a contracted pelvis. He believed that many cases of fracture occurring during birth were due to faulty development of the bony structures.

DR. J. H. JORSON spoke of a case which he had treated by means of a posterior splint, with good results.

DR. H. R. WHARTON believed that many of these cases of fractures supposed to occur during labor were really due to falls after birth.

DR. L. W. STEINBACH had seen one case of fracture at the upper third of the femur. He had used an inclined plane in the treatment with a wire on the posterior surface, with good results.

DR. DE FOREST WILLARD, in cases of fracture of this character, was in favor of making traction applied to the foot. In most cases which he had known, such had been caused by traction made on a hook placed in the groin.

DR. GEORGE G. ROSS read a paper entitled "Angina Ludovici with Report of a Case."

Meeting held Dec. 3, 1900.

President Dr. De Forest Willard, in the chair.

EXCISION OF LYMPHOSARCOMA OF NECK.

DR. W. JOSEPH HEARN reported a case of operation for lymphosarcoma of the neck, in which it was necessary to sever the pneumogastric, phrenic, recurrent laryngeal and sympathetic nerves and part of the thoracic duct.

The patient was a physician aged 50 years, who had first manifested symptoms of the disease in July, 1898. At this time the face became swollen, which he attributed to catching cold. In the fall of the same year he observed that a small tumor made its appearance under one ear, which was later followed by enlargement of the glands of the neck. In July, 1899, some of the enlarged glands of the neck were removed, and on microscopic examination the disease proved to be one of sarcoma. In September, 1899, the glands were again enlarged, and an operation was decided on. The speaker had been assisted in the operation by Drs. Kean, Taylor and Roe. After the incision had been made the carotid artery and jugular were located and separated. The tumor had so involved the pneumo-

gastric, phrenic, sympathetic and recurrent laryngeal nerves that it was impossible to dissect them out, so they had all been severed. It was observed that when the pneumogastric had been cut, the pulse, which had been immediately before somewhat slow, immediately afterward became rapid. When the phrenic was served the abdominal muscles showed a somewhat spasmodic movement. After the thoracic duct had been severed only little chyle escaped, which was probably owing to the small amount of food taken by the patient previous to the operation, but it became more abundant about the tenth day. The patient made a good recovery from the operation and subsequently lived in comfort for many months, but owing to a recurrence of the growth in the region of the sternum and evidences of toxemia death ensued in March, 1900. One interesting feature was that there had been no aphonia, which is said to follow section or disease of the recurrent laryngeal nerve.

DR. W. J. TAYLOR stated that he had assisted at this operation, and believed that it had been the most extensive dissection he had ever seen.

CASE REPORTS.

DR. H. R. WHARTON reported; 1, a case of cholecystotomy; 2, a case of compound fracture of the tibia and fibula, with complicated fracture of the condyle of the femur; 3, a case of left inguinal colostomy for imperforate rectum; 4, a case presenting intermittent symptoms of appendicitis due to a fibrous band. In the cholecystotomy case it was found that a stone had lodged in the cystic duct, while others had been found in the gall-bladder and in the common duct. A biliary fistula had been established and good recovery ensued. In Case No. 2 the X-ray had shown the inner condyle imbedded in the knee-joint, which was opened, and the fragments removed. The limb was afterward kept in an extended position and recovery followed with moderately good motion. Case No. 3 was that of an infant three days of age on whom a left inguinal colostomy had been done. At the end of three months the child appeared to be in good condition. In Case 4 a fibrous band had been found to be attached to the head of the colon and extended downward across the appendix, thus causing either its obstruction or that of the bowel. The speaker also referred to a case of double hare-lip that he had treated in which he had freshened the edges of the wound and allowed the bones to fall inward, thus making a moderately good septum.

OPERATIVE TREATMENT OF CIRRHOSIS OF LIVER.

DR. CHARLES H. FRAZIER reported a successful case; with exhibition of the patient. He was beyond middle life and had suffered from the disease for several years, and on account of the obstinate ascites and other manifestations had been regarded as an incurable one. He had been sent from the medical side of a hospital to the surgical department. An incision had been made extending for several inches, beginning at a point in the median line and below the umbilicus. The fluid had been evacuated, after which the peritoneum over the region of the spleen, near the liver and near the points of the incision, had been rubbed with a gauze pad so as to guarantee adhesions. The diaphragm had also been scarified. The patient had made a good recovery from the ascites. This operation seemed justifiable because it promoted a better venous circulation.

DR. JOHN B. DEEVER had seen a cure of ascites result from simple tapping, and Dr. H. R. Wharton had once done an abdominal operation on a patient suffering with ascites, resulting in a cure of this condition.

TORTICOLLIS.

DR. DE FOREST WILLARD exhibited several cases of torticollis of different types. He believed that one should not be hasty in making a prognosis of such cases when seen for the first time. Many of them seemed obstinate. In some instances a system of gymnastics would be beneficial, while in others it did little good. If there is a neurotic element present, the case will be more refractory. He had seen one interesting case in which there had been marked retraction and rigidity. An operation had been decided on, but on giving an anesthetic all deformity had disappeared, and the operation was deterred. It was believed the case had been one of hysteria.

FRACTURE BANDAGE.

DR. WM. G. PORTER made some remarks on fractures of the leg and exhibited a plaster-of-paris bandage. In cases of fracture he now rolls the parts with a flannel bandage, applies a tin plate and invests the whole with a plaster-of-paris bandage. After this dries somewhat, it is split down the middle and thus conforms to the parts very accurately. It may also be used in injuries of the joints.

Chicago Society of Internal Medicine.

Regular Meeting held Oct. 25, 1900.

President Dr. John A. Robison in the chair.

MEMBRANOUS COLITIS.

DR. JOHN A. ROBISON delivered the Presidential Address, and chose the above subject. He divided the causes into primary, as enteroptosis, infection, bacterial fermentation, intestinal calculi and lack of digestive ferments; and secondary causes, as dyspepsia, traumatism and grave cachectic conditions. The disease most frequently attacks young women who are small-boned, muscular, neuropathic individuals. The face and conjunctivæ are pale and eyes bright, the lips and mucous membrane bluish, and the face is an anxious one. Eruptive skin diseases are frequent. The pulse is usually normal and there is seldom fever in uncomplicated cases. Orthopnea, muscular weakness and insomnia are common and distressing symptoms. Neurasthenic symptoms, especially those of a peripheral neuritis, are frequently met with. The tongue is dry, covered with a thick coating and bleeds easily. The gums are spongy. The breath has a fecal, sometimes urinous, odor, especially in the morning. There may be a peculiar persistent, metallic taste in the mouth. Appetite is good; rarely vomiting, but nausea is common. The stools are most frequent in the early morning and vary from 10 to 40 per day. They are thin, foamy, watery, sometimes bran-like. They may contain much mucus and shreds of tissue. Severe rectal tenesmus frequently precedes the discharge of the membranes. Epigastric pain frequently occurs soon after taking food. It is described as a gripping, contracting feeling. It is usually followed by a bowel movement. The abdomen is more or less tympanic and very tender along the outline of the colon. In cases of enteroptosis there is a dragging sensation with pain in the lower abdomen. Pain is increased by pressure and relieved by heat. Intestinal peristalsis is usually palpable. The urine is scanty, high-colored, of high specific gravity, and frequently contains indol. Transient albuminuria occasionally occurs. Renal insufficiency is exceedingly common. The blood is leukemic in character in severe cases. The venous congestion under the finger-nails is more intense when there is much tympany present. Chemically, the membrane consists of albumin; there is no fibrin. There may be fresh blood on it and it usually contains the bacillus coli communis. Women often have amenorrhœa, ovaritis and left salpingitis. The discharge of membranes may occur at intervals, the patient enjoying good health during the interval. Business cares and domestic worries aggravate the case. A disturbance of the nervo-secretory balance is probably the usual underlying cause of the affection. Although the disease is almost invariably a chronic one and the mortality rate low, the prognosis must be guarded. Medicinal treatment is of no avail. Enteroptosis must be treated surgically. Dyspepsia of the gastro-intestinal tract and intestinal infections should receive appropriate treatment. The diet, in most cases, should be ample, varied and easily digestible. The food should be well cooked and nourishing. Rich soups, gravies, sweets, greasy meats and indigestible fruits and vegetables, as well as pastry, should be avoided. Wines containing tannin are allowable. A flannel abdominal bandage should be worn continuously to avoid chilling, as it increases intestinal congestion. Exercise in the open air and sunshine should be insisted on. The mental condition must be well looked after. Renal insufficiency calls for saline diuretics and an occasional hot-air bath. Hot water flushings through a soft rubber tube tend to relieve rectal irritation and in all but the severe cases high, hot colonic flushings are very beneficial. Great care must be exercised in

the giving of the flushings. Never give opiates, astringents or irritating drugs. Intestinal antiseptics, digestive ferments, and partially digested foods are valuable. The best intestinal antiseptics, in these cases, are bismuth salicylate, salol, benzoic acid, menthol, guaiacol carbonate, betanaphthol and creosote. Each individual case requires separate treatment according to the symptoms present.

DR. J. M. PATTON reported a case in which the course of the disease was as described by Dr. Robison.

DR. ROBERT H. BABCOCK said that he had a case three years ago which he thought was one of membranous colitis. The patient had suffered from diarrhea for years and every possible treatment had failed to produce any result. His breath had a peculiar odor; the colon was contracted and easily palpable and tender, and he had lost control of his sphincters. He had been on an absolute milk diet at one time and a nearly absolute meat diet at another without benefit. Dr. Babcock put him on a diet of vegetables, fruits, nuts and cereals, prohibiting all animal food, and a simple intestinal antiseptic was given as a placebo. At the end of a month he had improved considerably, all symptoms having disappeared and the discharges were limited to four a day. At the end of five or six months he was perfectly well. The trouble recurred with a slight lapse in diet. A year and a half afterward the man returned, presenting every symptom of pulmonary tuberculosis. He died some time afterward, and on post-mortem a large retroperitoneal carcinoma was found.

DR. EDWARD F. WELLS referred to a class of cases in which the false membrane has a fibrinous appearance and is discharged in large quantities and in long cords.

SOME CARDIOPATHIES OF THE DEVELOPING PERIOD.

DR. A. C. COTTON read this paper, and urged the importance of a more systematic study of the heart during infancy and childhood. Knowledge derived exclusively from the study of adult hearts is too frequently misapplied in the consideration of disorders of early life. The normal progressive changes in the young heart in its relationship to the other vessels and organs during the growth period are either not sufficiently understood or too often overlooked in our efforts at clinical differentiation. There are two classes of heart lesions, namely, the congenital and acquired, or post-natal. Of the congenital class Osler makes three divisions, which the author quoted.

The author reviewed the signs and symptoms of congenital cardiac disorders. He also quoted Townsend's report of 30 cases with regard to duration of life, presence or absence of cyanosis, cardiac signs, blood findings, and cited his own clinical records on these points. Concerning acquired or post-natal heart disorders, he believes their frequency in infancy is not fully appreciated; that their presence is frequently unrecognized in children, because, 1, they are not always sought for; 2, the young are examined with difficulty; 3, lesions are often masked by more obvious symptoms of the primary infectious disorders; 4, the symptoms are often indefinite, merely a listlessness or indifference to play, often only dyspnea, or merely tachypnea.

As to treatment, the writer emphasized the need of heart rest, to be secured by any means of procedure that is not contraindicated. Drugs, having an alleged direct influence upon the heart, are to be kept in the background.

DR. ROBERT H. BABCOCK said that congenital cardiac affections are of interest not only from a pathologic but also from a diagnostic standpoint, because they are so difficult to diagnose. It may be possible for the physician who sees the case from birth to make a rough diagnosis of the existence of a congenital affection, but for the consultant, who sees a child years afterward, it is sometimes exceedingly difficult to give whether the affection is a congenital one, and if it is to give its exact nature. Histories of early infancy are unreliable because of their obscurity. He has seen several cases which he thought were congenital, but owing to the fact that a post-mortem could not be made the diagnosis was not verified. He cited the case of a young woman who complained of rapid heart action. There was a pronounced murmur accompanying the first sound in the mitral area. Over the upper por-

tion of the sternum there was a very peculiar murmur which extended throughout the whole cardiac cycle, presenting periods of exacerbation, but never wholly ceasing. There was a well-recognized hypertrophy of the left ventricle and hypertrophy and dilatation of the right ventricle. It was diagnosed as a case of mitral regurgitation with probably a patent foramen ovale. The blood examination showed a well-marked chlorosis. The patient died three or four years afterward and on post-mortem there was found stenosis of the organ just beyond the point where the ductus is given off; a persistent ductus arteriosus; the valves were all intact; the left ventricle enormously hypertrophied; the right ventricle showed no enlargement. That simply illustrates the difficulty of making the diagnosis of what would seem to be such a simple matter as a patent foramen ovale—one of the commonest congenital defects compatible with life. The frequency with which acquired cardiac diseases occur in children is not recognized, because the rheumatism from which they suffer is so atypical, so insidious, that its existence is not suspected. Very frequently the first manifestation is an endocarditis. Objective symptoms are easily recognized, but subjective symptoms are often wanting. It is remarkable how little dyspnea a child will be conscious of, and yet to the observer the rapid breathing gives ample evidence of the cardiac impairment, to say nothing about the tumultuous action of the heart of which the child is unconscious. Acute myocarditis is also often overlooked in children. We know of nothing that is pathognomonic of it. The instability of the pulse is a very suspicious phenomenon, but if acute myocarditis is overlooked it is not a reflection on the physician because it frequently presents no very manifest clinical features. The prognosis of cardiac disease in children is serious just as in the other extreme of life. Although the heart of a child is capable of wonderful adjustment to difficulty it is, nevertheless, rapidly exhausted. The prognosis is unfavorable also because of the emotional excitable nature of the child. It can not exert the self-control which is so essential for the preservation of compensation. Furthermore, the heart may rapidly acquire a size far out of proportion to the capacity of the child's chest thus disturbing the circulatory balance. Parents are loath to exert the restraining influence on the young child suffering from heart-disease. The child is fretful and the parents are unwilling to insist on such a regimen as will offer a possibility of prolonging life. Rheumatism in children frequently manifests itself as a tonsillitis and the physician should be alive to its dangers.

DR. LUDWIG HEKTOEN said that in speaking of myocarditis in children, reference should be made to syphilitic myocarditis in congenital syphilis, as it may be the cause of sudden death. He has had occasion to study two cases of interstitial proliferations in the myocardia due to a congenital syphilis. Dr. Cotton's first case of aortic-pulmonary communication is, as far as we know, the first one reported in America and the tenth in literature. In all these ten cases the anatomical conditions were the same. The defect is the result of a developmental anomaly in the septum between the pulmonary artery and the aorta. It is to be distinguished from accidental communications, which are much more frequent and are produced by aneurysms, ulcerative aortitis and similar lesions; also to a persistent, large, and unusually short ductus arteriosus. The sexes are equally represented in these ten cases. The age varies from a few days to thirty-four years. Half of the cases live to be more than 4 years of age. Those cases that lived to be older than 4 years presented well-marked symptoms of heart disease, which were in no way distinctive of the existing condition. Many of the writers refer to the presence of double murmurs at the base of the heart. Cyanosis was observed in many of the cases, but it would be difficult to distinguish between cyanosis due to this communication and cyanosis due to failure of the myocardia late in the disease. Sometimes there is a communication between the aorta and the right ventricle which depends on failure of union between the septum of the bulb and the interventricular septum. As regards the second case, while the mitral and aortic valves were irregularly thickened, there is some question as to whether

that could be designated as the result of endocarditis. The valves are smooth and the thickening might be due to irregularity in development. There is a bulging at the junction of the aorta and the interventricular septum and a passage beneath a fully developed anterior aortic valve. In the bottom of this bulging, which is quite aneurysmal in appearance, is situated the opening of the right coronary artery. The smoothness of the wall of this bulging and the perfect condition of the valve seems to speak against aortitis or endocarditis and in favor of a developmental defect. It is impossible to speak definitely on this point, because lesions in intrauterine life heal perfectly. If the defect is to be regarded as being developmental how can it be explained. Dr. Hektoen has studied this question quite thoroughly and has arrived at the conclusion that it is the result of defective development in the septum of the bulb which divides the bulb into the pulmonary artery and aorta, and which, when it unites with the interventricular septum, completes the division of the bulb into the pulmonary artery and aorta and the heart into the left and right ventricle. Two ridges, one anterior and one posterior, help to close the original opening between the two ventricles of the heart. In the case presented there seems to have been delay in the closing of the septum, although the aortic valve developed normally. The embryology of the semi-lunar valves in the human body has not been extensively studied. We know, however, that before the bulb divides into the pulmonary artery and aorta two endothelial cushions appear, one at the beginning of the ridge which forms the beginning of the septum, and as the septum develops these two cushions divide into two additional cushions, thus giving two on each side. These are subsequently hollowed out and form the leaflets of the semi-lunar valves. Vierordt suggested that this hollowing-out process may spread to the septum between the aorta and pulmonary artery and thus give rise to the aortic-pulmonary communication described in Dr. Cotton's first case. It is, however, difficult to understand how the hollowing-out process jumped from a semi-lunar valve to the wall of the aorta. The same explanation might be applied to the defect in the semi-lunar valve in Dr. Cotton's second case, but it meets with the same difficulty there. Defects in the septum between the pulmonary artery and the aorta may lead to three conditions: 1, communication between the aorta and pulmonary artery; 2, communication between the aorta and right ventricle; 3, communication between the aorta and left ventricle under the semi-lunar valve. This is the only case of its kind in medical literature. Bands of different kinds have been found extending across the root of the aorta, but no defect of this character. If these communications are developmental in their origin, they date back to about the sixth week of intrauterine life, because at that time the septum between the pulmonary artery and aorta is complete.

DR. GEORGE W. WEBSTER said that congenital endocarditis occurred with great frequency without exhibiting any known symptoms or reasonable evidence of rheumatism on the part of the mother. These cases of fetal endocarditis involving usually the right side of the heart, contrast strongly with the acquired endocarditis which involves the left side of the heart. The explanation of this probably lies in the fact that the various micro-organisms capable of producing infection and inflammation develop more readily in the venous blood in the left side of the heart after birth, and just as readily in the venous blood found in the right side of the heart previous to birth. It is well known that in cases of congenital or fetal endocarditis they are very prone to attack the pulmonary orifice.

In regard to the diagnosis, he has had three cases under his observation during the last two years and in all of them one of the notable points was the increase in the percentage of hemoglobin, as high as 120 in one case. Another feature was the impaired physical and mental development. One of the patients, a boy of 11, was not larger than a boy of 3½. His intellectual impairment was so great that up to that time he had not been able to memorize all of the alphabet. He would learn three or four letters a day, remember them for that day, but promptly forget them by the next day. He slept most of the time. The cyanosis in all his cases has been more marked

than occurs in any acquired disease of the heart where any other than the pulmonary orifice is involved. He attributes the cause of this to the lessened tissue change which is present in these cases and evidenced by both physical and mental impairment. These cases probably terminate earlier because of the condition of the heart, the impaired circulation and the deficient aeration of the blood. Another reason is that while any defect or deformity or disease of the other valves of the heart rather protects against a pulmonary tuberculosis, with the possible exception of mitral stenosis, stenosis of the pulmonary orifice predisposes to pulmonary as well as to general tuberculosis, from which they are very liable to die. When the heart develops to an extent quite out of proportion to the development of the coronary artery, the tissue of the heart must suffer in its blood supply and this will ultimately destroy life. He emphasized the fact that in children and youths, contrary to what is taught in text-books, the pulmonic second sound is relatively louder than the aortic. As age advances, and as there is lessened elasticity in the systemic arteries and arterioles, the relative pressure in the two systems gradually changes; it becomes higher in the systemic with consequent accentuation of the aortic second tone.

The reason that pericardial effusion is so often overlooked is because the majority of physicians begin the examination of the heart by clapping on a stethoscope as soon as the chest is bared. This is wrong. The diagnosis ought to be made before the stethoscope is resorted to. Careful inspection, palpation and percussion should be made before the stethoscope is used.

DR. ISAAC A. APT, when examining the hearts of newly-born children, has occasionally heard a murmur over the upper portion of the sternum, which disappeared after four or five days. He came to the conclusion that they were due to the temporary patency of the foramen ovale. Rauefuss and Hueh-singer say that accidental murmurs never occur in children under 3 years. Fisher, of Boston, frequently heard a bruit over the fontanelle of children and called it the brain murmur. This can be heard over the back and base of the heart of young children quite frequently.

DR. J. M. PATTON thinks that murmurs ought to be classified, as has been done by several English writers, into those which are due to errors of development and which antedate the period at which the specialization of organs occurs and which embrace errors of development as acardia, dextrocardia, etc., including probably transposition of the two great arterial trunks, and murmurs due to lesions occurring after the specialization of organs has taken place. These conditions may be called pathological, whereas the previous ones belong to the department of teratology. It is in the latter class that the diseases due to fetal endocarditis belong. The middle ground covers the developmental area of the arterial bulb described by Dr. Hektoen and perhaps some of the anomalies which occur in the various valves. Much discussion has taken place as to which class they belong to. Undoubtedly the majority of cases of stenosis of the arterial cone of the right ventricle and of the pulmonary artery are probably due to fetal endocarditis. Those cases arising from failure of the arterial bulb to place itself in proper position from the twisting process it undergoes previous to the union of septum and auricle and the division of the arterial bulb, probably come under the head of developmental errors including those cases where the aorta is in partial communication with the right ventricle.

Under the second class we can take up Osler's classification: Defects of the septum, ventricles, auricles, anomalies of the valves and all the conditions he describes. The most common result of fetal endocarditis is undoubtedly stenosis of the pulmonary artery or the cone of the right ventricle. Rauefuss claims that in the absence of congenital malformation disease of the left side is just as common as of the right, and lesions of the aortic and mitral valves are just as frequent as pulmonary lesions in the absence of congenital malformation. Bouchard claims that all these lesions are due to fetal endocarditis. In regard to the marked degree of hypertrophy of the right side of the heart, we must remember the increased pressure the right ventricle is working under and some of the developmental errors are in a measure due to that cause. The septum, in

its development, is sometimes disposed so far to the left as to open a direct communication between the right ventricle and arterial bulb. The most experienced clinicians have for the last few years dwelt on the development after birth of endocarditis and pericarditis. The preference is generally given to pericarditis. Sturgis says that pericarditis in children is always accompanied by endocarditis, and that endocarditis in early life is certain to bring about a pericarditis. There is a good deal of difference of opinion as to the occurrences of functional murmurs. Senator thought they were frequent; Troussseau thought they might occur; Jacob did not think they were frequent. We must remember that cardiac cavities develop more rapidly in size than in thickness; murmurs occurring under those circumstances should not be considered as functional. If the child is vigorous, murmurs are not often heard, except when the pulse is, for some reason, rapid, when the murmur might be regarded as a functional one, unless there were distinct evidences to the contrary. Inflammations of the heart are not at all uncommon in children who have had rheumatism, according to statistics, 50 to 80 per cent. Cyanosis occurs most often with stenosis of the pulmonary artery. The cause has been attributed to mixture of the blood, but it also occurs in cases in which there is no admixture. Reeves attributed it to want of oxygenation, which probably has something to do with it. The corpuscles of the blood as well as the hemoglobin are increased. The diagnosis of these lesions is extremely difficult. It is possible to map out the heart and tell whether a murmur is present, but it is exceedingly difficult to tell what causes that murmur. We can only conclude that it is a case of congenital disease of some kind.

DR. HAROLD N. MOYER said that during the last fifteen years Rush has had over a thousand cases of chorea in his clinic. The examination of the heart was rather perfunctory at that time and when more careful examination was made they found a much larger number of heart complications than is usually stated by authorities. It is extremely difficult to impress students and assistants with the necessity of correctly examining the heart. They always want to use the stethoscope first, instead of inspecting, palpating, and then listening. The heart is examined in every case of chorea, and more than half of them have heart complications.

DR. WILLIAM J. BUTLER did not agree as to the difficulty of diagnosing congenital heart lesions. Dr. Cotton made some diagnoses and they were proved correct on post-mortem. The presence of a heart murmur in an infant immediately becomes significant of a congenital heart lesion. It is not so difficult to diagnose lesions that come to one's notice later in life as is generally conceived. The most frequent lesion is that of pulmonary stenosis, whether it involves the pulmonary artery, the conus or the valves themselves. The symptoms and signs are occasionally so strikingly typical as to be easily diagnosed. Cyanosis is very characteristic, but is not always present, as in one of Dr. Cotton's cases. The absence of cyanosis was undoubtedly due to the anemic condition of the child. In these pulmonary lesions there is invariably a murmur, sometimes so marked as to be heard some distance from the chest. They are usually accompanied by a marked chill and are heard and felt most distinctly over the pulmonary area.

Cleveland Medical Society.

Quarterly Meeting, October 26, 1900.

President Dr. Henry S. Upton in the chair.

SOME PROBLEMS IN PEDIATRICS.

DR. L. EMMETT HOLT, New York City, dealt with this subject. The present has been called the age of the child. Taking up first the present status of diphtheria antitoxin he pointed out that all its opponents who had consented to give it fair trial had been won over. Reciting the facts and statistics in detail, he showed that the mortality from diphtheria has everywhere been reduced more than one-half by the use of antitoxin, and in each locality in proportion to the vigor and extent of its employment. The proportion of laryngeal cases requiring operation has been reduced one-half, and intubation now saves 70 per cent. of cases instead of the former 30 per cent. The

physician who now treats diphtheria without antitoxin is guilty of as great criminal negligence as is a surgeon who does a laparotomy without sterilizing his hands, instruments or dressings. Immunizing doses have been too small; 500 to 700 units should be given to a child of 5 years, and 250 to 350 to an infant under one year.

Koplik's sign in measles he had found present in 90 per cent. of cases and is almost as characteristic of the disease as the skin eruption. It enables diagnosis in the majority of cases one day before the eruption; and in a few cases still earlier. When recognized there is always found to be some rise of temperature, so that its value in preventing the spread of an epidemic is not sure. It is of great value in differential diagnosis.

Infantile scurvy deserves more attention from the profession than it receives. Frequently it is called rheumatism, and at times neuritis, joint disease, or osteitis, but these diseases rarely occur so early in life—83 per cent. of cases of scurvy occurring at 6 to 15 months. Proprietary foods, sterilized milk, and condensed milk are the chief causes of the disease.

DR. L. B. TUCKERMAN said that any improvement in the feeding of children probably adds more to the sum total of health than the most marked advance in surgery. He asked the essayist if anything was known to the effect on dairy milk, and through it on children, of the feeding of cows on ensilage, a practice which has grown very common with farmers.

DR. OSCAR B. CAMPBELL said that without doubt modified milk was the best food for infants, but that practically the methods are hard to follow. It had been his experience that in very many cases the mother or some other person had interrupted the treatment by the administration of some of the proprietary foods, and had neglected to follow out the prescription. He wished to know how the man in general practice was going to carry out this method of feeding, when he had so little control of the case.

DR. JOHN L. HESS asked what had been the essayist's experience with modified milk as compared with Pasteurized milk. It had been his experience that children had thrived better upon the Pasteurized milk than they had upon the milk from the Walker-Gordon laboratory.

DR. HUNTER H. POWELL said that beyond doubt the modified milk was very superior to the ordinary Pasteurized milk, because the proportions of its constituents can be changed to suit the individual case. He asked the essayist if peptonized milk had any particular action in scarlet fever, as has been claimed by some authorities. His experience with diphtheria antitoxin has been very favorable. While the antitoxin is expensive for the poor, it yet may not cost the poor man as much as a dozen visits from a physician, which he would otherwise probably have to pay for.

DR. NATHAN ROSEWATER said that it should be noted that there are times when no food will agree with children, while after the nervous conditions have passed away the results are much better. Therefore, it should not be expected that even modified milk will on first trial agree in every case.

DR. SAMUEL W. KELLEY said that he had been very much aided in feeding infants by the establishment of the Walker-Gordon laboratory in Cleveland. However, it is possible in many cases to teach the parent to modify milk satisfactorily at home. In regard to the use of diphtheria antitoxin he said that in his practice it had not been increasing as fast as with the general profession, and he had never found it necessary to use such large doses as some recommended. He thought that 2000 or 3000 units would cure the average case. He thought that it was largely due to the influence of the manufacturers that such large doses were being used. He is suspicious that the standard preparations are little more reliable than the concentrated ones, and he wished to know what Dr. Holt's opinion was on this point. He thought that the clinical picture of diphtheria was so plain that it was seldom necessary to wait for a bacteriologic examination.

DR. HOLT, in closing, said that he did not know much about the feeding of cows, but that men who had given the matter attention thought that ensilage was a very good and a very safe food. He thinks there is some misunderstanding as to what

modified milk really is, and it seems that it is anything that the physician wants. The percentage of fat, sugar and proteids can be constantly varied to suit the physician's prescription. He thought that babies in Cleveland must have different stomachs from those in New York if Pasteurized milk suits them better than modified milk. The chief value of the laboratory is that it does things definitely, so that if the baby needs a change of food the physician can get just what he wants. If the child is spitting up milk, we know that probably less fat is required, or if it is getting fat too rapidly we should order less sugar. The milk laboratory occupies the same relation to the physician as does the drugstore.

He thought that most of the antitoxin offered for sale is reliable. It is made mainly by large firms because it requires an expensive outfit, and it is usually fresh when made by such firms as Parke, Davis and Company, Mulford and Company, and Frederick Stearns and Company. The concentration of the antitoxin has much to do with the number of doses necessary. In regard to the few sudden deaths reported from its use, he thought that it was not different from our early experiences with any other remedy.

Denver and Arapahoe Medical Society.

Regular Meeting held Nov. 27, 1900.

SUBARACHNOIDEAN INJECTION OF COCAIN FOR ANESTHESIA.

DR. JOHN S. MILLER thinks that the term "subarachnoidean injection" is more descriptive and more nearly anatomically correct than the terms "medullary injection," "medullary narcosis," "subdural infiltration," "spinal anesthesia," "cocain anesthesia" of the spinal cord, etc. This new procedure will have to pass through the ordeal of probation divided into three stages, viz., enthusiasm, moderation, and finally approbation. He suggested an experimentation on a dog for the purpose of studying the diffusibility of the cocain solution in the lumbar subarachnoidean space. In summing up the advantages of the subarachnoidean method over the general anesthesia he said that the respiratory, cardiac, gastric and renal organs are not so seriously disturbed as by the inhalation method. Still another advantage is that of the ability of the patient to confer with the surgeon during the operation in case a modification of the original plan must be made and the patient's consent is necessary. He referred to the medicolegal aspect of this mode of anesthesia.

DR. J. T. ESKRIDGE does not believe in the theory of diffusion through the spinal fluid. He is of the opinion that the cocain solution is absorbed through the circulation, that in order to produce anesthesia it is not necessary to inject the cocain solution into the arachnoidean space, that anesthesia will follow the injection outside the dura. There can be no anesthesia in any part in which the blood-vessels have been previously cut.

DR. LEONARD FREEMAN would prefer in all major operations complete general anesthesia, so as to insure absolute relaxation of muscles and avoid the possibility of inflicting pain should the action of the cocain for any reason close before the operation is completed. He thinks the method should be used in persons who have a mortal fear of the state of unconsciousness.

DR. C. P. HERSHEY reported two cases in which the subarachnoidean method was used. The first was a painful knee-joint in which the merest touch would produce pain. Ten minutes after the injection the anesthesia was complete. The patient, a lady, became talkative, nervous, then sick at the stomach. The second case was that of fistula in ano in a male. He, too, became very talkative. The anesthesia was not complete and was not equally distributed. There was no headache and no vomiting.

DR. WM. C. MITCHEL exhibited a 2 per cent. solution of cocain which contained numerous colonies of various bacteria. He described his method of preparing sterile cocain solution, which was used in the two cases reported by Dr. Hershey. He filters the solution and then exposes it to a temperature of 176 F. for one hour, which destroys the bacteria, but not the spores. After twenty-four hours he again exposes the solution to a temperature of 176 F. for an hour, and the day following he gives

a final sterilization as before. This method is both scientific and reliable.

DR. VAN ZANT cannot agree with the absorption theory of Dr. Eskridge, since the patients retain their motor functions.

Detroit Medical Society.

Regular Meeting, held November 21, 1900.

SOME OBSERVATIONS ON NORMAL TEMPERATURES IN CHILDREN.

DR. WILLIAM M. DONALD read a paper on this subject. Twenty children, all apparently in perfect health, inmates of the Protestant Orphan Asylum, were selected for the experiment. Temperatures were observed night and morning for fourteen days, giving a total of 28 collective readings. Twelve collective readings, or 42 per cent., gave a constant mean evening temperature of 99 Fahrenheit, or over. Five collective readings, or 18 per cent., gave a higher morning than evening temperature. There were 560 individual readings. On 13 occasions, or .02 per cent. of the 560 readings, a temperature of 100 or over, was found. On one occasion a temperature of 101 was recorded and on another occasion 102 was reached.

Of the 20 children examined 30 per cent. showed a tendency to a constantly high temperature of about 99 to 99.5. Fifteen months after these observations were made these children remained in the same state of perfect health, no pathological condition developing or becoming manifest to account for this aberration from the normal. The conclusions were that a higher or lower temperature may have no pathological significance, being purely physiological.

DR. A. W. IVES read a paper on "Thermotaxis," dealing with the physiological process of heat production and dissipation. Drs G. W. MORAN, M. L. High, Walter J. Wilson, Jr., C. G. Jennings, W. L. Anderson and A. D. Holmes discussed the papers.

DR. ANGUS McLEAN presented an aneurysm removed from femoral artery, with report of case and exhibition of patient.

DR. EUGENE SMITH reported two cases of mastoid disease with operation.

DR. DON M. CAMPBELL reported a case of large foreign body removed from the eye with the Johnston magnet. The piece of iron and magnet were exhibited.

Therapeutics.

Epistaxis.

All that is necessary in epistaxis is to fashion with a pair of scissors a dry plug of prepared sponge, in size and length comparable with the little finger of a 12-year-old boy. Soak this in boiled water, squeeze it dry and insert its full length, gently along the floor of the bleeding nostril. No styptic will be necessary. The expansive pressure of the sponge increased by the coagulation of the blood will check the hemorrhage immediately. Remove it in twelve hours and under no circumstances allow it to remain longer than twenty-four hours.

—*Sajous' Cyclopaedia.*

Removal of Dressings from Wounds.

In order to relieve the pain and irritation caused by the removal of dressings adhering to a wound, pour some hydrogen peroxid over the adherent part of the dressing. This will rapidly soften the coagulated discharges and the dressing will come off readily. This method saves time in prolonged soaking with ordinary solutions, and relieves the apprehension of the patient usually shown at each fresh dressing.

—*Canadian Pract. and Rev.*

Jaundice.

The following prescription for catarrhal jaundice is recommended by the *Riforma Medica*:

R. Resine podophylli	
Ext. hyocyami	
Saponis, āā	gr. ivss
Ext. rhei	gr. xv
M. Ft. pil. No. x.	Sig. One or two pills daily.

Albuminuria of Pregnancy.

JAMES W. McLAINE, in the *Medical News*, orders rest in bed, plenty of fresh air, skimmed milk diet, with no alcoholic liquors, half a gallon of water—not mineral—a day, to flush out the kidneys, a daily warm bath, and the following pill may be given when necessary:

R. Ext. colocynth comp.	gr. ii	12
Massæ hydrargyri.	gr. iss	09
Ext. nucis vomicæ.	gr. 1/6	01
Pulv. alois	gr. ss	03
M. Ft. pilula No. i.	Sig. At bedtime.	

In acute cases, if the patient is plethoric, venesection is advised, or dry or wet cupping over the loins and free catharsis:

R. Hydrarg. chloridi mitis.	gr. x	66
Sodii bicarbonatis	gr. xx	133
M. Sig. At one dose.		

If there is no relaxation of symptoms, induce labor as soon as the child is viable.

To Lessen Labor Pains.

In a lecture on "Mechanism of Normal Labor." Dr. Davis recommends an injection, per rectum, of:

R. Lactis		
Aque. āā	ʒi	32
Chloral hydratis	gr. xxx	2
M. Sig. Administer per rectum.		

The above may be used during the first stage of labor to lessen pain. As the head passes the vulva the patient is given sufficient chloroform to dull the sensibility.

—*Monthly Encyc. of Med.*

Tapeworm.

The *Medical Record* contains the following prescription for tapeworm. The synergistic combination should certainly accomplish the purpose for which it is given:

R. Granati—pomegranate	ʒiv	16
Peponis—pumpkin seed	ʒi	32
Ext. aspidii—male fern	ʒi	4
Pulv. ergot	ʒss	2
Olei tiglii	m. ii	12
Gum arabic	ʒi	4
Aque, q. s., ad.	ʒviii	256

M. Sig. At one dose, followed by a dose of rochelle salts.

The intestinal tract is first relieved as much as possible by giving the patient but little food and a full dose of rochelle salts.

To Retain Nutrient Enemas.

The instillation of a few drops of a 3 per cent. solution of cocaine into the rectum by means of a medicine dropper has been recommended in order to aid a patient to retain an enema when it is given with that object in view; by this procedure the sphincter is partially anesthetized for a period of twenty to thirty minutes.

Wet and Dry Dressings.

R. H. Skillern, as stated by the *Phila. Med. Journal*, advises as to when to use dry and wet surgical dressings in dealing with minor operations, and as the general practitioner is called on to meet such cases frequently, we give his comparison of the efficiency of wet and dry dressings:

1. A dry dressing is superior to a wet one in incised wounds.
2. In contused and lacerated wounds a wet dressing should be employed for a week or two, followed by a dry one.
3. In carbuncles, boils and infected wounds, a wet dressing is indicated.
4. When pus has burrowed and sinuses exist, packing and a dry dressing are preferable.
5. In deep punctured wounds with a small orifice, a wet dressing is better.

In all wounds of the scalp whether infected or not, a dry dressing should be used.

Chilblains.

R. Acidi sulphurosi	ʒiii	12
Glycerini	ʒi	4
Aque destil	ʒi	32
M. Sig. Apply on lint to the affected parts.		

Penna. Med. Jour.

Acute Bright's Disease.

Stevens, in *Phila. Med. Journal*, gives a summary of an article by J. M. Bruce, which appeared in *Practical Medicine*: Rest in bed in a room at not less than 60 F.; flannel garments, blankets, no sheets; careful nursing; warm baths; never cold.

The patient should be placed upon a milk diet—diluted with water if necessary—and as a purgative he advises the following:

R. Potassii bicarb.	5i	8
Sodii tartratis gr. x		66
Tinct. aurantii corticis m. xv	1	
Syrupi aurantii m. xxx	2	
Aque destil. q. s., ad.	5i	32

M. Sig. At one dose.

As a saline diuretic and diaphoretic:

R. Potassii acetatis gr. xx	1	33
Potassii bicarbonatis gr. x		66
Solutionis Am. acetatis 5ii	8	
Tinct. limonis m. x		66
Syrupi m. xxx	2	
Aque q. s., ad.	5i	32

M. Sig. At one dose every six hours.

In the more severe cases vapor and hot-air baths. If the case progresses properly different forms of farinaceous foods may be given in addition to milk. Then in succession, light vegetables, subacid fruits, fish, fowl or game, fat bacon. The urine, heart and general strength should be watched and with the meals an abundance of distilled or vichy water should be given.

AS A DRINK.

R. Potassii bitart.	5v	20
Syrupi. q. s.		
Aque bullientis Oi	5i2	

M. Sig. Drink ad lib.

Give no stimulants and caution patient about sitting up, a return to which should be gradual. And at this time prescribe the following as an unstimulating diuretic mixture:

R. Ferri et ammonii citratis. gr. v	33
Potassii citratis gr. v	33
Ext. scille flu. m. i	66
Spts. etheris nitrosi	
Syrupi aurantii, aa. m. xxx	2
Aq. destil. q. s., ad.	5i

M. Sig. At one dose three times a day after each meal, and give a purgative each morning.

Fetid Bronchitis.

Naphthalin is considered by Dr. Pirnot a most excellent remedy in fetid bronchitis. He relates two cases in which the fetor was so strong that it was dilficult or impossible for people to stay in the same room with the patient. He prescribes the following:

R. Naphthalin	5i	4
Alcoholis—absolute,		
Syr. pruni virg., aa.	5i	48
Ext. scille flu.	5iv	16
Tinct. aceniti m. viii		5

M. Sig. One teaspoonful every three hours.

In addition he ordered the following to be given alternately with the above:

R. Iodoformi,		
Calcii phosphati, aa. gr. xxiv	1	5
Pulv. ipeacacuanhae,		
Ext. hyoseyami, aa. gr. vi	36	
Pulv. opii gr. iv	25	
Olei anisi m. x	66	

M. Ft. capsulae No. xxiv. Sig. One every three hours. One patient was cured within a month and the others within eighteen days.

—*Merck's Archives.*

Crusts and Fissures of the Nostrils.

R. Unguenti hydrarg. ammon.		
Vasolini, aa. 5i	iss	10
Zinci oxidii gr. lxxx	5	
Plumbi acetatis gr. i	4	015

M. Sig. For external application night and morning.

—*Practitioner.*

Venereal Warts.

For a corona of small warts just back of the glans penis, and traced to the irritative action of the vaginal secretions on a surface weakened by too much venery, use the following dusting powder, and insist upon continence for at least three months:

R. Hydrargyri chloridi mitis	5ss	2
Acidi tannici gr. xx		133
Bismuthi subnitratii 5ss		2

M. Sig. Use locally as a dusting powder. —*Shoemaker.*

Acne.

Acne in its different forms is not infrequently met with by the general practitioner. Shoemaker, in the *Medical Record*, advises the following treatment in acne due to digestive derangements:

R. Creosoti	m ss	03
Cerri oxalatis gr. ii		12
Pepsini puri gr. i		06
Strychnina sulphatis gr. 1/60		001
Tinct. belladonnae m. ii		12
Podophylotoxini gr. 1/10		006

M. Ft. capsula No. i. Sig. One such to be taken after each meal and at bedtime if necessary.

R. Acidi salicylici gr. xx	1	33
Olei eucalypti m. x		66
Acidi borici 5ss	2	
Ungt. zinci oxidii		
Ungt. aque rose, aa. 5ss		16

M. Ft. unguentum. Sig. As a local application night and morning.

Hepatic Colic Gall-Stones.

In the treatment of hepatic colic the use of morphin may be avoided by giving other preparations of opium accompanied with some antispasmodic. Baealoghi outlines the following treatment in hepatic colic:

R. Ext. belladonnae gr. ss	03
Ext. opii gr. ii	12
Ol. theobromatis, q. s.	

M. Ft. one suppository—make four such. Sig. One, and in one hour repeat, then every two hours.

Apply over the region of the liver a flaxseed poultice made with laudanum. Give the following internally:

R. Sodii bicarb.	5i	4
Aq. destil 5i	iii	96
Syr. simplicis 5i	32	

M. Sig. One teaspoonful every half hour, alternating with:

R. Acidi citrici	5i	4
Aque destil 5i	iii	96
Syrupi limonis 5i	32	

M. Sig. One teaspoonful at a dose every half hour.

Jaundice in the Newly Born.

R. Ammonii chloridi gr. i	06
Syrupi acacie 5ss	16

M. Sig. A teaspoonful every two hours.

The above is recommended by Musser, who advises it in the mild forms. He first recommends the administration of a mild laxative, as calcined magnesia or calomel, and proper elimination by the kidneys by giving potassium nitrate well diluted.

Vaginal Irrigation in Leucorrhœa.

Lutaud, in the *Medical Record*, gives the following formula:

R. Potassii chloratis gr. lxxx	5
Vini opii 5i	4
Aque picis 5iv	128

M. Sig. Add two or three teaspoonfuls to a quart of warm water as a douche.

The following combination of creolin and hydrastis contains the antiseptic properties of the one and the astringent properties of the other:

R. Creolin	5ii	8
Pulv. ext. hydrastis q. s. ad.	5ii	64

M. Sig. One tablespoonful to a quart of warm water twice a day.

Unpalatable Drugs Made Palatable.

Dr. L. Freyburger, in his "Pocket Formulary of Diseases of Children," offers the following suggestions:

Aloin, one-quarter grain, is disguised by ten minims of fluid extract glycyrrhizæ comp.

Ammonii bromidum, ammonii carbonas, and chloral hydras, one grain, are disguised by five minims of syr. aurantii.

Potassii bromidum, three grains, is disguised by fifteen minims of syr. aurantii.

Potassii iodidum, one grain, is disguised by one-half dram aqua menthae piperita.

Quinina hydrochloras, one half grain, is disguised by twenty minims syr. aurantii.

Sodii salicylas, three grains, is disguised by five minims of syr. simplex and one dram syr. cinnamomi.

Medicolegal.

Admissibility of Declarations of Pain.—The Supreme Court of California holds, in *Green vs. Pacific Lumber Company*, that a nurse being asked to state any complaints of pain and suffering heard is not objectionable on the ground either that the witness is not an expert or of the evidence being hearsay. It says that involuntary declarations and exclamations of a person's present pain and suffering are admissible as tending in some degree to show his physical condition. Of course, when these declarations only amount to statements of his past condition, they should be rejected.

Alcoholic Insanity as Defense to Crime.—In *State vs. Rigley*, the Supreme Court of Idaho holds that where the evidence shows a party made an assault with intent to commit murder, and the defense of alcoholic insanity is set up, it must clearly appear from the evidence that the party making the assault had no deliberate intention of doing so from motive of revenge for a real or imaginary injury. The kind of alcoholic insanity which simply tends to accelerate the party in seeking revenge for either a real or imagined injury, and which is directed solely against the author of such injury, the court declares, is a very different disease from that which is motiveless, and results in a mere "delirious fancy and a muscle raised obedient to its impulse."

Insane Delusions Affecting Wills.—Prejudices, dislikes, and antipathies, however ill-founded, or however strongly entertained, the Supreme Court of California says, in *re Kendrick's Estate*, can not be classed as insane delusions; nor is every delusion an insane delusion. Whenever one's mind is tricked or deceived into a false opinion or belief, it has been played upon; it is deluded. But an insane delusion is the spontaneous production of a diseased mind, leading to the belief in the existence of something which either does not exist in the manner believed—a belief which a rational mind would not entertain, yet which is so firmly fixed that neither argument nor evidence can convince to the contrary. Moreover, such an insane delusion must have operated to cause the production of the will which is under attack to justify a refusal to probate it. Then the court states that it is a characteristic of monomania and insane delusion that, when the conversation turns upon the subject, the patient is dominated by it, and can not conceal his conviction.

Examination Twenty Months After Alleged Rape.—The New York Penal Code contains a provision that no conviction can be had for rape on the testimony of the female defiled, unsupported by other evidence. To meet this, the fourth appellate division of the Supreme Court of New York holds, in *People vs. Butler*, that it was error to permit to be introduced the testimony of a physician to the effect that during the time of the trial, twenty months after the date of the alleged commission of the crime, he made an examination of the person of the prosecutrix, and found that she was not a virgin, because that would not tend to prove that the female had illicit intercourse at or even about the time averred. On the other hand,

the court says that it would undoubtedly have been competent for the defendant to have proved that the genital organs of the prosecutrix at the time of the trial were in such condition as to indicate that she was then a virgin, which, if the testimony was believed, would have exonerated him. Further along, the court says that the crime of rape is a most atrocious one, and one which most naturally tends to enlist the sympathies of all men, and, of course, of jurors, in favor of the victim. In such cases, where, as a rule, the accused has no weapon of defense except his own uncorroborated denial, the courts, it adds, should be extremely careful that no evidence of a tendency to excite or influence the resentment of jurors, and which does not tend to support the evidence of the prosecutrix, or to connect the defendant with the commission of the crime, should be permitted to go to the jury.

Caring for Employees Injured Outside Line of Duty.

The manager of a business corporation, the Supreme Court of Nebraska holds, in the case of *Chase vs. Swift and Company*, has no implied authority to furnish medical aid and assistance to a servant of the corporation who has been injured outside the line of his duties. This was an action brought by a practicing physician to recover for professional services rendered to employees of the defendant corporation who had been injured in some manner during the progress of a strike. The employees in question had been brought from other points to take the places of strikers, and the theory upon which the action was prosecuted was that the superintendent, who had the direction and management of the company's business at that point, had agreed to take care of any of the new men who should be injured by the strikers in consequence of having engaged in the service of the company. But when, where, or why they were injured did not appear. Under these circumstances, after resolving all doubts in the plaintiff's favor as to what the superintendent agreed to do and the extent he was authorized to bind his principal, the court holds that a preemptory instruction was properly given the jury to find for the defendant. It says that it was certain that the men were not hurt while in the actual service of the company, and there being no proof that they were assaulted by the strikers, or that there was an causal relation between their injuries and the service in which they were engaged, it adds that it seems quite clear that it was not within the apparent range of the superintendent's agency to employ a physician to attend them.

Minnesota Law for Treatment of Inebriates Invalid.—Chapter 260 of the Minnesota Laws of 1897, entitled "An act to provide for the treatment of inebriates by counties and prescribing rules governing the same," the Supreme Court of Minnesota holds, in *Murray vs. Board of Commissioners of Ramsey County*, is unconstitutional, in that it is special legislation as to the affairs of counties, and is not uniform in its operation throughout the state. By this act an attempt was made to remove the objections pointed out by the supreme court when it held that a former similar act was invalid which applied to the whole state but attempted to confer powers and duties upon the probate judges beyond the jurisdiction authorized by the constitution. But the limiting, by its terms, of the operation of this second act to counties having a population of 50,000 or more, the supreme court does not think a proper classification for legislation of this character. Nor, if the primary purpose of the law was to protect the public from the results of drunkenness by curing the inebriate, does it think it defensible to limit the cure to one patient to each 10,000 of population. The purpose of the law being to provide a bounty to needy inebriates, to the end that they might be cured of their disease, and the public thereby incidentally benefited, there was, and could be, the court declares, no reason, necessity, or propriety for discrimination against any of them. In short, it considers the classification on the basis of population, for the purpose of legislating for the relief of such indigent inebriates was purely arbitrary, and holds that the act was as clearly unconstitutional as would be a law providing for the care of insane persons or the poor of a limited number of counties at the cost of such counties, and excluding the insane and poor of all the other counties of the state from the opera-

tion of the act. In conclusion, the court says that it is not to be understood as holding that a general act, uniform in its operation throughout the state, providing for the treatment of inebriates at the expense of the public, would not be a valid law; for reclaiming the inebriate, who is incapable of self-respect or self-support, and restoring him to society prepared again to discharge the duties of citizenship, directly promotes the public welfare.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, Dec. 8.

- 1 *The Operation for Hypospadias with Demonstration of Three Successfully Treated by the Forward Dislocation of the Urethra. Carl Beck.
- 2 *The Present Status of the Treatment of Prostatic Hypertrophy in the United States. Tamon Gutiérrez.
- 3 Notes on the Hospital Scarlet-Fever Service in New York City from 1893 till 1899, Inclusive. William L. Somerset.
- 4 *A Plea for General Anesthesia in the Treatment of Mammary Abscess. Frank H. Field.
- 5 *Mastoid Abscess. Rufin A. Wright.
Boston Medical and Surgical Journal, Dec. 6.
- 6 *The Treatment of Placenta Previa by Cesarean Section with Report of a Successful Case. Francis D. Donoghue.
- 7 The Duties of the Medical Examiner in Massachusetts. Julian A. Mead.
- 8 A Case of Alexia, Mind Blindness, etc., with Autopsy. Edwin E. Jack.
- 9 Note on the X-Rays as a Curative Agent in Certain Diseases of the Skin. Francis H. Williams.
Philadelphia Medical Journal, Dec. 8.
- 10 Further Remarks on the Bisection of Fees, Surgical Drummers and Drumming Surgeons. G. Frank Lydston.
- 11 *A Tropical Ration. (To be concluded.) J. R. Kean.
- 12 The X-Rays in the Treatment of Carcinoma. Wallace Johnson and Walter H. Merrill.
- 13 Principles of Asepsis Applied to Operative and Other Wounds of the Eye. (To be concluded.) Edward Jackson.
- 14 *Suprarenal Gland in Hay-Fever. Lewis S. Somers.
- 15 Sanitary Work in the City of Havana. W. N. Bispham.
- 16 Nasopharyngeal Mycosis with Report of a Case. P. S. Donnellan.

Medical Record (N. Y.), Dec. 8.

- 17 *Tuberculosis of the Eye: Its Differential Diagnosis, Pathology and Treatment. Charles Steadman Bull.
 - 18 *The Treatment of Tumors by Electrolysis. William E. Neftel
 - 19 *Infant Feeding. Louis Fischer.
 - 20 A Mistake in Therapeutics. Edward P. Buffet.
- Medical News (N. Y.), Dec. 8.
- 21 *An Improved Technic in Amputations of Large Rectal Prolapse. George Ryerson Fowler.
 - 22 *A Modification of the Mosquito Theory. Charles R. Grandy.
 - 23 *Heart-Stroke as a Post-Operative Complication. C. L. Gibson.
 - 24 Chloralamid. S. V. Clevenger.
 - 25 State Sanatoria for Consumptives in Michigan. Herbert Maxon King.
 - 26 *A Study of Hemorrhage. A. M. Pond.
 - 27 A New Urethrotome. George Rubin.

Cincinnati Lancet-Clinic, Dec. 8.

- 28 Dilatation of the Stomach from Pressure on the Superior Mesenteric Artery, Vein, and Nerve on the Transverse Segment of the Duodenum. Byron Robinson.
- 29 A Few Points in the Treatment of Fractures. Robert Carothers.
- 30 Case Reports. H. J. Whitacre.

St. Louis Medical Review, Dec. 1.

- 31 Physiology of the Ile. Charles Shattinger.
- 32 *Remarkable Reduction of Mortality in the Treatment of Acute Alcoholism. J. K. Bandy.

American Practitioner and News (Louisville, Ky.), Nov. 15.

- 33 Report of Surgical Cases. John R. Wathen.

Medical Fortnightly (St. Louis), Nov. 26.

- 34 Anesthesia by Special Cocainization. Carl E. Black.
- 35 Causes of Blindness in the Illinois School for the Blind. A. L. Adams.
- 36 Report on Microscopy—Malaria. S. E. Munson.
- 37 Report of a Case of Brain Tumor. E. L. Crouch.
- 38 Blood Examination and Diagnosis. B. F. Gillmor.
Virginia Medical Semi-Monthly (Richmond), Nov. 9.
- 39 *Comparative Value of Laboratory and Bedside Diagnosis. E. C. Levy.
- 40 The Functions of Medical Societies in General, and of the Medical Society of Virginia in Particular. Hugh T. Nelson.
- 41 Report of a Case of Carcinoma of the Stomach. A. L. Gray.
- 42 Intravenous Transfusion with Normal Salt Solution. I. S. Stone.

- 43 Injuries to the Wrist—Diagnosis and Treatment. Edward A. Tracy.
Maryland Medical Journal (Baltimore), December.
- 44 The Importance of Instruction in Medical Schools Upon the Modification of Milk for Prescription Feeding. Andrew H. Whitridge.
- 45 A Case of Acromegaly in a Negro Associated with a Low Grade of Gigantism. J. Hall Pleasants.
- 46 A Review of Some of the Recent Work on the Physiology and Pathology of the Blood. Thomas R. Brown.

Archives of Otolaryngology (New Rochelle, N. Y.), October.

- 47 *On the Inadequacy of Some of the Arguments in Favor of Helmholtz's Theory of the Transmission of Sound in the Middle Ear. Gustav Zimmermann.
- 48 Anatomical Investigations on the Hypertrophy of the Pharyngeal Tonsil. J. Hymitzsch.
Bulletin of the Cleveland General Hospital, July.
- 49 Paralysis Agitans. Charles J. Aldrich.
- 50 A Case of Ruptured Tubal Pregnancy. Charles B. Parker.
- 51 A Plea for Better Obstetrical Work. Lillian G. Towsele.
- 52 Spontaneous Fracture; Report of Two Cases. Norman C. Yarian.
- 53 Conservatism in Injuries of the Extremities. Charles B. Parker.
- 54 Epithelioma of the Vulva. Norman C. Yarian.
- 55 Hay-Fever. Charles G. Foote.

American Journal of the Medical Sciences (Philadelphia), December.

- 56 *A Case of Malaria Presenting the Symptoms of Disseminated Sclerosis, with Necropsy. William G. Spiller.
- 57 *The Cortical Localization of Sight and Hearing. Clarence A. Good.
- 58 *The Leucocyte Count in Serous Pleurisy. John Lovett Morse.
- 59 *The Operative Treatment of Cirrhosis of the Liver. Charles H. Frazier.
- 60 Report of a Case of Extensive Dissecting Aneurysm of the Aorta. Herbert Swift Carter.
- 61 *On the So-called "Irritable Bladder" in the Female. Fred-eric Bierhoff.

Journal of Comparative Neurology (Granville, Ohio), October.

- 62 A Contribution on the Craulian Nerves of the Cod Fish. C. Judson Herrick.
- 63 Notes on Prof. Judson Herrick's Paper on the Cranial Nerves of the Cod Fish. F. J. Cole.
- 64 Further Observations on the Conditions Determining the Number and Arrangement of the Fibers Forming the Spinal Nerves of the Frog (*Rana virescens*). Irving Hardesty.
- 65 Anastomosis of Nerve Cells in the Central Nervous System of Vertebrates. N. Worth Brown.
- 66 A Brief Summary of the Researches of Theodore Kees on the Medullation of the Intracortical Fibers of Man at Different Ages. Helen B. Thompson.

Annals of Surgery (Philadelphia), December.

- 67 *Structure, Fracture and Refracture of the Patella. Edward M. Corner.
- 68 *Suppurative Pericarditis and Its Surgical Treatment, with Analysis of Fifty-one Cases Reported in Literature. Charles Burnham Porter.
- 69 *The Radical Cure of Inguinal Hernia in the Female. William B. Coley.
- 70 *Echinococcus Cyst of the Liver. Russell S. Fowler.
- 71 A Complete Series of Clinical Charts for Keeping the Records of Surgical Cases. Charles H. Frazier.
- 72 Result of Operation for Cancer of Penis. Nathan Raw.
- 73 *Fracture of the Spine. Walter Lathrop.
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- 84 A Study of Mental Responsibility. Charles W. Hitchcock.
- 85 *The Duty of the State in the Care of the Insane. Emil Krapelin.
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 103 A Fibromatous Uterus In Labor. Frank A. Stahl.
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 130 Report of Fourteen Years' Work in Abdominal Surgery. F. P. Lawrence.
 131 Mental Failure from the View Point of the Physiologist. J. F. Heary.
 132 How to Resuscitate the New-Born Infant. C. W. Canan.
 133 The Value of Glyco-Thymoline (Kress) in the Local Treatment of Diseased Mucous Membrane. George A. Hewitt.
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 134 The Treatment of the Opium Habit by the Bromid Method. Archibald Church.
 135 Everyday Headaches. Hugh T. Patrick.
 136 Treatment of the Sac in Very Large Inguinal Hernia. M. L. Harris.
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 138 Some Recent Surgical Cases. R. L. Payne.
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140 Strong Urethral Injections During the Acute Stage of Gonorrhoea. P. C. Hutton.
 141 Resection of Left Half of Inferior Maxilla, followed by Reformation of Bone. Geo. P. Reid.
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 143 Are National Leprosaria in the United States Desirable? H. M. Bracken.
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 147 Chronic Sprains. Robert W. Lovett.
 148 The Home Treatment of Tuberculosis. William Porter.
 149 The Functions of the Ovary. C. R. Dudley.
 150 Calculi of the Kidney and Ureter. Henry Jacobson.
 151 Some Observations on a Case of Internal Hemorrhoids. Felix Garcia.
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 152 Treatment of Appendicitis. James B. Morgan.
 153 The Modern Woman, Her Abhorrence of Maternity and the Sequel. Ralph M. Thomson.
 154 Difficult and Obscure Pus Cases in Pelvic Surgery in Women. Walter E. Chase.
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 157 The Treatment of Morphin and Liquor Habit Compared. C. E. Patterson.
 158 Life and Evolution. J. L. Wolfe.
 159 Sedatives. John O. Jones.
 160 Degenerative Results of Defective Heredity. Charles Denison.
 161 Crescotol (Van Heyden) in the Treatment of Pneumonia and Acute Bronchitis. J. W. Frieser.
 162 The Therapeutic Value of Urotropin. Emil Suppan.
 163 Hypodermoclysis. G. A. Gilbert.

AMERICAN NOTES.

1. **Hypospadias.**—Beck first notices the frequency of this condition and the inconvenience and sterility which usually accompanies it, and discusses the different methods of operation to relieve it. The method that he has followed, of which he reports three cases, consists in dissecting free and dislocating the urethra forward so that a new canal does not have to be created, the existing urethra performing its function. The internal surface of the tube remains intact, the urine does not come in contact with the wound itself and the use of the catheter can be discarded. He gives the technique of his methods in full, for which the reader is referred to the article itself. How apparent are the advantages of his method for forward dislocation is best illustrated, he says, by the many more or less useful modifications which have been proposed during the short space of three and one-half years since its introduction.

2. **Enlarged Prostate.**—The various operative measures for the relief of enlarged prostate are reviewed by Guitéras. The ligation of the internal iliacs is a matter of ancient history; castration has had its day, and vasectomy is little used in this country. The two operations most in vogue are prostatectomy and the Bottini operation, each of which has its advantages. The indications that should help to decide which operation to perform, are: 1, age of the patient; 2, size and shape of the prostate; 3, the condition of the kidneys and liver. Age is important, as the older the patient the less the resisting power; therefore, in very old men if the prostate is of the right variety, the Bottini operation is preferable, though old age is not in itself a contraindication to prostatectomy. Very large prostates, such as have the feel of an apple or orange on rectal examination, are favorable for enucleation, while smaller ones in which there is a distinct impediment in the prostatic urethra on introducing instruments, together with a considerable quantity of residual urine, are the best for the Bottini. The condition of the bladder is less important than that of the kidneys, for treatment will do much to benefit it; but bad kidneys are always contraindications, and if they are damaged in any way and operation is demanded the Bottini should be the choice.

though not itself entirely free from danger. The technique of both operations is described. The author's own method of performing prostaticectomy is by what he calls the rectovesical method, though no part of the operation proper is performed by the rectum, the fingers being simply inserted into it to exert direct counter-pressure and guide the operating finger. He first performs suprapubic cystostomy, putting retention sutures into the bladder wall on each side of the incision. A careful rectovesical palpation is then made with the first and second fingers of the left hand while the right finger is in the bladder, and a visual examination is made with an electric light inserted into the bladder. A pair of closed scissors are then introduced into the surface of the enlarged glands until the blades are felt to press the prostate against the fingers of the left hand in the rectum, which recognize whether the scissors are in the right position or not. The blades are then opened and a cut is made through the bladder tissue covering the gland in a line corresponding with the space between the two fingers and the rectum. The forefinger of the right hand is then inserted into this cut through the bladder and gradually works its way between the capsule and the gland. Counter-pressure with the rectum fingers is kept up and the tumor enucleated by the right forefinger. The gland having been enucleated, there is always free hemorrhage, and very hot water should be injected for two or three minutes through the suprapubic opening while the surgeon washes his hands. He then passes a grooved sound, preferably a lithotomy guide, through the urethra into the bladder; having brought the patient into the lithotomy posture, he rapidly cuts through the membranous urethra and pushes a large perineal drainage-tube into the bladder, which he fastens to one side of the perineal incision. The finishing steps are to put two catheters into the bladder suprapubically, with gauze drain beside them and into the cavity made by the removal of the prostate. Fasten these into the skin of the bladder wall; then sew the bladder wall up to the drain. The surgeon then closes the abdominal wall, including the fascia, muscle and skin, as far as the drain. The floor of the posterior urethra should be cut through from above downward before the perineal tube is left permanently in place, to prevent the formation of a pocket, which would retard the cure. The after-treatment consists in an enema and a hot bottle to the feet, the free administration of water and the hypodermic injection of strychnia, 1/30 of a grain every four hours, with a repetition of hot saline enema alternating with the strychnia. The suprapubic tube can be removed in a week, and the perineal one in two or three weeks. Drainage in these cases through the suprapubic opening is by the siphon method, into bags hanging at the side of the bed. It is well, both before and after the operation, to give urotropin in 10-grain doses three times a day. A milk diet of two or three quarts a day is advisable. The bowels should be moved by some saline water on the second day. In conclusion, he says that he considers the operation of prostatectomy still in its infancy and it will some day be simplified.

4. **Mammary Abscess.**—Field advises the use of general anesthesia in cases of mammary abscess, as the condition may require it. He was brought to this view by the case here reported. It is impossible in deep inflammation to know in what direction the pus has burrowed or how many lobes may be affected, and this can be determined under general anesthesia and operation performed.

5. **Mastoid Abscess.**—Wright remarks on the development of the anatomical conditions of mastoid abscess with special reference to cases reported by Harrigan in a former number of the *New York Medical Journal*. He says early recognition of the site of the perforation with adequate treatment should prevent mastoid complications in those affecting primarily Prussak's space with perforation of Shrapnell's membrane.

6. **Placenta Previa.**—According to Donoghue, in reviewing the opinions of various authorities, together with analysis of cases that are made, Caesarian section is preferable in placenta previa over other operations in: 1, cases of complete previa; 2 in cases of previa in primiparae when signs of fetal or ma-

ternal exhaustion are evident; 3, when the condition of rigid os is present; 4, where there is a history of previous operative delivery; 5, in transverse positions, and in cases of prolapsed cord when the cord is not easily returnable. It is the easiest of all ecliotomies and in nearly every large community it is possible to obtain an operator capable of performing it under strict aseptic and antiseptic precautions, and the second operation is easier than the first. He reports a case where the operation was performed in a 4-roomed country house, with an ordinary country nurse, with such appliances as were readily available, and with complete success.

11. **Tropical Ration.**—In this installment of his paper Kean describes the conditions in the United States army as compared with foreign armies, and notices the required tropical diet. He thinks that the appetite is lessened by long-continued heat and is more capricious, and that there is a greater demand for the carbohydrates in the form of fresh vegetables and fruits, with a less need for fats or the heat-producing foods, and less stimulating proteids in the form of meat. He favors the use of ice freely, holding that this is not merely an acquired habit, but is of value in diminishing the amount of water required, and also as preventing the soldiers from taking water from surface wells, thus guarding against infection.

14. **The Suprarenal Gland in Hay-Fever.**—Somers' experience with twenty-one cases of hay-fever treated by the use of the suprarenal gland internally has not been favorable to this remedy, and not only the hay-fever itself, but the attacks of asthma which occur habitually during the hay-fever season were increased and became more intense. He believes the drug had a causal action in producing this symptom. Other unpleasant symptoms were nausea and a sense of chest contraction preceding the asthmatic attacks. He does not deny the value of the remedy in its local application, but considers it not warranted for internal use.

15. **Sanitation in Havana.**—Bispham gives an account of the deplorable sanitary condition existing in Havana at the time of the American occupation, the unsewered condition of the city, the foul markets, hospitals and unclean stables, cabinets, etc., and the improvement which has been made under the American administration.

17.—See abstract in THE JOURNAL of November 3, p. 1172.

18. **Electrolysis in Tumors.**—Nefel calls attention first to the fact that the originator of electrolysis and galvanization for treatment of tumors was Gustav Crusel, a Russian practitioner. He made his researches in the 40's, but was overlooked, although he completely and correctly laid down the rational indications for the treatment. He attributes the immunity from complications that follow this method largely to the escape of gases developed in the living tissue, especially ozone, peroxid of hydrogen, chlorine, which fact renders the electrolysis process the most efficient antiseptic; the part also played by the acids is mentioned. He considers it an ideal antiseptic, since it can reach the most hidden places and cavities inaccessible to other antiseptics. The article goes into detail as to the chemical and physical action of electricity, the effects of the current on the tissues, the action of the two electrodes, etc. He considers the treatment of benign and malignant tumors to be based on entirely different principles. In the latter our aim is to produce in one operation by the action of the anode, the necrotic destruction of the tumor and all the infectious germs of the surrounding tissues. This must be accomplished in the early stage while the disease is yet local and the lymphatic glands are not infected and deposits lacking in distant organs. The effect of such an electrolytic operation is the relief of all the morbid symptoms and complete recovery. The treatment of benign tumors is based on a different principle, that of inducing by the action of the cathode regressive metamorphosis, molecular disintegration, absorption and atrophy. The remainder of his paper is taken up with a description of cases.

19. **Infant Feeding.**—The most important point, according to Fischer, in infant feeding is to have pure cow's milk, which can only be obtained from a reliable dairy where all the modern sanitary rules are observed and the hygienic condition of the

cows is perfect. Antisepsis in the stable is essential. We should imitate nature in feeding; the infant receives raw milk from its mother, and we should, therefore, follow this in artificial feeding. The principal objection to raw milk is its contamination with various pathogenic bacteria, but this is reduced to a minimum if the above mentioned conditions are observed. The use of sterilized or boiled milk is liable to produce scurvy; it undergoes a sort of deadening in the action of heating or boiling. Phosphorus and ferric proteids are required to be given in a living form. Each child is a law unto itself and we must notice the following factors to be satisfied that it is thriving: 1. The infant must appear satisfied after taking its bottle. 2. No vomiting. 3. No colic. 4. The bowels must move at least once or twice in twenty-four hours with yellowish-white and medium-soft stools. 5. The infant should sleep from four to eight hours at a time during the night. 6. The weight, taken regularly once a week, should show a gain of at least 6 or 8 ounces weekly, and if no increase is observed the reason should be studied and by all means the food changed. He gives a tabulated statement of the quantity, proportion of water and the frequency of feeding for infants of all ages up to six to eight months. He agrees with the sentiments of Professor Jacobi regarding the use of modified laboratory milk. He has not found it so useful to children and the theory does not work well in practice. When the milk disagrees and the infant's stomach will not tolerate it, vomiting is provoked, or bowel disorders follow, milk should be stopped. In such cases he has seen good results in many cases follow the use of almond milk made by scalding or blanching almonds, then heating them up, using an ounce of water for each ounce of blanched almonds, rubbing up this mixture and then expressing it through cheese-cloth. This should yield an ounce of almond milk for each ounce of almonds used and can be made at home, and be found sometimes quite serviceable in the treatment of summer complaints. Dextrinization of foods, chiefly the cereals, is successful in children having subnormal gastric digestion. It should be used during illness only, and is not advisable for healthy children. Frequently the infant's stomach requires assistance in the assimilation of food, and an examination of the stomach contents shows a deficiency of hydrochloric acid. Hence it seems more beneficial to give the infant several drops of diluted hydrochloric acid after feeding. In conclusion he remarks that two drugs must always be considered in the management of infant feeding, especially in difficult cases: *nux vomica* and *mat.*

21. **Rectal Prolapse.**—The method described by Fowler consists in the use of the combined lithotomy and Trendelenburg position during operation under spinal cocaineization, the patient being perfectly conscious and able to extrude the prolapse, thus doing away with the need of traction. A cuff at the mucocutaneous margin was turned back for the purpose of preserving the normal condition at the rectal outlet and at the same time permitting the removal of all relaxed and over-stretched mucous and submucous structures at this point. It also provides a covering for the sutured edges of the stump of the prolapse and diminishes opportunity for subsequent infection. The third advantage in the operation is the step by step application of, first, a suture and then an extension of the incision through both cylinders to correspond with the sutured area, in this manner avoiding exposure of the peritoneal cavity to infection. He does not claim that this operation possesses all these advantages exclusively, but he has not seen these heretofore combined.

22. **The Mosquito Theory of Malaria.**—Grandy, while recognizing and accepting fully the mosquito theory, finds some difficulties in assuming that the plasmodium finds its life cycle exclusively through man and anopheles. If this is true, then the depopulation of a region for a short time would extirpate malaria, which is not the case. He suggests that while in a certain number of cases malaria is directly transmitted through man by anopheles, he thinks the latter can and do obtain the organisms from other sources than the human blood. All the arguments in favor of the mosquito theory apply equally well to this modification of it. The objection that malarial organ-

isms have never been cultured artificially is not sufficient to overthrow the idea. No other parasitic protozoan has been cultured and yet they exist in various conditions. He also thinks that the objection that they have never been found free in nature is of little value, since they might easily be overlooked. This modification he holds comes nearer to filling all the conditions and answering all the objections than the other theory that requires the exclusive transmission of the germs through the cycle of man and mosquito.

23. **Post Operative Complications from Heat-Stroke.**—Gilson believes that heat has caused certain unfortunate complications occurring after operations, and depressing weather should be considered by surgeons in this special point of view. He reports two cases of operations for appendicitis in which he believes the element of heat-stroke produced a very serious complication. In one the symptoms were gradually relieved by the application of cold, in the other the patient ultimately succumbed. He does not wish to say that the summer season is not favorable for operative work; on the whole, cases seem to do better, as they are more free from pneumonic disorders and the increased action of the skin supplements the efforts of damaged kidneys, and good circulation is kept up; but he wishes to call attention to the fact that the beneficial effects of heat may become misdirected when accompanied with unfavorable atmospheric conditions.

24. **Drainage.**—The purpose of this paper is to show that drainage, instead of being a necessity, is of value in comparatively few cases and of damage in others. Pond considers that the idea of drainage to prevent pus formation is unscientific, as its irritating action has actually the opposite effect. While we must still drain some of the septic cases, yet in abdominal injuries for instance, the peritoneum can take care of poisoned cells of infectious material better than it can make immune the surfaces constantly producing sepsis. Salt solution may be valuable in such cases; in sterile cases drainage is not only unnecessary, but absolutely detrimental.

25. **Acute Alcoholism.**—Baudy considers that all forms of acute alcoholism have a tendency to self-limitation; that they always result from an excess or abuse of alcohol, and not from any sudden withdrawal of the stimulant. He therefore claims that it follows as a corollary of the first of these statements that the treatment must needs be expectant. The systematic administration of opiates is unjustifiable and full of danger. He has had 1129 cases with only 14 deaths, a mortality of a little over .015 per cent., as compared with some statistics of others, who had a percentage of even 10 per cent. or more. He also would withdraw all alcoholics during the attack of acute alcoholism; there is no need of adding to the poison. In conclusion he recapitulates his ideas and holds that in this disorder, as in many others, the *vis medicatrix* is fully adequate to produce the happiest results.

26. **Laboratory and Bedside Diagnosis.**—The subject here considered is the comparative value of laboratory and bedside work. The author first notices the over-enthusiasm on the one hand and the ultra-conservatism on the other, and holds that the true position is nearer the former than the latter. He enumerates some of the causes of failure of laboratory work: first among these is the matter of personal skill. There are many physicians who have not the first idea how to recognize what they see under the microscope or in the tests, and he notices a few errors, mistaking leukemia for chronic malaria, rates for albumin in Heller's test, lint or scratches for casts, cretated red blood-cells or even the pale centers of normal red blood for malarial parasites, certain peculiar refracting lines for tubercle bacilli, etc. In the laboratory manager, besides skill, there is another qualifying factor, that of honesty, which requires him to avoid surmises and make sure that nothing that is said is without the limits of absolute certainty. Practitioners also fail to make proper specimens, frequently sending them in conditions in which laboratory examination is impossible; also failure to send the correct history of the case is a common fault, and lastly, he mentions the restrictions under which the laboratorian is often forced to work. Certain possibly useful tests are not desired when the labora-

torian could at once say that nothing could be obtained by the one demanded. To make the results of the laboratory worker in diagnosis compare with those of the clinician, we must first recognize the fact that in certain cases only direct examination of the patient is of value. In another class of cases the laboratory alone can furnish an accurate diagnosis, and this includes diabetes, renal affections, blood diseases, certain neoplasms, etc., and there is still a third class where a combination of both methods is required and certain others in which any given case may vary within wide limits. He sums up the practical points of his paper as follows: 1. Practitioners should possess sufficient knowledge of laboratory methods to apply them for themselves in simple cases. 2. Here, as in all specialties, the general practitioner should promptly recognize the cases which are beyond his own skill and refer them to an expert. 3. The practitioner may simply send material for examination where the nature of the required investigation is clear and where the character of the material permits, but he should at least know and follow the proper method for its collection and preservation, or, not knowing it, should take no step without informing himself on this point. 4. A brief history, containing only salient points, together with the apparent clinical diagnosis, should, if possible, accompany all specimens. 5. The laboratorian should be called in as a regular consultant in those cases in which the diagnosis is very obscure, and should be given full scope to make examinations in whatever direction he may deem best.

47. Transmission of Sound in the Middle Ear.—Zimmermann's paper argues against what he considers fundamental errors as regards the transmission of sound, viz., that sound is transmitted through the channel of the bones to the fenestrum ovale instead of being carried from the membrana tympani to the air of the middle ear and through it conducted to the lobule and capsule without needing any conduction through the channels of the ossicles. He tries to show the inaccuracy of some of the remarks and proofs advanced in the favor of the Helmholtz theory.

56. Malaria Simulating Multiple Sclerosis.—Cases of malaria affecting the nervous system are, as Spiller remarks, not rare, but the case here given is of value as showing the symptoms of multiple sclerosis, as intention tremor, localized ataxia, transitory hemiparesis, headache, vertigo, drowsiness, diplopia, nystagmus, scanning speech and exaggerated reflexes were all present. Malarial parasites were found in the blood-vessels throughout the brain and cord. The case shows that symptoms of disseminated sclerosis, as the author remarks, may result from irritating vascular lesions, imperfect nutrition and poisoning of the nerve cells without the formation of multiple-sclerosis foci. The paper also gives an interesting résumé of the literature of similar cases, and especially notices the paper of Torti and Angelini.

57. Cortical Localization of the Sight and Hearing.—Good reports a case, with post-mortem, in which there was blindness and deafness due to lesions in the left occipital lobe due to old embolic softening caused by blocking of the posterior cerebral artery in the left hemisphere, together with disseminated lesions in the corresponding region of the right. The cortex of the mesial surface of the right hemisphere, together with the greater part of the lingual and fusiform gyri, had been destroyed. On the convex surface the superior and middle occipital gyri were also involved in both. The only part of the brain the author found intact that had any relation with the vision was the right angular gyrus, which he thinks accounts for the little preception of sight the patient retained. The conclusions of his paper are as follows: 1. Destruction of the cortical visual areas will lead to a degeneration of the cells in the geniculate ganglia and the corpora quadrigemina, and to a degeneration of the nerve fibers of the optic tracts and nerves. 2. The macula lutea of one eye is in connection with the opposite angular gyrus.

58. Leucocyte Count in Serous Pleurisy.—From an examination of twenty cases of serous pleurisy where the leucocyte count was made daily, Morse concludes that serous pleurisy is only exceptionally accompanied by an increase in the number of white corpuscles, and then intermittently. The

white count is of value in two ways in the diagnosis of serous pleurisy: If the physical signs are doubtful and there is no leucocytosis the condition is almost certainly not pneumonia or empyema, but serous pleurisy. If there is a serous pleurisy and a continuous leucocytosis, some complication is present. The white count in serous pleurisy affords no information as to the duration of the process, the amount of the fluid, and its increase or diminution. The number of white cells is not influenced by the presence of blood or microscopical pus in the fluid or by the degree of fever.

59. Hepatic Cirrhosis.—Frazier reports a case of liver cirrhosis in which operation was performed to open the channel for the relief of the obstructed portal circulation, and tabulates similar cases that have been reported. The indication for the operation is the presence of ascites due to obstruction of the veins of the portal system when the obstruction itself is due to cirrhosis of the liver, the liver being still functionally active. The technique of the operation is simple. Local anesthesia is preferable. An incision three or four inches in length is made in the median line or on the border of the rectus above the umbilicus. The peritoneum of the adjacent surfaces of the diaphragm, liver and spleen, respectively, and the peritoneum on either side of the wound are sacrificed with a blunt curette or rubbed with a gauze pad. The latter proceeding caused less bleeding, at the same time exciting sufficient peritonitis to insure adhesion. The omentum is sutured to the parietal peritoneum for a distance of three or four inches on either side of the wound, and to the margin of the wound itself. The evacuation of the fluid completes the operation, the wound being closed without drainage. Drainage has been used in several cases, but the author thinks it better to omit it as it can have no good effect on the lesion and introduces an additional element of risk. Frazier, while admitting that experience is as yet very limited, holds in properly selected cases where the liver cells are not yet devoid of function and where internal medication and paracentesis fail or where there is no serious contraindication the operation has a future. It is a last resort in hopeless cases, and it is so simple in itself and the danger so slight that the prospects of the mode of treatment becoming an established one seem bright. In his case the results were good.

61. Irritable Bladder in the Female.—In the conclusions of Bierhoff's article in regard to the question of irritable bladder, he says as follows: 1. The term "vesical hyperesthesia" or "irritable bladder" is in almost every case in the female erroneously applied. 2. As a true neurosis, vesical hyperesthesia rarely occurs. 3. Where vesical hyperesthesia exists it does so only as a symptom; in the majority of cases as a direct result of some change in the vesical mucous membrane, in the minority as an indirect result of change, in other organs adjoining or near the bladder. 4. The diagnosis of the causative factor must rest upon a thorough examination not only of the bladder, but also of the urethra and the genital and pelvic organs as well. 5. The treatment must be directed both against the local changes and the causative factors.

67. Patella Fracture.—The etiology of patella fracture is particularly discussed by Corner, who first notices the structural conditions. The fractures of indirect violence are those that are more particularly noticed. He thinks that the lower portion of the patella is its weakest point, and fractures where the upper fragment is larger are more numerous than those where the lower fragment exceeds. Fractures of the center or lower half of the bone form about 83 per cent. of the cases. Fracture of the patella by indirect violence is really due to exaggeration of natural forces that have given rise to the internal architecture of the bone. This is in accordance with the experience above mentioned. Besides the structure of the bone there is a still more important factor in localizing the situation of the line of fracture. This is the degree the knee is flexed at the time of the accident. The center-point of the bone varies a good deal, but for practical purposes it may be said to be just below the middle of the area of contact in semi-flexion, the condition in which 84 per cent. of the fractures occur. It would also appear that oblique fractures should

be more common, though few are reported, which is explained, he thinks, by the fact that small degrees of obliquity are overlooked. He finds also that fractures of the patella are less common in females than in males in a ratio greater than is the case of other fractures of the lower limb. Fractures are more common in males of the patella and in females of the femur. It is not infrequently the case that the patella is re-fractured, much more frequently than the long bones of the leg. This is explained by the mechanical conditions; its situation over an actively functional joint, and also to two other conditions due to the upright position, namely, an atrophic condition of the bone and the comparatively low situation of the femoral condyles, due to the relatively short ligamentum patellae. Either the bone itself or the fibrous union may be severed, and the same predominance of males occurs in this accident as in the first fracture. He suggests that the failure of ossification of the bone is due largely to the fact that being a sesamoid bone it lacks a periosteum, and the osteogenetic power must therefore be comparatively small unless there is close approximation of the fragments.

68. Suppurative Pericarditis.—After reviewing the conditions and their literature, Porter sums up in the following conclusions: 1. Pericardotomy is indicated in all cases of suppurative pericarditis. 2. Because of the uncertain and varying relations of the pleura, and because of the anterior position of the heart whenever the pericardial sac is distended by fluid, aspiration of the pericardium is a more dangerous procedure than open incision when done by skilled hands. 3. Incision of the pericardium can be done quickly and safely by resection of the fifth costal cartilage, and in many cases under local anesthesia. 4. In many cases of serous effusion, open incision without puncture will offer less risk and speedier cure than aspiration. 5. The method and detailed technique of the writer proposed in 1897 have been followed out by the majority of recent operators. His paper also includes a report of a large number of cases taken from the literature.

69. Inguinal Hernia in the Female.—According to Macready's statistics, 8.5 per cent. of hernia of the female are inguinal, which exceeds the number of femoral hernia in both sexes, and forms 60 per cent. of cases of rupture in women. Coley, from a study of the literature, concludes that the treatment of this condition in the female does not receive the attention it deserves. While most authorities agree that hernia in female children are more amenable to mechanical treatment than in the male, his own experience has led him to consider the difference as very slight, and he favors a more general recourse to operation. He disagrees with Kelly in his statement that the removal of the sac is of little importance, especially in small hernia, and thinks it likely to do much harm. In support of his view he cites a series of cases observed during the year 1888-89. The method he has employed is practically that of the Bassini method employed in males, the only difference being that the transplantation of the cord is naturally omitted. He insists on complete asepsis and the advisability of using rubber gloves. As regards sutures, he thinks that the non-absorbent suture should be omitted in the local cure of hernia. As regards the technique of the operation, he has always believed cutting of the internal oblique muscle not only unnecessary, but likely to weaken the canal, and quotes Turek and Blake as supporting his opinion. He has, since 1892, operated on 123 cases of female inguinal hernia without any mortality; 73 of these patients were under 14 years of age and in only 8 cases did suppuration occur, in these slight and limited to stitch-hole infection. He has been able to trace all but 13 of his patients. The majority of these were well two to seven years after operation. He thinks from his results that prognosis is even better in the female than in the male, and the prospect of cure may be reasonably sure.

70. Echinococcus Cyst of the Liver.—During the past few years Fowler has been able to see five cases of this condition, one of which he reports. The historical data are briefly reviewed. *Tenia echinococcus* derived from the dog is the exciting cause. The diagnosis is easy in fully developed cases. The symptoms are those due to pressure effects. Hydatid fremitus, due to the impulse of the daughter cysts on one another in the

absence of liquid in the parent sac, is noticed, as is also the Santini booming sign, which Fiaschi of Sydney considers a valuable aid in diagnosis. The disease untreated may progress indefinitely. Spontaneous cure may occur, or death may ensue in various ways. The parasite may die, and the sac may contract; but the usual way of spontaneous cure is by rupture into one of the neighboring viscera, stomach, intestine, lung or pleura. In the latter two cases the chances are unfavorable. In rare cases it may occur externally. The growth of the cyst is slow, ranging between fifteen and twenty years, or more. His method of treatment consists in stitching the sac wall to the edges of the wound in the abdominal parietes and then incising it either in one or two stages. In certain cases the cyst may be best reached by the transpleural route or through the lumbar region. The tension of the sac may be lessened by aspiration of a portion of its contents; it is important that none of the fluid escapes into the peritoneum. After incision the lining membrane of the sac is peeled off as completely as possible by a stream of warm solution directed between the lining and the fibrous capsules. The cavity is irrigated and packed daily until only a small sinus is left, which does not usually close readily. The healing process may take many months and a liver fistula may persist indefinitely. In those cases which admit of it, a hepatectomy may be performed to totally eradicate the disease. Cysts which are very large, or where a small amount of liver tissue is involved, may be subject to this procedure, but great care must be taken in selecting these cases. The methods and experiences of various surgeons such as Palleroni, Terrillon, Bergmann, Billroth and others are noted, and the author himself has assisted Professor Fowler in the removal of a large single echinococcus in the left lobe of the liver, which will be reported at a future date.

73. Fracture of the Spine.—Lathrop discusses the conditions and reports cases of spinal fracture, also reviewing the literature to a considerable extent. In conclusion he summarizes as follows: 1. In partial lesions we should operate. 2. Where the lumbar region is involved with lesions of the cauda equina, operation offers the best chance of recovery. 3. In fracture of the spinous process, lamina, or entire neural arch, operation is demanded. 4. Should immediate operation not be done, and we wait six to eight weeks, with the result that paralysis of the bladder and bowel continues, with cystitis and severe bedsores present, we may be sure that nature can not relieve the case, and an operation is not only indicated but demanded.

77.—See abstract in THE JOURNAL of October 20, p. 1051.

85. The Care of the Insane.—The relations of the state toward the insane are discussed at length by Kraepelin, who notices the causes of insanity, alcohol and syphilis especially coming under this general head. The article has been noticed in part editorially already. He also reviews the questions of organizations and says that the public institutions are far more progressive and advantageous to the state than the private ones. The questions of commitment and retention are also treated at length. He would advise retention to be made more difficult and commitment more easy. The backwardness of practitioners in insane asylums and the tendency to isolation and narrowness are mentioned, and he believes that frequent rests and change or travel would be of great value. The idea that places in these institutions are held simply by right of length of service, and not held by competition with others is, he thinks, a bad rule. It would be better to have changes instituted than to consider long services alone as a qualification for retention.

87. The Alcohol Question.—Forel gives his personal experience from a study of alcoholism and his change of view from moderate indulgence to total abstinence. He does not think the prohibition laws do not prohibit from his observation in the United States, but thinks that this country has gone backward a little of late years from the advanced position that it has held. The Americans are, he says, the leaders in anti-alcohol movement, and it is their duty to continue it.

101. Injuries to the Bladder and Ureters.—Bovéc gives a short review of the history of the operative measures for such injuries and discusses their efficiency, which he thinks is hard to

demonstrate, as in ordinary hysterectomy for malignant growths they are seldom disturbed. They are more common, of course, in the vaginal than the abdominal operations. About their frequency, various authorities differ; Byron Robinson considers about 1 per cent. of the operations for hysterectomy are attended with ligated or cut ureters; Spencer Wells that one in every six cases. The treatment consists both in preventing their occurrence and in repairing them after the accident has occurred. He does not favor Kelly's method of catheterization of the ureters, and believes that it is liable to produce complications. He mentions for example urinary hemorrhages which occur sometimes after catheterization, and also a case noted by Cullen of the breaking of the bougie and retention of the fragment. The treatment he has followed has been to isolate the ureter, except from the perineum, early in the operation by making an incision through the peritoneum along its course from the division of the iliacs to the bladder. Then by passing a few pieces of suture material under it along its course and tying the two ends of each together we have the means for pulling it up into view at any time without injury. We can easily ascertain whether any part of the ureter has been removed, and the ureter work, if any, which is always an important complication, can be planned during the operation. The preferable method of ureteral anastomosis is the end-to-end one. Injuries to the bladder usually occur in separating this organ from the uterus and vagina with insufficient care, but in some cases the bladder wall is in a pathologic condition or abnormally thinned, rendering it impossible to avoid the injury. In cases of bladder puncture or incision, immediate closure with permanent bladder drainage for a few days will usually suffice. In late bladder sloughing and injuries discovered after operation, a second operation is usually required, though sometimes permanent catheterization suffices. Many cases of ureteral injury are discovered only after several days. Some of these close spontaneously, and some are cured by vaginoplasty. If the ureteral opening be large the fistula continues and a tedious operation will be necessary. He would postpone this until nine or twelve months have passed and no evidence of return of cancer has appeared.

105.—See abstract in THE JOURNAL of October 27, p. 1105.

113. **Pathology of Adenoids.**—Richardson describes the macroscopic appearances in adenoids, together with their microscopic structure, and analyzes the statistics as regards tuberculosis in these growths from various authorities. He finds that in over 1000 cases subjected to close microscopic scrutiny in only about 5 per cent. was there more or less pathologic evidence of tuberculosis stamped on the glandular hyperplasia. He asks if this is simply an accident or is it a more intense manifestation of the tuberculous condition which is manifested in a fair proportion of the remaining 95 per cent, but not shown by actual pathobiologic changes. He thinks there is some underlying pathologic condition or conditions responsible, called by whatever name you choose, lymphatic diathesis, serofula, lymphatism, etc. In most of these cases the family histories, he thinks, will reveal certain conditions that have made their impress on the case; it may be syphilitic, tubercular, an ill-assorted marriage, or a conception in which one or both of the parents were below par at the time.

114. **Hemorrhage in Adenoids.**—The points which Kimball emphasizes are as regards the occurrence of hemorrhage in operations for adenoids as follows: 1. Thoroughness of removal and carefulness in technique at the expense of time. 2. The selection of instruments the best suited to perform the operation safely and efficiently. 3. The positive exclusion of the hemorrhagic diathesis. 4. Competent supervision of the patient until the danger from hemorrhage is over.

115. **Nasal Synechia.**—The causes of nasal synechia are described by Lederman, who points out the necessity of proper treatment after eauterizing or operating for obstruction to prevent these growths. He thinks the introduction of a certain kind of separator in many cases is very important, and has used the surgical sponge or spunk to advantage. In recent cases nature assists materially by absorption of a portion of the inflammatory exudate, causing a decided shrinking in what at

first appears to be an extensive bridge. It is well to let this process of absorption exert itself to its full extent, as energetic manipulation often makes matters worse. When subjective symptoms are not pronounced it is good judgment to let the nose alone, of course, keeping the passages clean by some antiseptic spray. After a few weeks' rest we will frequently find improvement and better conditions for operation. In conclusion he calls attention to those forms of adenoid occlusions that have assumed extensive proportions, and undergone osseous change. Here the chisel, trephine and rongeur have to be employed before serviceable breathing space can be obtained. In such cases persistent dilatation must be carried out for some time to keep the opposite parts from reuniting.

119.—See also title 129.

123. **Cervical Lymph Nodes.**—The surgery of cervical lymph-nodes is treated by Grant, who sums up his conclusions as follows: 1. The cause of tuberculous adenitis of the cervical region is almost always local, and takes place through the buccal cavity. 2. The glandular manifestation, when it progresses, and especially when it is followed by suppuration, indicates a damaged and usually useless, often dangerous, gland. 3. The removal of such a gland *in toto* and promptly is neither difficult nor dangerous, and is the treatment indicated. 4. Nature will probably provide a new and equally perfect protection in the place of the one that is lost. 5. Multiple enlarged glands indicate a constitutional tendency, which will not be benefited by removal, except when local discomforts and dangers indicate it. 6. Small groups of single, slowly growing glands are subject to the same indication.

129.—See also title 119.

134.—See abstract in THE JOURNAL, xxxiv, p. 1335.

135.—*Ibid.*, p. 1334.

136. **The Sac in Large Inguinal Hernia.**—Harris considers that the removal of the sac in cases of very large inguinal hernia is often inadvisable, or at best it is not advisable to remove the serotal portion of the sac. It may be drained for the first few days from its lowest point if thought advisable. The advantages of thus treating it are the saving of time in the operation, avoidance of danger of sloughing of the testicle and serotal tissues, and lessened danger of sepsis. Of the three cases which he reports, in one, where the sac was removed, there was thrombosis, hemorrhage and infiltration; in the other two, in which it was left, there was no subsequent trouble, no cyst nor hydrocele developed and the sac and serotum diminished remarkably in size by absorption.

142. **Large Umbilical Hernia.**—Wheaton illustrates two cases, before and after operation, of very large umbilical hernia and calls attention to certain points in the treatment of such cases. He thinks undoubtedly a hernia that has existed for a long time has, as an older writer expressed it, lost the right of habitation in the abdomen, but he believes that this can be regained, if not by a first at least by a second operation. The element of resiliency or non-resiliency of the contracted abdominal covering due to protrusion which lessens the resistance from within is the thing to be considered. All large non-reducible hernias, incurable by the truss as a preliminary operation, should have treatment in bed for a sufficient period of time to remove as far as possible the element of resistance before referred to, which is responsible for many failures. He holds that in almost all abdominal hernie of adults which are due to conditions arising after childhood and many of which are technically not umbilical, that point becomes the strongest part of the wall and is responsible for strangulation which results from pressure upon the neck of the extruded contents. The relation which the omentum bears to the floating contents of the abdomen makes it a conspicuous organ in these hernia. As a rule the protrusion comes through the median opening, the omentum first, followed by the floating contents from behind. Gradually as the tumor becomes larger the strangulation at the point of contraction brings about degenerative changes in the omentum and the adhesions between the omentum and intestine result in serious interference with the function of the latter, hence the gastrointestinal disturbance observed in these cases. From a successful experience

which he has had with large hernie he offers the opinion that with good heart and sound kidneys no umbilical hernia is so large as to be the cause of practically bed-ridden existence to the patient. Most of the text-books in surgery advise operation only in favorable cases, but by the preliminary operation before suggested and an operation performed which is ideal as far as its technique is concerned we will save nearly all our patients.

143.—See abstract in THE JOURNAL of Nov. 10, p. 1235.

148. **Tuberculosis.**—The points made by Porter regarding the home treatment of tuberculosis, which is the only kind possible in the great majority of cases, are: The importance of early diagnosis, correct hygienic conditions, clothing, good feeding, exercise suited to the case, hydrotherapy, the control of night sweats, hemorrhage and cough. He speaks particularly of the creosote treatment and thinks there is danger of pushing it too far. It should be given rather in small doses than in large ones.

149. **The Functions of the Ovary.**—Dudley notices the more recent views in regard to the internal secretive functions of the ovary, calling attention particularly to the experiments of Knauer, Marehesse, etc., and especially to the case of Glass where the transplantation of the ovary from another female seemed to re-excite the whole reproductive life. He thinks that the first function of the ovary coincident with its rapid development at the time of puberty is an internal secretion, and reviews the subject of ovarian therapy, quoting various authorities to show its advantages in amenorrhea, chlorosis, dysmenorrhea, cases of loss of ovary, etc.

FOREIGN.

British Medical Journal, Dec. 1.

Causes and Cure of Insomnia. JAMES SAWYER.—After first noticing the physiology of sleep, in which he rather indorses Foster's view that the essence of the condition is to be sought in the purely molecular changes, Sawyer passes to the etiology of insomnia. Secondary insomnia may be due to various causes such as pain, fever, or dyspnea, and these conditions are frequently met with in medical practice and treated by appropriate remedies. There is, however, a simple incapability to sleep which may be called *insomnia per se*—a kind of wakefulness for which we can find no obvious physiologic cause, and which seems to depend upon the incapability of the brain and nervous system to adapt themselves to sleep-conditions. This is generally met with in well-to-do persons of high mental endowment and neurotic temperament. It is a very important disorder, and if understood and properly managed, there is no disease more amenable to treatment. He divides this type into three classes: psychic, toxic and senile. The first occurs mostly in men of nervous temperament and is often due to shock or mental strain. It would seem that these causes may arouse a given group of cerebral cells into persistent activity or, if the strain has been less intense but long kept up, a monotonous group of ideas is maintained in exhausting recurrence. In either case it would appear that sleeplessness did not appear until there was a partial or complete vasomotor paralysis from exhaustion of the blood-vessels; the arterioles of the brain had lost their normal contractility. This point of view gives the best working hypothesis for the treatment. Toxic insomnia may be due to internal autogenetic poisoning as in cases of kidney insufficiency, or possibly to absorption from the gastrointestinal tract and constipation, but the causes which he holds most responsible are tobacco, tea, coffee, alcohol and gout. In this lecture he also mentions senile insomnia due to lessening resiliency and contractility of the vascular system. Senility is a relative term and it may be properly said that a man is as old as his arteries. The tendency of this condition of the blood-vessels of the brain to prevent, lessen or interrupt sleep is probably counteracted in many cases by the cardiac feebleness which it may be said coexists with the senile vascular changes.

Fundamental Points Connected with the Pathology of Diabetes Mellitus. F. W. PAVY.—The general trend of modern research, according to Pavy, is away from the idea that sugar is carried through the general circulation to be consumed by the tissues. Sugar is disposed of in the system normally

in three ways; by transformation into fat, which is now an accepted fact; and into proteids in the villi; or into glycogen. The latter is not carried on exclusively in the liver; it seems to be one property of protoplasmic matter to form it when suitable conditions arise. If assimilation fails to be carried out in these ways the carbohydrates that can be taken up by a normal person without producing glycosuria can no longer escape doing so, and in proportion as the power is reduced, so is the curtailment of the amount of carbohydrate that can be taken without shoving sugar in the urine. Very varying degrees of impairment of this type are found to exist in different cases, producing varying degrees of severity of the condition to be dealt with, and this needs to be taken into account in treatment intended to adjust the dietetic management. The fact of the avoidance of sugar offers evidence that the system is overburdened with carbohydrate, and anything which conduces to its increase adds to the difficulty. Restoration of the assimilative power is needed and this is managed by the control of transit of sugar through the system from food. This kind of alimentary diabetes has a favorable tendency especially amongst people above the middle period of life, and it is not uncommon to have assimilative power restored so that the ordinary diet may be resumed. In other grave forms of diabetes, the elimination of sugar is in part derived from the tissues of the body as well as the food, and other products also arise from its abnormal tissue disintegration; oxybutyric and diacetic acids accompany the sugar and distinguish this form, which he calls composite as distinguished from the simple alimentary type.

The Face and Pupil in Alcoholic Neuritis.—Brunton calls attention to certain symptoms in alcoholic neuritis which he has not seen described in the literature. The first is the peculiar expression of the face, which becomes mask-like and expressionless; the lips appear to move apart separately from the cheeks, but they sometimes appear very mobile. The eyebrows and eyes may move in accordance with the lips, but a fixed and expressionless band stretches across the nose and cheeks between the eyes and lips. He has been able to diagnose alcoholic neuritis, provisionally at least, from observation in this way. Another point is the condition of the pupil reflex which is just the reverse of the Argyll-Robertson phenomenon. In a number of cases he has noticed that the reflex to light is rapid and extensive, whereas accommodation to near objects was slight and sluggish or entirely wanting, and in one or two cases he has observed dilatation instead of contraction on accommodation.

On the Causation of the Congenital Stridor of Infants. JOHN THOMSON and A. LOGAN TURNER.—The causation of congenital stridor of infants which is observed sometimes during the first, and part of the second, year, has been studied by the authors, who give their conclusions as follows: 1. The primary element in the causation of this condition is a disturbance of the co-ordination of the respiratory movements, probably due to some developmental backwardness of the cortical structures which control them. 2. The change of form found is merely an exaggeration of the normal infantile type, and is mainly, if not entirely, the result of a constantly recurring sucking-in of the upper aperture of the soft larynx, which is induced by the ill co-ordinated and spasmodic nature of the breathing. That it is, in fact, an acquired deformity strictly analogous to pigeon-breast. 3. There is no proof that any congenital malformation of the upper laryngeal aperture exists in these cases. 4. The supposition of a congenital deformity is not essential to account for the symptoms, inasmuch as normal babies crow in a very similar manner when they are coming out of chloroform. 5. The sounds are not produced in the pharynx. This is proved by the high-pitched phonic character of the crow, and also by the fact that the stridor persists, not only when the nostrils are closed, but equally when the mouth is occluded by the nipple, when the tongue is depressed by a spatula, and during yawning. They are not produced in the trachea by compression exerted by a large thymus or enlarged lymphatic glands. The stridor is probably produced partly in the larynx proper, and partly at the abnormally approximated aryepiglottic folds. 6. The neurosis causing the symptoms has not

in our experience seemed to depend on the presence of adenoid growths or other obvious causes of reflex irritation. They differ from Sutherland and Lack, who have written on this subject in not ascribing any primary etiologic importance to the peculiar conformation of the upper aperture found in these cases, and which they consider an acquired deformity and result of ill-co-ordinated breathing.

The Lancet, December 1.

Prognosis and Treatment of Pulmonary Tuberculosis.
ROBERT MAGUIRE.—In this first lecture, after some preliminary remarks, Maguire divides pulmonary tuberculosis into three stages: invasion, progress and result. These may be co-existing in the different parts, but the division is really made on the general clinical syndromes. The resistance of the lung and body generally is also to be considered with special reference to prognosis. In the first stage we wish to obtain complete cure of the patient and absolute arrest of invasion and the return of the lung to its normal condition, though there may be remaining some tendency to re-infection. The prognosis is favorable in this stage. In the second stage we still hope for arrest of the condition, but only after a certain amount of damage has taken place which may give the patient no trouble if the tendency to further attacks be kept under control. In the third stage the prognosis is not nearly so good. We have here absolute destruction of lung tissue which can never be made good, and the most favorable outlook is vastly less favorable than that of either of the two preceding. Finally, if actual cure and arrest is impossible, we may still estimate the probable rapidity of the disease processes and the duration of life and comfort of the patient. The physical symptoms of the first stage are noted, the earliest one being a slight attack of resonance and of breathing sounds, limited to one point, usually the apex, showing a certain degree of collapse of the lung. The apex may not be the first point, though it is rare that the disorder commences at the base. The author has seen it in only 60 cases out of about 19,000 that have passed under his hands. It is unfortunate because these basal are much more favorable than the apex tubercloses, and the latter are more so than those which begin in the middle lobe. According to Maguire's experience, which agrees with that of Bruce, tuberculosis beginning near the breast is, as a rule, rapidly fatal, though he would still further limit this by saying tuberculosis beginning in the middle lobe. Cases of multiple lesions indicate a greater intensity of tuberculous poisoning and greater vulnerability of the system in which they occur. These cases are noticed in their height in two forms: in one, which he has never seen described and which he calls the multiple pleuritic onset. The patient may not admit there is anything wrong, but suffers from vague ailments of varying types which are ascribed to rheumatism and neuralgia. A careful examination will show here and there perhaps a slight pleuritic rub, but no apparent consolidation and no respiratory distress. He knows of no beginning which bears a more unfavorable prognosis than this. After a short time patches of consolidation appear, cavities form and the whole system collapses. The next most serious form is what Bruce has called emphysematous phthisis and Jacoud and Stokes named the suffocative form of tuberculosis. The patient complains simply of cough, choking in character, and difficulty in breathing. The physical signs are lacking, but if the physician is on his guard he will find tubercle bacilli; the temperature may be normal, but is sometimes irregular and the patient wastes and becomes gradually weakened. None of the ordinary remedies for bronchitis and emphyema have any effect, and finally there is an outbreak of physical signs, increased weakness and general breakdown. It is one of the most serious forms of beginning tuberculosis. Still another form is mentioned, to which he gives no particular name, and the rule of thumb by which he recognizes it is, if the symptoms are out of all proportion greater than the physical signs, look out. The action on the tissue and its poisoning is in advance of the resisting power of the lung. There is irregularity of temperature sometimes becoming very marked and the patient may be kept in bed, with emaciation, weakness and loss of appetite. There may be

no cough or a very slight one and the slightest possible physical signs. The condition is often attributed to persistent influenza, not infrequently to subacute rheumatism or to sheer neurotism. Time after time he has seen this apparent quiescent state give way to a serious breakdown with lung destruction and early death. If a name were demanded, he would call this latent tuberculosis. The conditions that may precede the outbreak and possibly conduce to its occurrence are noticed. Chlorosis is rarely an antecedent. Florid patients are more apt to be seriously affected than anemic individuals, and he attributes this to a tendency to vasomotor paralysis. Deformity of the chest undoubtedly predisposes to tuberculosis, the more so since it so often depends on primary tubercular disease of the bone and to what we call the serofulous diathesis, but judging from his own experience, Maguire would say that the progress of pulmonary tuberculosis secondary to a pre-existing glandular affection is much slower and more favorable than when the lung tissue is primarily affected. The glands seem to form a resting-place for the disease, which frequently can be extirpated with them. Among the most important disorders from a prognostic point of view which may precede tuberculosis of the lungs are pleurisy, serous or purulent, and pneumonia. He has already mentioned the serious outlook when scattered patches of pleurisy precede the disease, and it is remarkable, judging from the results of many observers, how often an apparently simple pleurisy is really tuberculosis and yet how comparatively seldom pleurisy is followed by pulmonary involvement. From actual observation he does not think breakdown of tuberculosis following pleurisy is so serious in prognosis as those forms that have not been preceded by this affection, and the occurrence of pleuritic effusion in the course of pulmonary tuberculosis, especially in the invasion stage, seems to be actually beneficial provided it is not removed. When empyema occurs and has been removed by operation, it is remarkable how seldom it is followed by pulmonary tuberculosis. Pneumonia is an essential element of pulmonary tuberculosis and gives rise to the physical signs from which we form our diagnosis, but pneumonia, not of itself tuberculous, but occurring in a person predisposed to the disease, does not materially affect the progress of subsequent tuberculosis. Most pneumonias affect the base of the lung, and tuberculosis starting there is, as has already been stated, rare and slow in progress. Pneumonia of the apex not necessarily tuberculous is generally followed by complete resolution of the lung, even more so when the base is affected. Urinary tuberculosis, beginning as such, remains so for a long time as a rule, but near the end of such cases one does meet with lung tuberculosis, but the lung trouble usually plays only a minor part in causing the death of the patient. The influence of hereditary tendency can be by no means ignored, and whenever present he has found it seriously to affect the gravity of the case. While most of his patients were sedentary in their habits, a curious exception is noted among the Polish-Jew tailors of London, who live under most unsanitary conditions, and yet rarely have tuberculous affections, though they suffer greatly from bronchitis and other catarrhs.

The Treatment of Certain Chronic Abscesses by Simple Aspiration. **WILLIAM H. BENNETT.**—After reporting several cases in which aspiration was employed for tuberculous abscesses with good results, the author remarks that he does not wish to advocate the indiscriminate use of this treatment to the exclusion of the more scientific method by free incision and scraping. All he wishes to do is to point out that aspiration in the method here performed is of value in certain cases where treatment by the other method is extremely undesirable and often disastrous. The slight difficulty in the matter of sterilization and slight inconvenience to the patient are its advantages. The essential points are, besides absolute surgical cleanliness, to be sure to cease to withdraw the contents the moment any sign of blood shows itself, and not to allow the abscess to regain more than one-half its former size before aspirating again. This last applies not only to the original tapping, but also to recurrent ones. The more slowly the fluid is withdrawn the better.

Annales de Gyn. et d'Obst. (Paris), October.

Puerperal Sepsis. DRAGHIESCU.—The method of treating puerperal sepsis at Bucharest is by systematic irrigation of the uterus whenever, after delivery, the patient has a chill, temperature of 38 C., and pulse 100. The uterus is then packed with iodoform gauze moistened with a 5 to 10 per cent. solution of phenic acid. The gauze slightly distends the organ and by direct contact cauterizes the surface and promotes uterine contractions. It is renewed twice in twenty-four hours. The patient recovers more rapidly with this than with any other method of treatment, and affections of the adnexa, etc., and phlebitis are much less frequent. The mortality has ranged from .05 to .22 per cent. of all accouchements since this treatment was instituted in 1895. There were 3 deaths, or .13 per cent., of 2047 deliveries in 1899.

Treatment of Puerperal Eclampsia. PORAK.—According to Porak, eclampsia is an auto-intoxication of intestinal origin. He therefore treats it by copious flushing of the bowels, using 30 to 50 liters of tepid, 7 per 1000 salt solution under weak pressure. This irrigation brings at last a discharge of pure bile, and then he desists. Infusion into the blood is also an important aid. He considers the convulsions of reflex origin, and consequently forbids all food or drinks by the stomach, and if obstetrical intervention is necessary, abolishes the reflexes by profound narcosis. Since he has been treating eclampsia on these principles he has had only five die out of forty-seven cases, and two of these deaths could not be attributed to the eclampsia.

Anterior Colpohysterotomy for Chronic Inversion of the Uterus. G. SPINELLI.—The finger is introduced into the inverted organ through a transverse incision in the cervix, and the anterior wall is then incised on the median line to the bottom. The uterus is then turned right side out, the incisions are sutured and the organ is replaced. There is much less tendency to the formation of adhesions by this anterior intervention than by the usual posterior incision.

Malignity of Hydatidiform Mole. F. LA TORRE.—Unless the stroma of the villi is involved, the mole is not malignant, and La Torre cites three cases in which the patients are still in good health two to eight years after spontaneous expulsion of a mole.

Autotransplantation of Ovary. MAUCLAIRE.—It is sometimes impossible to leave a sound ovary *in situ* during a salpingo-ovariectomy. In such cases Mauclaire urges transplanting the ablated ovary elsewhere instead of sacrificing it completely. He has thus transplanted the ovary in seven women under the skin of the median incision or in the inguinal region, but he was obliged to remove it later in four cases, as the organ proved septic. In the three others it healed in place and is still palpable, several months later. Menstruation has continued regular in one of the patients with a transplanted ovary after bilateral salpingo-ovariectomy. Pozzi does not approve of the procedure, as he thinks that the transplanted organ will be absorbed or expelled as a foreign body. He believes that the disturbances attributed to the premature menopause have been very much exaggerated. Bouilly has noticed that women near the menopause are apt to suffer more from these post-operative troubles, suggesting an "ovarian habit." Jayle has recently called attention to the necessity of carefully testing the functioning of the ovary before operating. If there are evidences of ovarian insufficiency there is little advantage to be derived from saving the organ.

Annales de l'Institut Pasteur (Paris), October.

Autosecretions of Microbes. J. DANYSZ.—In the course of attempts to immunize the anthrax bacillus against the bactericidal action of rat serum, Danyasz has become convinced that the microbe is dissolved by a diastase which it secretes itself, and that the action of this diastase becomes pathogenic when it is no longer held in check or compensated. This diastatic action and the appreciable pathogenic symptoms noted in consequence of the supposed action of alexins, and probably also of lysins and toxins, on living organisms or tissues may be produced by this substance secreted by the cells themselves, and in this case specific antitoxins would have no direct in-

fluence on this substance nor on the symptoms which it originates. It follows, therefore, that if there is usually a diastatic element in the action of alexins, lysins or toxins, it need not be inferred that these substances are diastases or that they contain any.

Annales des Mal. Gen.-Ur. (Paris), September.

Neuropathic Hematuria. LANCERAUX.—The hematuria was always preceded by pains in the joints. This suggested that quinin might prove useful, and experience has emphatically confirmed this assumption, the quinin in doses of .8 to 1.5, supplemented by hydrotherapy and rest.

Bulletin de l'Acad. de Med. (Paris), November 20.

Treatment of Cancer With Anticellular Serum. WLAEFF AND H. DE VILLIERS.—With blastomycetes derived from malignant tumors the writers have succeeded in immunizing animals and have produced an active serum in pigeons, hens and geese. This serum injected in patients with inoperable cancer arrests the tumor in most cases and leads to its retrogression for a time. Wlaeff claims that this improvement is sufficient to transform an inoperable into an operable tumor. The serum has been tested by several of the Paris hospital physicians as a last resort in inoperable cases, and all concur in proclaiming its entire harmlessness, and the subjective benefit derived. The pain and functional disturbances are certainly much improved; strength, appetite and sleep return, but these effects may be due to suggestion. On the other hand, the modification in the tumor is objectively apparent. It diminishes in size, contracts, becomes harder, hemorrhages cease or are less frequent. The ulcerations may become partially repaired and the involved ganglia also diminish in size. But this modification is transient, in every case the neoplasm resumed its course sooner or later. The anticellular serum does not have a very firm scientific foundation, as the connection between the blastomycetes and cancer is still disputed. Berger observes, after watching its effects on about a dozen patients, that the precarious character of the improvement attained with anticellular serum should not prevent resort to it when indicated, as even transient improvement is a great boon in many cases.

Presse Medicale (Paris), November 21 and 24.

The Liver Function in Infantile Gastroenteritis. E. TERRIEN.—Exact tests of the absolute functioning of the liver in nurslings have not yet been made on a comprehensive scale, and tests of the urogeenic function have been so fraught with errors that the results have no value. Terrien has been studying the glycogetic function of the liver after establishing that alimentary glycosuria is very frequent in infantile gastroenteritis, and that it can be considered pathologic whenever it appears with ingestion of less than 4 grams of pure glucose to the kilogram of body-weight, or 3.5 of pure lactose. The absence of alimentary glycosuria does not necessarily indicate that the liver function is normal; too many causes outside of the liver may co-operate in this result. But if the test is positive, an insufficiency of the liver is evident, as Terrien has demonstrated that the factors of the renal permeability and the glycolytic power of the tissues are more important theoretically than practically in these cases. The same applies also to the absorbing power of the intestinal walls. Whether the barrier is in the liver, or in the liver and intestines combined, it is evident that this barrier has been broken down and that it allows the glucose to pass and also probably the soluble poisons and intestinal toxins. This is a plausible explanation for the emaciation and cachexia that persist with progressively increasing alimentary glycosuria after cessation of the symptoms of the gastroenteritis.

November 24.

Relations Between the Nitrogen and the Chlorids in the Gastric Juice. J. WINTER AND A. FALLOISE.—The theory generally accepted in regard to the process of digestion is based too exclusively on peptonization *in vitro*, and leaves many of the phenomena of digestion unexplained. Peptonization is in reality merely one isolated phase of gastric digestion. According to the theory advocated in this communication, there is no

true secretion of hydrochloric acid. This acid, free and in combination, is formed in the cavity of the stomach. This theory conflicts with our preconceived ideas in regard to digestion, but it harmonizes with all the known facts, and even allows us to anticipate and foretell the phenomena. It reveals the existence of multiple connections between the organism and the gastric juice. The results of tests are tabulated which show that there is absolutely no proportion between the amount of nitrogen and the amount of hydrochloric acid in the gastric juice. They demonstrate, however, certain laws of proportion between the dissolved nitrogen and the organic chlorine in combination. The amount of nitrogen increases in proportion to the amount of bound chlorides and with the immediate product of their dissociation, the organic chlorine. This dissociation is influenced by the progress of the concentration. The organic chlorine appears as a transient combination correlated to the hydration of the nitrogenized matters. It is, therefore, possible to calculate the amounts of the chemical constituents of the gastric juice when one is known, as they are bound together by close and regular relations. The arguments and data demonstrate that digestion may occur in the total absence of free hydrochloric acid in the stomach contents. The presence of hydrochloric acid is merely an index of the rapid progress of peptonization. The results of the tests also proclaim that the reciprocal dependence between the organs extends also to the most infinitesimal particles dissolved in the gastric fluid.

Revue de Med. (Paris), November.

General Paralysis in Malaria. MONTYEL.—An etiologic connection was apparent in eight cases observed by Montyel. Paralysis on a malarial foundation is almost always rapidly progressive. Acute malarial infection, he asserts, may induce general paralysis or pseudo-paralysis in the predisposed. Chronic malaria may produce the same effect and may even originate general paralysis in the non-predisposed. The malarial infection frequently causes cerebral congestions, which complicate and aggravate the paralysis.

Semaine Medicale (Paris), November 21 and 28.

Toxic Dyscrasia Complicating Diabetes. R. LÉPINE.—Three important works have been published this year on the cyanogen compounds and nitriles. Lépine thinks that the facts presented have some bearing on the etiology and treatment of the toxic dyscrasia of diabetes. Sternberg has suggested that beta-oxylbutyric acid might be derived from beta-amidobutyric acid. He established that the latter acid produces in the dog and cat symptoms resembling those of diabetic coma, acceleration of the pulse, increased amplitude of respiration and coma. It is much more toxic than beta-oxylbutyric acid, as it kills in the dose of one gram per kilogram. It is generally supposed that oxylbutyric acid is derived from the fats, but some experts still maintain that proteid substances are also a source of oxylbutyric acid and eventually of amidobutyric acid. Although Sternberg's hypothesis can not be proved yet it is supported by the similarity in the symptoms, and the fact that as amidobutyric acid becomes hydrated, it generates beta-oxylbutyric acid at the same time that it liberates a molecule of ammonia. This may prove to be one of the sources of the excess of ammonia noted in diabetic urine in case of toxic dyscrasia. The chemical equation corresponding to amidobutyric nitrile and amidobutyric acid suggests a possible origin for the amidobutyric acid. The hydration of a molecule of amidobutyric nitrile generates a molecule of amidobutyric acid and also a molecule of ammonia. There is here a second source for the excess of ammonia in the urine. We know that albuminoid substances contain complex nitriles, harmless originally, but if molecular subtraction occurs by the action of suitable reagents, these nitriles become formidable poisons as they are simplified, as for example cinnamic nitrile, whose toxicity is equal to that of hydrocyanic acid. Applying these data to the question of the toxic dyscrasia complicating diabetes, Lépine asserts that if beta-amidobutyric acid be not the actual causal agent of diabetic coma, the latter is probably due to some other derivative of the complex nitriles which form an integral part of our tissues. Filehne asserts that

the organism becomes accustomed in time to any poison given in repeated doses, but the researches of Heymans and Masoin, reported in the *Arch. Int. de Pharmacodynamie*, 1900, vii, establish that this is not the case with the poisons in question in this case. Fiquet's study of the properties of the nitrile-phenols, (*Jour. de Phys.*, 1900, September) shows that the introduction of a phenol—especially if carboxylated—into the molecule of a nitrile abolishes its toxicity. He suggests the possibility that the phenols will enter into combination with the toxins in the organism and thus annul their toxicity. As some of the phenols are very slightly toxic, Lépine remarks that the various facts cited justify the attempt to utilize the phenols in the treatment of the prodromic stage of diabetic coma. In the meanwhile he advises careful surveillance of the kidney, daily use of a slightly diuretic mineral water, and prolonged, large doses of sodium bicarbonate, inhalation of oxygen, and in case of imminent coma, intravenous infusion of possibly two or three liters of an alkaline salt solution, made very slowly, auscultating the heart occasionally. Subcutaneous injections are dangerous in diabetes.

November 28.

Determination of the Amount of a Pleural Effusion by Methylene Blue. NICLOT.—This colorimetric estimation of the quantity of fluid in the pleura has been found accurate in an experience of three cases. It is based on the principle that a certain amount of methylene blue introduced into the effusion will stain it a lighter or darker color according to the amount of the fluid. By comparison with a test-tube containing some of the unstained fluid, the quantity can be gauged with mathematical exactness.

Archiv f. Ophthalmologie (Leipsic), October 23.

Conjunctivitis Petrificans. T. LEBER.—Since Leber first described in 1895 the acute process of calcification to which he applied the term in the title, he has had occasion to observe and follow three cases of typical and three others which differ in some respects from the exact type described. The process differs from ordinary calcification as the lime is still in an organic, crystallizable combination. Two or three similar cases are on record from preceding centuries, one stated to be the result of witchcraft. The lesion first appears as white opaque spots, with no inflammation nor subjective disturbances, or very slight if they occur. It resembles the action of a caustic, especially of lead-water. The affection progresses spasmodically, new foci appearing and others healing or lingering for weeks, months or even years. The possibility of complete retrogression of the conjunctival process is in striking contrast to its severity. The smaller foci vanish completely by absorption or elimination of the affected tissue but the more extensive leave the membrane slightly thickened and shriveled at the spot, but not at all in proportion to the extent of the lesion. A tendency to recurrence may remain but gradually becomes attenuated, although in some cases the attacks recur in endless succession terminating in blindness. Weak antiseptics may prove useful at first, but later, no irritating substance is tolerated. Warm, moist compresses favor the expulsion of the necrotic tissue. Excision of the focus, when possible, abbreviated the attack and rendered recurrence milder. No microorganisms could be discovered, but the propagation of the lesions by contact favored the idea of a microbial origin.

Congenital Corectopia. E. V. HIPPEL.—Examination of an eye enucleated on account of traumatism showed a condition of congenital corectopia and luxation of the lens, confirmed by investigation of the other eye. The iris had been pulled backward by a connecting strip of solidified vitreous substance containing an artery and two or three veins. The luxation of the lens had been secondary.

Centralblatt f. Chirurgie (Leipsic), December 1.

Improved Technique in Use of Gigli Wire Saw. I. GIGLI.—The fine serrated wire is now supplemented by an improved drill and inserter designed by Gigli for the purpose, which are described and illustrated in this communication. The drill has a large handle projecting outward and downward from one side, with a semicircular portion which fits over the skull of the patient and steadies the whole instrument.

Deutsche Med. Wochenschrift (Leipzig), November 15.

Specific Biologic Test for Albumin. UHLENHUTH.—The biologic method described is said to surpass in accuracy and delicacy any chemical test. Rabbits were treated with a solution of albumin from the eggs of hens or pigeons, injected repeatedly into the peritoneum or ingested per os. The serum of the animals acquired the property of rendering turbid a solution of the albumin and causing a precipitate to be deposited. The reaction does not occur with albumin from any source but eggs. The serum can be heated to 60 C., without losing this specific property.

The Freezing-Point of the Blood in Typhoid Fever. WALDVOGEL.—The results of comprehensive study of twenty-four cases of typhoid fever are tabulated. They prove that a higher freezing-point of the blood is not necessarily indicative of uremia. It is evidently not so much the quantity as the quality of the toxic substances retained in the blood that causes the disturbances in uremia. The freezing-point is higher in certain cases of typhoid fever—probably a phenomenon directly connected with the formation of antitoxin. In the cases in which the freezing-point is only slightly above normal—below .7—the prognosis of the disease is generally unfavorable.

Muenchener Med. Wochenschrift, November 27.

Hereditary, Progressive Spinal Atrophy of the Muscles in Children. J. HOFFMANN.—The disease commences in healthy children during the first year of life, first noticed as a symmetrical, lax, atrophic paralysis of the thigh and pelvic muscles, extending to the muscles of the back, abdomen, neck and shoulders in turn, with a descending course in the legs and arms. Death follows in one to four years from secondary pulmonary affections caused by the paralysis of the thoracic muscles. The intelligence and senses are normal and there are no bulbar symptoms. Hoffmann has had six patients with this disease, all in four families not at all related, but with a record of twenty-one cases in all. Energetic treatment of various kinds proved totally ineffectual. The autopsy findings in three cases out of three families coincided in every respect: symmetrical, very pronounced degeneration of the peripheral neurons of all the motor nerve pairs below the hypoglossus, degeneration of the multipolar ganglion cells of the anterior columns and of the anterior roots, degeneration of the motor peripheral nerves and intramuscular nerve ramifications, with muscular atrophy and degeneration proportional to the lesions in the spinal cord. Bruns has recently reported three cases of the same disease, differing only in the longer survival of the children, who are now 11 to 14 years old. Werdnig published the first description in 1891, with two cases, and two have since been reported.

Three Hundred Autopsies of Suicides. A. HELLER.—The autopsies were made at the Pathologic Institute at Kiel, and the findings demonstrated that nearly 50 per cent. of the so-called suicides had been mentally irresponsible, and consequently not actual suicides. Of the seventy women, 47.4 per cent. were menstruating, pregnant or convalescing from childbirth, the first forming 35.9 per cent. Syphilis seemed to be a factor in the suicides to a certain extent; eight subjects had syphilis and six syphilophobia, fostered by charlatans, frightening, pretending to treat and then collecting blackmail from them. In only 8 per cent. of the entire number of suicides were no traces of pathologic lesions to be discovered, including a few in advanced putrefaction.

Practical Method of Rendering Cow's Milk Easily Digestible. VON DUNGERN.—The cow's milk can be boiled first. Just before using, it is heated to body temperature and slightly coagulated with a small amount of rennet, then stirred to break up the curd, which restores the milk to nearly normal appearance. Children relish it the same as before, but all danger of the formation of large, hard curds in the stomach is entirely obviated. Aseptic rennet for the purpose is now prepared for the market. This method has been extensively tested by von Dungen and others with entire success.

Grece Medicale (Syra), November.

Repeated Laparotomies in Peritoneal Tuberculosis. J. GALVANI.—This communication describes the excellent results

obtained in chronic peritoneal tuberculosis by laparotomy systematically repeated as many times as indicated. In 20 cases he performed a second laparotomy in seven days to twenty-three months after the first. Some died from intestinal perforation, but many were cured. Two patients required three laparotomies, one four and another five. Galvani therefore asserts that systematic repetition of the laparotomy will save many patients now abandoned, as it were, after the surgeon has done one laparotomy.

Annali di Ost. e. Gin. (Milan), xxii, 4 and 7.

Veratrum Viride in Eclampsia. L. MANOIGALLI.—Veratrum has proved unfaillingly effective in arresting the convulsions in eighteen cases of puerperal eclampsia in Mangiagalli's experience during the last four years.

Gazzeta Degli Osp. (Milan), November 25.

Mistakes in Diagnosis from Presence of Pseudo-Tubercle Bacillus. E. BENVENUTI.—A case is described diagnosed tubercular gangrene of the lungs, but the autopsy disclosed the entire absence of indications of tuberculosis. A bacillus was found in abundance closely resembling the tubercle bacillus, but differing in certain points. It is evidently the same bacillus that has been found in butter, in cases of pulmonary gangrene and in the dejecta of animals by Rabinowitsch, Petri, Moeller and others, the pseudo-tubercle or smegma bacillus. In the case described the bacilli might have been derived from the stomach, which would explain the indol reaction noted. Others have probably made the same mistake; for instance, the case related by Tuffier at the Paris Société de Chirurgie last March of a woman with tubercular gangrene of the lungs who recovered completely after pneumotomy. The bacilli found in the sputa and assumed to be tubercle bacilli must have been the spurious variety, as otherwise such complete recovery after mere pneumotomy is inexplicable.

Change of Address.

- E. Amberg, 32 Adams St., to 102 Miami Ave., Detroit, Mich.
 J. H. Bird, 511 N. Garrison, to Grand and Easton Sts., St. Louis, Mo.
 J. O. Bolduc, New Era Bldg., to Gerald Bldg., Chicago.
 G. Campbell, 820 Grand Ave., to 3428 Morgan St., St. Louis, Mo.
 G. C. Crandall, 511 N. Garrison, to Grand and Lindell Sts., St. Louis, Mo.
 J. M. Craig, Battle Creek, Mich., to Sanitarium, College View, Neb.
 O. N. Carr, 400 Walnut Ave., Austin, Ill., to 1326 Ogden Ave., Chicago.
 H. Cushman, Washington, D. C., to Wapello, Iowa.
 J. M. Cooper, Ft. Worth, to Arlington, Tex.
 Lewis W. Dudley, 2613 Indiana Ave., to 3700 Cottage Grove Ave., Chicago.
 R. C. Elmore, Acona, to Black Hawk, Miss.
 C. W. Geyer, Chicago, to 70 S. 4th St., Aurora, Ill.
 W. A. Hall, Chillicothe, to Springfield, Ohio.
 A. Heuselndorf, 429, to 438 Lincoln Ave., Chicago.
 J. G. Hillery, Estes Park, to 1650 Tremont St., Denver, Colo.
 F. M. Jones, Evansville, to Stephens Station, Ind.
 M. J. Kellner, 203 Lincoln Ave., to 364 Larrabee St., Chicago.
 G. H. Litsinger, Milford, to Riley, Kan.
 W. D. Leach, New Sharon, to South English, Iowa.
 F. L. McKee, Plymouth, Pa., to Search Light, Iowa.
 H. Mikel, McCredie, to Columbia, Mo.
 D. B. Manchester, Beverly, Mass., to Oneonta, N. Y.
 C. E. McCanley, Monango, N. D., to Ashton, S. D.
 S. Smith McNullin, Castle Rock, Colo., to Green River, Wyo.
 J. R. Powell, Masonic Temple, to 19 Wisconsin St., Chicago.
 W. R. Washburn, McLeansboro, Ill., to Army and Navy Hospital, Hot Springs, Ark.
 S. G. Wright, Lafayette, to Covington, Ind.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., November 25 to Dec. 5, 1900, inclusive:

- George W. Adair, major and surgeon, U. S. A., member of a retiring board convened in Chicago.
 David H. Coffin, lieutenant and asst. surgeon (recently appointed, with rank from Nov. 19, 1900), is assigned to the 39th U. S. Inf. Vols.
 Daniel C. Cooney, acting asst. surgeon, orders directing annulment of contract revoked, leave of absence granted.
 Charles H. Fischer, acting asst. surgeon, from Fort Apache, Ariz., to Washington, D. C., for annulment of contract.
 Valery Hayard, major and surgeon, U. S. A., leave of absence from the Division of Cuba extended, he will report at Washington, D. C., to the surgeon-general, on official business, thereafter remaining his status on leave of absence.
 James H. Hyasell, major and surgeon, Vols., honorably discharged from the service of the United States, to take effect Dec. 19, 1900.

Theodore C. Lyster, lieutenant and asst.-surgeon, U. S. A., leave of absence from the Division of Cuba extended.

Henry I. Raymond, captain and asst.-surgeon, member of a retiring board convened at Chicago.

Charles W. Thorp, acting asst.-surgeon, from Denver, Colo., to San Francisco, Cal., to accompany troops to Manila, P. I., and for assignment to duty in the Division of the Philippines.

J. Samuel White, acting asst.-surgeon, from Manheim, Pa., to San Francisco, Cal., to accompany troops to Manila, P. I., and for assignment in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Dec. 8, 1900:

P. A. Surgeon R. S. Blakeman, ordered to be examined December 10, at Washington, D. C., for retirement, and thence home to wait orders.

P. A. Surgeon A. W. Dunbar, ordered to the Vermont for duty with the crew of the *Wisconsin*, revoked; ordered to duty at naval hospital, Mare Island.

Asst.-Surgeon W. M. Carton, ordered to the Washington navy yard.

Surgeon C. Biddle, ordered to the naval hospital, Norfolk, Va., for temporary duty.

Asst.-Surgeon E. J. Crow, detached from the *Monadnock* and ordered to the *Catigua*.

Pharmacist J. Cowan, detached from the *Monadnock* and ordered to the *Catigua*, and to additional duty at the Cavite naval station.

Marine Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine Hospital Service for the seven days ended Dec. 6, 1900:

Surgeon H. R. Carter, granted extension of leave of absence for 15 days from December 1, on account of sickness.

Surgeon C. T. Peckham, granted leave of absence for two months from December 17.

Surgeon S. D. Brooks, granted leave of absence for five days from December 11.

Surgeon V. H. McIntosh, to proceed to Perry, Ga., for special temporary duty.

P. A. Surgeon G. B. Young, granted leave of absence for three days.

P. A. Surgeon H. W. Wickes, granted extension of leave of absence for ten days.

P. A. Surgeon L. E. Cofer, upon being relieved from duty at Los Angeles, Cal., to proceed to Honolulu, H. I., and report to Surgeon D. A. Carmichael for duty.

Asst.-Surgeon H. Hastings, relieved from duty at the Columbia River quarantine, Astoria, Ore., and directed to proceed to Los Angeles, Cal., and assume command of the service, relieving P. A. Surgeon Cofer.

Asst.-Surgeon H. B. Parker, to proceed to Magnolia and Fayette, Miss., and St. Joseph, La., for special temporary duty.

Asst.-Surgeon C. W. Vogel, upon being relieved from duty at the San Francisco quarantine to proceed to San Francisco, Cal., and report to medical officer in command for duty and assignment to quarters.

Health Reports.

The following cases of smallpox, yellow fever and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 8, 1900:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Nov. 12-24, 3 cases.
 Kansas: Wichita, Nov. 17-Dec. 1, 10 cases.
 Kentucky: Lexington, Nov. 17-Dec. 1, 3 cases.
 Illinois: Cairo, Nov. 27, 1 case.
 Minnesota: Duluth, Nov. 8-22, 54 cases; Minneapolis, Nov. 24-Dec. 1, 1 case; St. Paul, Nov. 8-22, 2 cases; Winona, Nov. 24-Dec. 1, 60 cases; the counties of Carlton, Kandiyohi, Le Sueur, Lyon, Meeker, Pine, Ramsey and Wright, Nov. 8-22, 73 cases.
 Missouri: St. Louis, Nov. 23-Dec. 3, 3 cases.
 New York: Nov. 24-Dec. 1, 34 cases.
 Ohio: Nov. 24-Dec. 1, Ashabula, 7 cases; Cleveland, 34 cases, 1 death.
 Pennsylvania: Allegheny, Nov. 24-Dec. 1, 1 case.
 South Carolina: Greenville, Nov. 24-Dec. 1, 3 cases.
 Tennessee: Nashville, Nov. 24-Dec. 1, 1 case.
 Texas: Nov. 22, Blue Springs, present; Sublime, 14 cases; Vashit, present.
 Virginia: Alexandria county, Dec. 5, 1 case.

West Virginia: Harrison County, Nov. 28, 18 cases; Wheeling, Nov. 24-Dec. 1, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Nov. 10-17, 29 cases.
 Ecuador: Guayaquil, Oct. 6-Nov. 17, 40 deaths.
 Egypt: Cairo, Nov. 3-11, 1 death.
 France: Paris, Nov. 10-17, 15 deaths.
 Gibraltar: Nov. 3-11, 1 case.
 Greece: Athens, Nov. 10-17, 2 cases, 1 death.
 Mexico: Tampico, Nov. 11-18, 4 deaths; Vera Cruz, Nov. 17-24, 1 death.
 Russia: Moscow, Nov. 3-10, 2 cases; Odessa, Nov. 10-17, 14 cases, 7 deaths; St. Petersburg, Nov. 3-10, 2 cases, 2 deaths.
 Scotland: Glasgow, Nov. 17-23, 24 cases, 2 deaths.
 Spain: Barcelona, Oct. 27-Nov. 3, 48 deaths.

YELLOW FEVER—UNITED STATES.

Louisiana: 40 miles south of Natchez, Miss., Nov. 27, 5 cases.
 Mississippi: Natchez, Nov. 27, 1 case; Osyka, Dec. 4, possibly 1, fatal.

YELLOW FEVER—FOREIGN AND INSULAR.

Cuba: Havana, Nov. 17-24, 14 deaths.
 Dominican Republic: Puerto Plata, Nov. 3-17, 3 deaths.
 Mexico: Vera Cruz, Nov. 17-24, 3 deaths.
 PHILIPPINE ISLANDS: Manila, Sept. 29-Oct. 6, 2 cases.
 PHILIPPINE ISLANDS: Manila, Sept. 29-Oct. 6, 2 cases.
 PHILIPPINE ISLANDS: Manila, Sept. 29-Oct. 6, 2 cases.
 Africa: Cape Willamtown vicinity, Nov. 17, 6 cases, 4 deaths.
 China: Hongkong, Oct. 13-27, 6 deaths.
 Japan: Kobe, Oct. 15-27, 3 cases.

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Original Articles.

TREATMENT OF INJURIES TO THE URETERS.*

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OMAHA, NEB.

Feb. 22, 1900, Mrs. B. M., aged 38 years, housewife, with no children, reported that two months before, she began having morning nausea, and supposed she was pregnant, but menstruation continued. Thursday, February 15, one week before I saw her in consultation with Drs. Hoffman and Detwiler, what seemed to be a normal menstruation came to an end, and she felt perfectly well. The next morning she felt a sudden sharp pain in the lower abdomen, radiating toward the left side, and she had to lie down. A little more menstrual blood made its appearance, and she has had a slight flow ever since, but nothing has been found to suggest a miscarriage, and no decidua tissue has been discovered. Pain has been at times severe and cutting. Since February 18, Drs. Hoffman and Detwiler have seen her daily and her temperature has never been above normal, nor has her pulse suggested shock. A mass in the left lower quadrant of the abdomen has been increasing rapidly in size.

When seen by the writer, February 22, she had a normal temperature and pulse, and was a spare but apparently well-nourished woman. A slightly nodular mass was found in the left inguinal region, extending an inch above the umbilicus and more than an inch to the right of the median line. The mass also presented behind the cervix, tense, but slightly fluctuating. It was not very painful on pressure.

Three explanations were suggested to account for the condition: 1, a pelvic abscess caused by an undiscovered abortion; 2, a ruptured tubal pregnancy; 3, an intraligamentous cyst, growing rapidly because of some change in its circulation brought about by trauma or pressure. The first supposition was untenable because of the absence of fever or increased pulse-rate. Neither was the pain significant of a rapid pus formation. Extruterine pregnancy seemed to also be negated from absence of severe collapse, from the fact that the mass was firmer than we usually find in such cases, and from the somewhat nodular form of the growth. The most plausible explanation was that we had to do with a rapidly-growing intraligamentous cyst.

Operation was performed Feb. 26, at 9 a. m., at Immanuel Hospital. Drs. Hoffman and Detwiler assisted, and Dr. Peterson, the house surgeon, gave ether. On opening the abdomen, an adherent, thick-walled cyst was found, the intestines and omentum being firmly adherent to it and to each other everywhere. After loosening the adhesions, some of which were so vascular they had to be ligated and cut, the left tube was found to be tensely stretched over the tumor, proving it to be intraligamentous. As it grew, it had burrowed up behind the peritoneum. The contents—clear serum—were removed by aspiration.

By hard work, lasting an hour, the cyst-wall was completely enucleated, but during this process several clamps had to be put on to stop the free bleeding. Sufficient care was supposed to

have been taken to avoid the ureter, but, after clearing the mass away, a suspicious-looking vessel was found hanging loose in the pelvis. A small Kelly's probe was introduced into its lumen, and passed directly into the bladder. This portion was about 3½ inches long, so search was made for the upper fragment, and it was found within the grasp of a pair of forceps so near the median line that no thought had been present of being in a dangerous locality. The probe passed directly up to the pelvis of the kidney. I therefore united the severed ends of the ureter by an end-in-end anastomosis. The lower end was split for a distance of a centimeter, by introducing one blade of a pair of fine scissors into the lumen. Next, with a fine catgut suture, threaded with a needle at each end, the needles were passed side by side into the lumen of the upper fragment, and from within out through the wall of the ureter about one-eighth inch from the open end. These needles were about one-fifth the circumference of the duct apart, and at an equal distance from the free end. Next the needles were introduced into the lumen of the lower fragment and carried from within out through its wall at a distance of about one-half inch below the lower angle made by the slit in the wall; the needles here being the same distance apart as in the upper portion. (See Fig. 1.) With an assistant holding the free angles made by the slit in the lower fragment by means of small artery forceps, the opening was made more patulous and the duct steadied, while the upper fragment was drawn down within the lower. The catgut suture was then tied, and this held the upper fragment securely invaginated within the lower. With two additional catgut sutures the slit made in the lower fragment was repaired. (See Fig. 2.) The ureter was then covered as well as possible with peritoneum and the abdominal wall closed, but with a strip of gauze extending from the lower angle of the wound to the point of union of the duct.

The patient suffered from shock but quickly rallied. The first urine drawn from the bladder after the operation contained a slight amount of blood. At 6 p. m. of the day of operation, the temperature reached 99.4 degrees, the highest it rose at any time. March 3, the fifth day after the operation, the gauze drain was removed. No leakage of urine had occurred. By March 14 the wound was nicely healed and the patient was allowed to sit up. On March 22, to test the patency of the ureter, a Harris "segregator" was used, and in thirty minutes 18 c.c. of urine was collected from the left—injured—kidney and 16 c.c. from the right. Phosphates were in excess, but otherwise the urine from each side was normal. On March 23, the patient was discharged from the hospital, and on May 29 was doing well, having gained several pounds in weight, and her urine being normal.

The possibility of injury to the ureter in intrapelvic operations has been recognized since the beginning of abdominal operations, but the full extent of this danger seems not to have been fully appreciated until the present decade. Could the whole truth be known, many cases of death reported as "shock" or "exhaustion" would have to be charged to "accidental injury to the ureter." Within a short time the writer learned of a woman dying from suppression of the urine shortly after an abdominal operation. Autopsy revealed the fact that both ureters had been tied and cut. Had no autopsy been secured,

*Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

this would probably have been reported as a case of the "pernicious effects of the anesthetic." By making a regular practice of careful review after every complicated intrapelvic operation, one would not be likely to close the abdomen without discovering such an injury.

The manner of dealing with a severed ureter, whether it be accidental or because of disease, will depend on the point of division. In the past the treatment advised and occasionally carried out was to remove the corresponding kidney, a measure so radical and so destructive that it had little except necessity to commend it. If the opposite kidney happened to be sound and the patient survived the shock of a major operation after having already endured a prolonged and difficult one, the result was satisfactory, although a person with only one kidney is greatly handicapped. To avoid so radical a procedure, when it was shown by the experiments of R. Harvey Reed and others that ligation of the ureter produced atrophy of the corresponding kidney, this was deemed a distinct gain, and was thought to mark an epoch in the treatment of this class of injuries. But it has been found that the results of ligation are not always the same, that atrophy does not always follow, and, if it does, the patient has the serious disability of having only one functioning kidney.

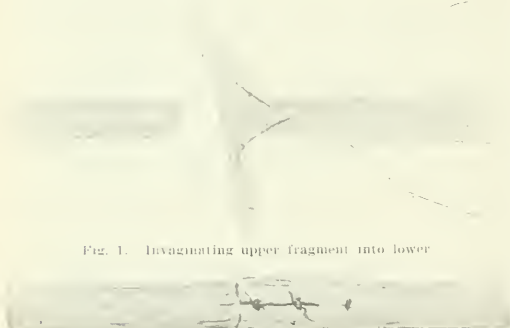


Fig. 1. Inverting upper fragment into lower.

Fig. 2. Anastomosis completed.

Stitching the severed ureteral end to the skin and thus establishing a permanent urinary fistula is less dangerous, so far as immediate results are concerned, but the disagreeable, not to say disgusting, condition in which the patient with such a fistula is left is enough to condemn it. In addition to the irritation of the skin and the foul odor which prevents the patient from mingling with his fellows, there is constant danger of an ascending infection to the pelvis of the kidney. This procedure has justly fallen into disuse and only the circumstance of this being the only procedure possible would warrant a surgeon in adopting it.

Much experimental work has been done to devise a safe and satisfactory method of implanting the severed ureteral end into the rectum or other part of the alimentary canal, but thus far it has not proved itself of value. Notwithstanding the apparent success of Martin's recent case of implantation of both ureters into the rectum with removal of the bladder for carcinoma, most surgeons would hesitate to follow his example. Theoretically, by imitating the oblique method by which the ureter enters the bladder, it was thought that infection of the kidney might be avoided, but the results in experiments on animals have not been encouraging. Dr. Reuben Peterson's general conclusions

were that the primary mortality of the uretero-intestinal anastomosis, both in experimental work on animals and in man, was exceedingly high; that all efforts to prevent ascending renal infection in animals or in man had proved futile, and that the operation was unjustifiable, either for the purpose of making the patient more comfortable or for malignant disease of the bladder. Van Hook³ says: "Implantation of the ureter into the intestines at any point is, in the writer's judgment, absolutely contraindicated, because of the certainty of infection of the ureter and its kidney." There is only one condition where implantation of the ureter into the intestine would seem justifiable until: 1, the immediate mortality is reduced, and 2, the dangers of an ascending infection to the pelvis of the kidney are lessened. The condition referred to is where the ureter is severed so high up that the proximal end can not be implanted into the bladder, and where there is so much loss of substance that the severed ureteral ends can not be united without too great tension. With this condition present, oblique implantation of the ureter into the colon would be preferable to the establishment of an external urinary fistula, to nephrectomy or to ligation of the ureter.

Implantation of the ureter into the vagina has little to commend it unless, by a plastic operation, it can be made to serve the purpose of a reservoir for the urine and its natural functions be abolished. Except in the event of total ablation of the bladder, no condition that warrants such an operation is conceivable. Even then one might follow the lead of Nicaeus, who successfully implanted the ureter into the urethra.

But two practicable methods are left for disposing of an accidentally severed ureter: Implantation of the proximal end into the bladder and uretero-ureteral anastomosis. The former is only applicable in those cases in which the division occurs low down. In order to prevent retroflux of urine when the bladder contracts, and to minimize the dangers of an ascending infection, the method uniformly adopted is to imitate the natural manner in which the ureter enters the bladder. Novaro, Kelly, Penrose, Price, King and Baldy are some of the men who have successfully implanted the ureter into the bladder.

J. F. Baldwin² reported the details of a case in which he excised 1½ inches of the right ureter while performing a hysterectomy. The lower end was too short for uretero-ureteral anastomosis. The proximal end, under considerable tension, was implanted into the bladder. To lessen the tension the bladder was drawn upward by suturing it to the broad ligament. His patient recovered.

The first to perform the operation of uretero-ureteral anastomosis was Schopf, in 1886. The man who has probably done most to perfect a technique is Weller Van Hook, whose method of ligation of the distal end and implantation of the proximal end through a lateral longitudinal slit into the distal portion, has been practiced successfully in a number of cases. In summing up the advantages of his method, Van Hook³ says: 1. The urine is made to pass through its normal channel. 2. Healing takes place at once, without even temporary loss of function or a temporary fistula. 3. No stenosis occurs, even after a long interval of time. 4. The ureter can always be united, if accidentally injured at any operation, with materials always at hand. 5. Leakage can not occur, because the upper extremity of the ureter acts as an obturator to the lower portion of the tube. 6.

1. Internat. Text-Book of Surg., II, p. 572.

2. Phila. Med. Jour., Nov. 29, 1898.

3. Internat. Text-Book of Surg., iv, p. 572.

Scar-contraction can never injuriously diminish the lumen of the tube, because the scar which encircles the ureter after union by this method is equal in length to twice the extent of the incision in the side of the lower ureteral stump.

Transverse suture is difficult and seems likely to be followed by stricture, unless an effort is made, by splitting the ends, to increase the lumen. Hocheneegg is reported to have made use of this method. Bovée reports having successfully employed direct suture after having divided the ends obliquely.

Paggi is said to have been the first to propose end-in-end anastomosis, but I have been unable to find a description of his method or the technique of the method as carried out by others. The method of end-in-end anastomosis as carried out in this case seems to have all the advantages of Van Hook's method, with one or two additional: 1. It is simple and more quickly done. 2. There is less waste of substance, and it would be available when the Van Hook method would produce too great tension, or where the distal fragment is so short that union by Van Hook's method could not be made. It is much quicker, simpler and surer than by transverse suture or oblique end-to-end suture as employed by Bovée.

When division of the ureter occurs, the following would seem to be the rational mode of choosing the method of repair: 1. When possible to perform uretero-ureteral anastomosis this is the preferable procedure: end-in-end anastomosis, as employed in this case, seeming to me simpler and better. 2. When the distal portion is too short for uretero-ureteral anastomosis, implantation into the bladder should be performed. 3. When there is too much loss of substance to permit uretero-ureteral anastomosis, and the proximal end can not be brought down to the bladder even with the assistance of a diverticulum of the bladder, as devised by Van Hook, the procedure with the least objection is probably implantation into the colon.

EPISPADIC EXSTROPHY OF THE BLADDER COMPLETE.*

AP MORGAN VANCE, M.D.
LOUISVILLE, KY.

Dr. Rudolph Matas,¹ at the last meeting of the Association, gave such a complete résumé of the subject that it would be simply repetition to now enter into a general discussion of the topic—and in his conclusions favored Maydl's operation, holding that the autoplasmic operations could be little more than palliative, and never satisfactory. His paper decided me to report a case and exhibit the patient, showing the result of autoplasmic work. I do not know how original the procedure to be described may be, though I have been unable to find a report of such a one.

Mr. J. McE., aged 17 years, was referred to me by Dr. J. M. Mathews, on Oct. 26, 1897. He had come to Louisville to obtain a urinal and, if possible, get relief from the miserable condition of complete bladder exstrophy. Fig. 1 shows the condition before operation.

He was fairly well developed for his age, but his life was rendered unendurable as the result of excoriations from the urine and the contact of the clothing with the bulging posterior bladder wall, where ulceration with the deposit of calcareous material around the edges rendered the local condition horrible in the extreme. On Nov. 1,

1897, the first operation was done. This was much too soon, as five days was not sufficient to get the parts into proper condition, but it was done at this time because his family physician, Dr. Cowen, of Girard, Ill., who came with him, wished to return.

The epispadic penis was very short and drawn back into a sulcus at the lower part of the opening. The posterior bladder wall, with discharging ureters, presented a convex surface far in front of the abdominal plane, about the size of the half of a baseball or larger—when recumbent or in the Trendelenburg position a concave sulcus of corresponding dimensions presented.

The first step in the operation, as illustrated by Fig. 2, was to score as deeply as possible in a triangular manner.



FIGURE 1.

wide out into the iliac regions, then with strong forceps to drag upward and inward, still further loosening the tissues thus freed, bringing the mucous membrane along with the skin. When this loosening and stretching had been done sufficiently to allow the separated pudendal structure to be brought together in the middle line, the edges down to the end of the penis were vivified by slitting and brought together by two sets of sutures: one line of buried chromicized catgut, No. 1, which inverted the inner or mucous membrane side, and another of interrupted silkworm-gut which everted the outer or skin side. Over this a dressing of collodion and cotton was applied. The button-hole-like opening left above was used to drain the urine away, the patient being required to maintain the Trendelenburg position. No

*Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1 THE JOURNAL, xxxiii, p. 260.

good resulted from this operation, except probably the piling up of tissue to be used to better advantage at the next attempt.

On Jan. 16, 1898, all the parts being healed and the resulting infiltration having disappeared, the above-described flap-splitting and suturing was repeated, the only difference being that I had less tension to combat and was gratified on removing the sutures on the tenth day to find that the penis was united and a fairly good bridge of tissue at the upper part of the pudendal portion also held together. Fig. 3 shows this result.

On July 16, six months later, the third operation was done. It consisted in the closure of the transverse opening at the upper part of the original open space. This

The new bladder has now been performing its function six months and is in a perfectly healthy condition. The penis has developed quite a good deal. The young man has been able to fulfill the duties of a salesman in a store, is able to keep himself dry and, in fact, is altogether a new man in every way. While recumbent about four ounces of urine will accumulate, and this is voided when he arises and can be passed out with some degree of force by voluntary effort. When upright the urine is received into an ordinary urinal. Fig. 4 shows the final result.

I had at the same time a second similar case, but the child was only 7 years of age. The result promised to be quite as good and was almost complete. He was allowed

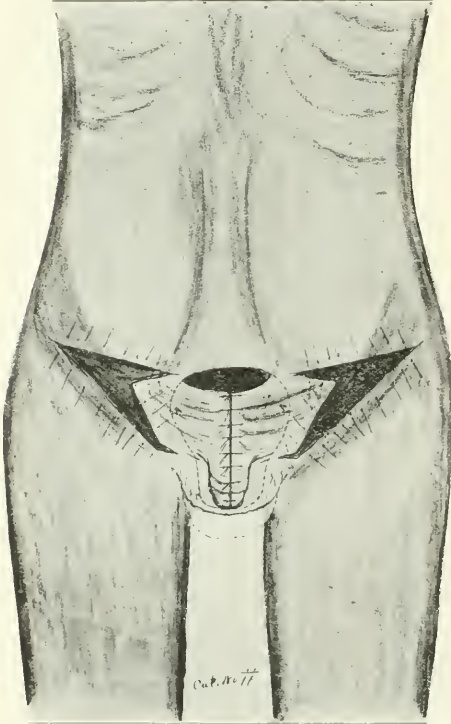


FIGURE 2.

was done by freshening the edges of the bridge of tissue and the line of skin above by splitting, the same method of suturing being used, except that both lines of sutures were buried and both were chromicized catgut. This healed from end to end, leaving a round hole about the size of a silver quarter still uncovered between the lower edge of the bridge of tissue above referred to and the root of the penis.

By this time the young man's improved condition encouraged great hopes of final success, but four other attempts at closure were made before I succeeded, and another year was required. These last procedures were done by splitting the edges of the opening and suturing, and each trial was followed by a decrease in the uncovered area. The last operation, done just two years after the first, finally finished the case.

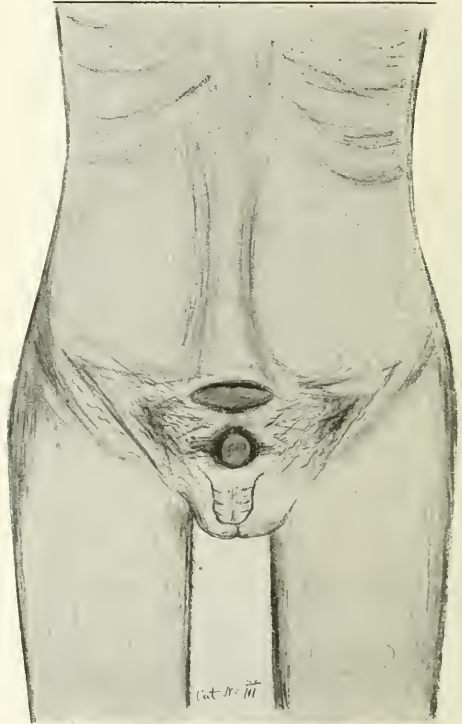


FIGURE 3.

to return home on a visit, and has never returned for the finishing touches, much to my disappointment.

In this kind of work much patience is required both on the part of the patient and the surgeon, and many difficulties are to be overcome, principal among which are the septic surroundings, the difficulty of drawing away the urine, and the constant lack of rest of the parts due to the tendency to erections. Notwithstanding all the difficulties, the benefits justify one in the efforts at autoplasmic work.

Maydl's operation, in the light of future experience, may prove better, but I am inclined to believe that in the hands of the rank and file of surgeons it is a very grave procedure, to say nothing of the possible future complications that may arise in the way of disease of the kidneys due to septic invasion from below.

DISCUSSION.

DR. DEFOREST WILLARD, Philadelphia—I desire to congratulate Dr. Vance on the excellent results obtained in this case, which is certainly as satisfactory as I have ever seen. In spite, however, of the good results obtained in some of these cases, I think all of us will agree that operation after operation frequently fails to secure success. This class of patients are so disgusting to themselves and to others that they deserve the most careful attention, and none require more surgical skill. Nearly all of the external plastic operations are faulty from the fact that we turn our flaps with skin surface inward. Concretions on the inner surface of the bladder follow from deposition of urinary salts on the hairs, and subsequent opening of the bladder is sometimes necessary. This difficulty Dr. Vance wisely avoided by leaving the skin face of the flaps external.



FIGURE 4.

On the whole, I am convinced that the formation of an intestinal reservoir is better. To obtain this it is preferable to abandon the rectum and go higher up above the sigmoid flexure, since this flexure is a valve and helps to retain the urine. Such a reservoir permits the patient to void urine and feces at stated intervals, and seems at present the best result obtainable under the circumstances. The insertion of the ureter into the bowel is so liable to be followed by kidney infection that it is wiser to remove, at the same time, a portion of the bladder wall, in order to obtain the normal valve of the ureter, since we can never secure a similar valve after division of the tube.

DR. HOWARD A. KELLY, Baltimore—The condition of these exstrophic patients is indeed a sad one. The only operation we can do with certainty of immediate success, is to put the ureter with the neighboring portion of the bladder into the rectum, according to Maydl. The condition of this patient is how-

ever, remarkable, and does Dr. Vance great credit. I have a case under my care somewhat similar, and I have done a number of these skin-flap operations and tested their utility thoroughly, and have come to reject all operations that turn the skin in with the hair. I broke up the sacro-iliac joint to approximate the symphysis (Trendelenburg), but still it failed; and I then tried what has given me the best result, that is, skinning out the muscular bladder from the peritoneum (Sonnenburg). I dissected it loose from the underlying surface and brought the lax muscularis together. I was thus able to secure a reservoir of considerable size, which has held fairly well so far. I was also able at the same time to form a good penis. I could not have done Dr. Vance's operation in this case, as there were such extensive areas of scar tissue. Skinning up the bladder should be given a more careful trial.

DR. W. J. MEANS, Columbus, Ohio—At the Columbus meeting of the Association I exhibited a case of exstrophy of the bladder, on which I had operated a few weeks previous, similar to Dr. Vance's. The result obtained by the Doctor in this case is certainly excellent, and he is to be congratulated. The operation in my own case was successful in covering the bladder and making a pouch, but a failure in relieving the epispadias. I operated again two months ago for the latter condition with good success. If the patient has the fortitude to persevere, I am satisfied I can still further improve his condition. It was my desire to perform the Maydl operation, but when I mentioned the dangers attending it, his friends objected. It is my opinion that of all the methods tried for the relief of exstrophy of the bladder, none equal that of Maydl.

I had the pleasure of meeting Dr. Allen a few weeks ago. He informed me that the patient on whom he had performed the Maydl operation and presented to this section, was still in perfect health.

The method adopted by Dr. Vance in covering the exposed bladder is certainly ingenious, but I doubt if success follows in many cases. In my case I used the double skin flap. The patient has not had the difficulties from lime deposits that usually follow when the skin is used to form the internal layer of the covering. These plastic operations are, at best, only palliative. A natural reservoir for the urine, that can be emptied at the will of the person, can not be formed by artificial work. The only natural sphincter muscle contiguous to the ureters is the sphincter ani; but to utilize this the urine must be carried into the bowel. The longevity of patients where the rectum is used as a reservoir is a matter of the future to determine.

DR. MAXMILIAN HERZOG, Chicago—Dr. Jacob Frank, of Chicago, has recently devised an operation for exstrophy of the bladder. His operation consists of an anastomosis by the aid of his absorbable bone coupler. Frank has made his operation on a number of dogs, and I have myself made the post-mortem examination and histologic and bacteriologic examination on the animals operated on. Dr. Halstead of Chicago has had a chance to perform Frank's operation on the human being. When operating for exstrophy of the bladder it is undoubtedly very desirable to procure for the urine a receptacle which can be voided at will at certain intervals. The great trouble in making part of the intestines a receptacle for the urine is that the procedure as a rule leads to infection of the kidneys from the gut. Several of Dr. Frank's dogs, however, remained free from infection of the kidneys so that it appears that anastomoses of the bladder and rectum may be made, even in dogs, where the conditions are not as favorable as in the human being, without a subsequent infection of the kidneys.

DR. J. RILUS EASTMAN, Indianapolis—It may interest those members of the section who were present at the Columbus Meeting to know that the case of bladder exstrophy which I reported at that time is still doing well. One of the kidneys in this case was much disorganized and was removed. I removed the bladder mucosa and implanted the end of the ureter from the remaining right kidney at the tip of the clubbed epispadic penis, the penis having been dorsally split in the median sagittal line for reception of the ureter. All the work of secretion of urine has therefore devolved upon the one kidney.

but the boy has enjoyed good health at all times since the operation (eighteen months.) He wears a specially-constructed silver and rubber urinal and is apparently unhampered in work and play by his deformity.

DR. F. G. CONNELL, Chicago—During the last year I have had occasion to look up the literature on exstrophy of the bladder, in connection with some experimental work along this line upon the lower animals, and have found that the methods of treatment have been, for convenience, divided into palliative and radical. Under the former are included all those methods which, when completed, do not give to the individual, absolute control over the evacuation of urine. And those methods wherein the result does admit of this control by the patient are classed as radical. This is accomplished by the utilization of the sphincter ani as a substitute for the sphincter vesicae—which is beyond repair—and the rectum, or some portion of the alimentary canal as a receptacle.

DR. J. E. SUMMERS, JR., Omaha—I have operated on four patients for exstrophy of the bladder. Three of these operations were done on the old-plan methods and were unsatisfactory in results; however, they were as good as could be obtained by such makeshift plastic work. In the fourth case, a female, little trouble was experienced in fixing the ureters in the vagina. If we pass a probe into each ureter, as a guide, there is no difficulty in exposing the ureters and draining them into the vagina. The ureteral openings into the bladder are easily closed by ligation, the ligation being carried, by a full-curved needle, from the vaginal side. The bladder mucous membrane can be excised in whole or in part, and the wound closed after the manner adopted by Dr. Vance.

DR. A. M. VANCE, closing—I think this case is about as extreme a one as we ever meet, but I think the same procedure can be carried out in all cases. I use every precaution to avoid any hair-bearing tissue being introduced into the bladder. It requires great care and all the ingenuity one can bring to bear to combat the many difficulties of such a case. In bringing together the edges of these flaps I do not destroy any tissue but use the flap-splitting method. I believe my experience in these two cases will enable me to do better work in the future.

HEMORRHAGIC INFECTION IN AN INFANT DUE TO THE TYPHOID BACILLUS.*

(GEORGE BLUMER, M.D.)

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The case herein reported, while differing in some respects from the hitherto recorded ones of congenital typhoid infection, probably belongs in the same category. It seems proper, therefore, before detailing the history and findings to review briefly the literature of this somewhat rare class of cases.

It seems hardly necessary to refer to the cases reported in the pre-bacteriologic era, inasmuch as they are so imperfectly recorded, according to modern standards, that considerable doubt must necessarily hang over their authenticity. Even the earlier cases recorded after the discovery of the typhoid bacillus are open to question, on account of the difficulty at the time of their discovery of distinguishing the typhoid bacillus from the organisms of the colon group.

Eberth¹ indirectly hints, and Dürk² positively states that the cases of Reher,³ Neuhaus⁴ and Chantemesse and Widal⁵ are open to doubt on these grounds, and this being the case, but eight or nine positive cases of congenital typhoid fever are left on record. There is a good deal of similarity in all these cases. The infection in all instances occurred in children born at the time that the mother was actually suffering from an

attack of typhoid fever. Many of the cases were premature births, though one or two had gone on to term. The cases of Eberth, Giglio,⁶ Freund and Levy,⁷ and Etienne,⁸ were abortions at about the fourth or fifth month; the cases of Hildebrandt⁹ and Janiszewski¹⁰ were miscarriages at about the eighth month, while in the cases of P. Ernst¹¹ and Dürk the children were born at or near term. Most of the children were born dead, though Dürk's case lived nine hours. Ernst's four days, and Janiszewski's five days. In most cases where the child had only reached the fourth or fifth month of development the post-mortem findings were entirely or almost entirely negative and the diagnosis rested on the bacteriologic findings. In some of the later cases definite macroscopic lesions were present, though in all instances except one the intestines were spared, and in that one, Hildebrandt's case, the lesion consisted of a single swollen solitary follicle.

Several of the authors point out that the disease at this age takes the form of a general infection rather than a local one, and the lesions found were those suggestive of such a state. The most constant lesion was slight enlargement of the spleen. Other lesions present in occasional cases were slight icterus (2 cases), hemorrhages into the skin, liver or kidneys (2 cases) and slight swelling of the mesenteric glands (1 case). The condition of the placenta was recorded in 4 cases and was normal in each instance. The typhoid bacilli were constant in the spleen and frequently present in the blood; they were occasionally present in the lung (2 cases), the kidney and mesenteric glands (1 case) and the liver (1 case). The placenta when examined bacteriologically showed the presence of typhoid bacilli.

In none of the reported cases is there a satisfactory description of the histological lesions in the organs of the child.

The case which I wish to report occurred in the practice of Dr. W. B. Sabin, of Watervliet, N. Y., to whom I am indebted for the clinical notes, and who kindly procured permission for the autopsy.

The mother of the child was apparently in perfect health at the time of its birth, but it was subsequently determined that about four and a half months previously she had had an acute illness, severe enough to confine her to her bed for a period of twenty-one days, characterized by a remittent form of fever, associated with occasional chills and with constipation. As the neighborhood is a non-malarious one, and the history characteristic, the presumption is that the attack was one of typhoid fever. The history of the child was as follows:

Baby H., a female child, was born at term after a difficult labor, the delivery being effected with forceps. Three days after birth the child had a slight convulsion after nursing. At each nursing after this convulsion the child would stiffen out as if in pain. On the fifth day the nurse noticed some spots of blood on the child's diaper, the amount of blood lost gradually increasing so as to become alarming on the sixth day. At this time a consultant was called in, and it was decided that the blood came from the vagina. The vagina was packed with cotton, but the cotton was soon expelled and with it some large blood clots. A further examination was made, and an eroded cervix was discovered, from which the bleeding seemed to come. This was cauterized with nitrate of silver and the vagina was again packed. The packing was again forced out, and hemorrhage from the vagina continued until the death of the child on the ninth day. Before death there also

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developed slight bleeding from the gums, and a petechial eruption over the forehead. There were slight rises of temperature during the attack.

The necropsy was performed nine and one-half hours after death, in cool weather. The following are the main points of interest abstracted from the necropsy protocol.

Macroscopic Findings.—Body 47 cm. long; strongly built; well nourished. Rigor mortis marked. Post-mortem lividity of dependent parts. Papulo-hemorrhagic eruption on forehead. Dried blood on the gums and around the vulva. Surface in general pale. Remains of umbilical cord completely dried up except for a small excretion near its insertion. Mucous membranes extremely pale. No visible hemorrhages into the gums; subcutaneous fat moderate in amount. Muscles well developed; pale.

Peritoneal cavity is dry. Mesenteric lymph-glands are all markedly hemorrhagic; on section blood red in color.

The heart is normal except for cloudy swelling of the muscle. The lungs show hypostatic congestion.

Spleen is free from adhesions; measures 5x3x2 cm.; capsule normal; consistency soft; on section very dark; trabeculae and malpighian bodies just visible.

Liver is free from adhesions; surface smooth; measures 12x7x3 cm.; has a mottled reddish-yellow appearance; consistency soft; on section very cloudy; looks as though it had been boiled.

Gall-bladder contains thick, opaque bile; walls are normal.

The kidneys are normal except for a few hemorrhages into the cortex.

Bladder shows one large—2 mm. in diameter—hemorrhage beneath mucous membrane and numerous small ones, pin-head in size.

Vagina shows one or two submucous hemorrhages; contains blood clots. Os is greatly dilated, 6 mm. in diameter.

Uterus is 4 cm. in length; cavity much dilated. Just above the internal os there is a blood clot, the size of a pea, and there is a strip of endometrium 1 cm. wide, which is intensely hemorrhagic. Tubes and ovaries appear normal.

Esophagus shows one or two diffuse areas of submucous hemorrhage. The stomach, aorta, pancreas, adrenals and ureters are normal.

Duodenum is slightly bile stained; jejunum the same. No signs of hemorrhage in upper part of small intestine. In the ileum the solitary follicles are swollen; some of them hemorrhagic. All through the large intestine the solitary follicles are much swollen; many of them contain hemorrhages. The mucous membrane between the follicles is swollen in places.

Anatomical Diagnosis.—Hemorrhagic follicular colitis and ileitis. Swelling of the spleen. Swelling of the mesenteric lymph-glands with hemorrhage. Cloudy swelling of the liver and kidneys. Congestion of lower lobes of lungs. Dilatation of uterus with hemorrhage into endometrium. Hemorrhages into kidney and submucosa of bladder.

Microscopic Findings.—Heart is normal except that in the blood in the cardiac vessels in one or two places there are to be seen large, irregular cells, a good deal larger than the white blood-cells, and similar in appearance to cells to be described later in connection with the intestine and spleen. Some of these large cells are distinctly phagocytic.

The pleura is normal. The pulmonary aveoli in places are slightly dilated; in places normal in size. They are for the most part empty, but in some areas contain a pink-stained granular material and a few red corpuscles. The bronchi and blood-vessels are normal in appearance. In a few of the smaller blood-vessels there can be seen large cells similar to those described in the cardiac vessels.

Capsule of the liver is normal; connective tissue not increased. The liver cells are greatly swollen, so much so that the lumen of the capillaries is markedly diminished. The protoplasm of the cells is in part replaced by medium-sized fat globules. Where not so replaced it is extremely granular. Occasionally a single liver cell has lost its nucleus and takes a more intense stain with the eosin than its fellows. There are

present in the capillaries of the liver a few large phagocytic cells similar to those seen in the vessels of the heart and lung. In no place are these cells seen except as single elements, and in no place do they appear to interere with the circulation. The larger blood-vessels and bile-vessels are normal in appearance.

Capsule of spleen is normal; trabeculae not increased. The pulp contains an excessive amount of blood, sometimes free in the blood spaces, sometimes contained in large phagocytic cells. The endothelial cells lining the vessels of the spleen show evidences of proliferation, karyokinetic figures being occasionally made out, and the proliferated cells are greatly increased in size, so that they almost block the smaller vessels in places. They show evidences of phagocytic properties. In many of the malpighian bodies the lymphoid cells are much reduced in number; their place is taken by larger cells of an epithelioid type; the latter have an irregular shape with a large rounded or oval nucleus which stains moderately intensely with the nuclear dyes, and which is generally extra-centrally situated. At times these cells contain darkly stained degenerated material, apparently nuclear substance.

Kidney capsule is normal; connective tissue not increased. Many of the glomeruli retain the fetal form. The cells lining the convoluted tubules and the ascending branch of Henle's loop are swollen and granular, and often almost fill the lumen of the tubules. There is evidence of karyokinesis in the endothelial cells of the kidney vessels, and in some places large cells similar to those already described in the other organs almost block the blood-vessels. The larger kidney vessels appear normal. The adrenals appear normal except that changes in the walls of the blood-vessels similar to those seen elsewhere are to be made out. In this organ the large phagocytic cells appear in some instances to have developed beneath the intima and have pushed this before them.

The pancreas shows auto-digestion in places. The same process in the blood-vessels is seen here as elsewhere.

The greater part of the uterine musculature is normal. The most marked change is in the endometrium and in the portion of the musculature which lies just beneath this. In the stroma of the endometrium there are a great many karyokinetic figures between the cells, and in between the muscle fibres of the uterus marked hemorrhage has taken place in some areas. The endothelial cells lining the uterine vessels in these areas, and also to some extent outside of them, show marked proliferation, with the formation of large phagocytic cells, which often almost entirely fill the smaller vessels. Similar proliferation of the cells is seen in certain spaces between the musculature, which do not contain blood, and which are apparently lymph spaces.

The affected intestinal follicles, as well as the mucous membrane covering them, show very characteristic changes. These consist in the partial disappearance of the lymphoid cells making up the follicles, and in the appearance of large, irregular, epithelioid cells with a large amount of protoplasm, and an extra-central rounded or oval nucleus containing a moderate amount of chromatin. These cells in places show phagocytic properties; some of them containing red blood-corpuscles, others portions of nuclear substance, presumably from destroyed lymphoid cells. Besides these changes the endothelial cells lining the vessels show fairly well-marked proliferation with increased size and the assumption of phagocytic powers. In no instance was there any actual blocking of the vessels to be made out, nor necrosis present over any large area, though single necrotic cells could at times be made out. A process similar to that just described was made out also in the inter-glandular tissue of the mucous membrane, and in the mesenteric lymph-glands. Both in the intestine and in the lymph glands the process was in places accompanied by an infiltration of blood in the affected tissue. In sections stained by Flexner's method, and methylene blue and eosin, a fair number of short bacilli were to be made out in the sections of the intestine, most of them near the surface, however, so that it could not be determined with certainty whether they were typhoid bacilli. A few were seen in the depth of the lesions. In the spleen also a few bacilli could be seen in the blood-vessels, but none were made out in the other organs.

Bacteriologic Findings.—Cultures were taken from the heart's blood, lung, liver, spleen, kidney, colon, umbilical cord, and bile, on blood-serum and agar slants.

The cultures from the blood of the heart, liver and kidney remained negative after six days' incubation at 37.5 C. The culture from the lung contains from 80 to 100 pin-point to split-pea sized, round or oval, grayish-white, elevated, moist colonies. The culture from the umbilical cord contains 120 to 130 similar colonies; that from the bile 10 to 20, whilst the spleen contains 35 to 38 colonies of similar appearances.

Cover-slips from all these cultures show an identical bacillus, which is short, rather thick; no characteristic disposition in cover-slips. The organism stains evenly and deeply with gentian-violet and rapidly becomes decolorized when treated with Gram's solution. On media the organism behaves as follows:

Agar slant.—A gray, filmy, moist, translucent growth, moderately profuse.

Milk.—Slight acidification, but no coagulation.

Bouillon and Dunham.—Uniformly cloudy in twenty-four hours. Actively motile bacilli in both media. No indole reaction obtained in Dunham's solution after four days' incubation.

Gelatin.—The organism produces a grayish-white growth along the line of inoculation, but at no time showed evidence of liquefaction.

Potato.—The growth on this medium is scarcely perceptible. A moisture along the line of inoculation alone indicates multiplication of the organism on the potato.

Stabs of glucose-agar.—Produces growth along the inoculation line, but no development of gas can be made out.

The organism gave a positive Widal reaction, with blood from a known typhoid cure.

The culture from the colon in addition to a few colonies of the bacillus typhosus, contained a predominating organism which was identified as the bacillus coli communis.

Bacteriologic Diagnosis.—Typhoid infection of the lung, spleen, bile and umbilical cord. Presence of the typhoid bacillus with the colon bacillus in the large intestine.

It will seem that this case differs from all those reported, in one main fact only, namely, that the child was born, not while its mother was in an attack of typhoid fever, but four and a half months later. The question, therefore, naturally arises whether this is really an example of congenital typhoid fever at all. If it is taken for granted that it is we must assume either that the typhoid bacillus was present in the mother's circulation for four and a half months after the attack, and only gained entrance to the blood of the child shortly before birth, or that it was transmitted to the child at the time of the mother's attack and remained latent in its tissues until just before birth. The latter probability would seem more likely on account of the fact that the typhoid bacillus is seldom found in the blood of adults in any number, even during the attack, and it would, therefore, seem extremely unlikely that it is ever present four and a half months later.

There seems to be no reason to doubt that other organisms than the typhoid bacillus remain latent in the tissues for long periods of time, and certain authors seem to regard such latency as probable in some cases of typhoid. Thus Chantemesse¹² in referring to the incubation period of the disease says: "Certain individuals retain for a long time in their intestine, and perhaps even in the interior of their tissues, typhoid germs, which develop poorly until some favorable circumstance arises." Experimentally, Wyssokowitsch¹³ and the above-named investigator have verified this possibility, by finding the typhoid bacillus in the bone-marrow of animals several months after its inoculation into the circulation.

There would seem to be a bare possibility in this case, however, that the disease was not congenital, but was acquired after birth. The disease did not show itself until the third day, and according to Murchison¹⁴ the period of incubation is in rare cases only two to three days. The child, however, was fed by its mother only, and so far as we have been able to determine, the typhoid bacillus has not been isolated from breast milk. Certainly in this case it would seem as unlikely that it was present in the milk as it was that it was in the blood since it would have to be carried to the mammary gland by the circulation.

The excretion at the base of the cord must be mentioned as a possible source of entrance for the bacilli, though I know of no case of typhoid on record which was contracted by inoculation of a wound. This method was suggested on account of the fact that the bacilli of typhoid fever are in some cases present in the urine for months after an attack, and it was thought possible that contamination of such a wound of the cord by the mother's urine might occur. Examination of the mother's urine in this case was, however, negative, as far as the presence of typhoid bacilli was concerned.

It would seem likely then that the case was one of congenital typhoid fever in which the bacilli had remained latent in the fetal tissues for a period of 4½ months. The septicemic character of the disease is characteristic of this class of cases, and the hemorrhagic tendency is seen at times both in children and in adults. Among the congenital cases, P. Ernst had a hemorrhagic eruption during life, and in Janiszewski's case there were hemorrhages in the kidneys and in the connective tissue in the neighborhood of the esophagus. In Dürk's case also there were hemorrhages beneath the capsule of the liver. In discussing the hemorrhagic form in adults, A. G. Nicholls¹⁵ thinks it generally due to secondary infection with pus cocci. The only case of mixed infection in the congenital form is Dürk's case, which was one of those showing hemorrhages.

Finally, it is interesting to note in the case reported that the histological findings almost exactly correspond to those recently described by Mallory,¹⁶ though much slighter in degree than those seen in adults.

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MORPHOLOGICAL VARIATION IN THE PATHOGENIC BACTERIA.

WITH TWO PRONOUNCED EXAMPLES.*

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Variation in pathogenic bacteria is a biological fact scarcely second in importance to any question now before the pathological mycologist. It is a matter of great moment to the bacteriological systematist; but it

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further has a vital practical application since much knowledge of infectious diseases remains hidden because of our ignorance of the factors which underlie natural and artificial variation among the microbes concerned in these morbid processes. Considerable progress has been made along certain lines, especially toward determining some of the agencies concerned in producing variation under laboratory conditions. But very little is known of the influences at work within the saprophytic or parasitic environments of the facultative bacteria, by an adaptation to which pronounced morphological or physiological modification is induced. That this subject is by no means a new one is evident when we recall Rodet's classical treatise on variation in bacteria, published in 1894, which includes numerous observations made previously to this time by its author and others. That the topic of morphological or physiological microbial variation is far too large a subject to more than touch on at this time need scarcely be urged.

I shall, therefore, invite your attention to a brief description of two very pronounced examples of bacterial polymorphism which have come under my notice, feeling that data of this character, even if of little significance in themselves, are valuable when accumulated and analyzed.

The first observation was made in Cleveland, in December, 1895, on a streptococcus obtained from a case of follicular tonsillitis by the diphtheria-culture test. The organism was isolated in purity, and gave the physiological reactions of streptococcus pyogenes. In the original culture on Loeffler's medium it took so peculiar a shape as to be confusing, and to lead me to withhold the diagnosis. In seven subsequent generations, during which the isolated streptococcus was grown on ordinary Loeffler's medium, it took the unusual form; seven times returning to the ordinary shape when grown in broth. The Loeffler serum was in no way peculiar, and samples of two distinct lots, both moist and quite fresh, were used in these experiments. The cultures were kept both at the room temperature and that of the incubator (37.5 C.): in a word, there was nothing out of the ordinary about the laboratory conditions under which this phenomenon occurred.

The remarkable feature about these experiments was the polymorphism of the streptococcus, which, in each transplantation to the serum, took an irregular bacillus-like form resulting in the production of short and long straight rods, rods with swollen centers, rods with clubbed ends, rods with spherical ends, and so on in a bewildering series of most fantastic objects. All much longer and thicker than the normal elements of a streptococcus chain. In preparations made with reasonable care the linear continuity of these bizarre bacilli-like forms was retained, assisting somewhat in identifying the organism, but the chains were readily broken, and the scattered individual elements were then indistinguishable from bacilli and the polymorphism was such as to suggest the diphtheria bacillus. It is easy to see how such a specimen might be mistaken for diphtheria, and Babes, who describes a less marked instance of this kind of variation in a pathogenic streptococcus, draws attention to the possibility of this error. Returned to broth this organism resumed the morphology of an ordinary streptococcus longus, the elements of the chains becoming very much smaller and taking the ovoid, spherical, or diplococoid condition commonly seen. In the first generation in broth an occasional rod-like member could be found, but in two or three genera-

tions in this medium all trace of a bacillary condition disappeared.

A member of the colon-bacillus group, recently obtained from the gall-bladder, bile-ducts and viscera in a case of gangrenous cholecystitis and cholangitis, is the second example. My colleague, Dr. W. G. List, will describe the clinical and pathological features of this case, in which the hepatic infection was complicated by a colon-bacillus septicemia. Although the polymorphism of this organism was evident to a marked degree in the pure cultures obtained from the kidney, spleen, and heart's blood, it reached its perfection in the original smears and sections from the gall-bladder and bile-ducts, and the first generation of cultures from these sources. In the second to fourth generations of early broth cultures, the ordinary colon-bacillus form was established. I shall not weary you with an attempt to make a detailed description of the variations assumed by this bacillus; indeed, the task is well nigh impossible. But in a general way allow me to say that all gradations from minute coccoid or diplococoid to long, coarse filamentous forms were observed in the smears and sections from the biliary apparatus. The coccus, diplococcus, and short streptococcus-like individuals corresponded precisely to those recently described by Adami, Abbott and Nicholson, being often so small as to tax the amplification of the 1/12 inch objective. On the other hand, some of the quite thick, filiform individuals, even after the breaking suffered in smearing or sectioning, were long enough to be traced through three or four fields of the 1/12 inch objective. Other threads were very thin and delicate, and some of the shorter ones showed a row of deeply stained inclusions. These filamentous forms often aggregated into groups, several times appearing as a mass of tangled threads. Some seemed to branch, but whether this dichotomy was real or apparent I was unable to decide. Some of the filaments, or the long rods, had median swellings, some clubbed ends; many were bent at various angles; some stained uniformly and intensely, others were faint and shadowy; and still others stained unevenly, and had metachromatic, or unstainable portions. While quite familiar with the ordinary range of morphological variation which colon bacilli show, I was forcibly struck by the truly remarkable character of the organisms in this case, and a few years ago I would not have had the temerity to conclude that a single bacterial species was under observation, but rather that some error in my technique was to be held accountable. Certainly, any one would be justified, at first sight, in believing that the infection was a mixed one, in which a streptococcus, a bacterium, and a filamentous organism were concerned. I am, however, quite positive as to the reliability of my technique, and with the somewhat similar observations of Schmidt, Rodet, Livingood, Dunbar, Adami and others as precedents, I am emboldened in pronouncing this simply a case of extreme variation in a bacillus of the colon group.

DISCUSSION.

DR. LEO LOEB, Chicago.—Not only may the colon bacillus take on the appearance of a diplococcus, but we must expect the same of the typhoid bacillus. I lately observed that on certain chemically changed culture-media the typhoid bacillus, after one or two days, may appear as a diplococcus and streptococcus-like organism. Some of the diplococci have almost the appearance of gonococci. Also long threads appear. When bacteria change morphologically in the living body, it is by changes in the chemical and physical conditions of their surroundings.

LOCAL USE OF GUAIACOL IN THE TREATMENT OF FREQUENT, PAINFUL URINATION.

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I wish to present guaiacol as a remedy for the treatment of painful urination, which, so far as I am aware, has not been mentioned in the therapeutics of this annoying disorder.

Frequent urination is a symptom of various affections, but guaiacol is applicable only to those cases in which the cause of the symptom is located in the extreme inner portion of the urethra, usually in a space $\frac{3}{4}$ to $1\frac{1}{4}$ inches external to the urethrovaginal orifice. Many diseases of the genitourinary system cause urgent micturition, yet it is probable that all other causes combined furnish fewer cases of frequent painful urination than the one condition under consideration.

Disease of the deep urethra is, I believe, usually mistaken by the majority of general practitioners for cystitis or "irritable bladder." I am quite sure that nearly all the cases which years ago I called cystitis and irritable bladder were not such. I suspect that most of the cases treated with buchu, rhus aromatica, uva ursi, belladonna, etc., and called cystitis, should be called disease of the deep urethra and treated locally.

The morbid condition is usually confined to the mucous membrane and submucous tissues. In almost all cases there is a heightened color of the mucous membrane, varying between a rose or pink and slight purple, some cases presenting a granular surface. The diseased part will often bleed on touch. There may be, and usually is, some uneasiness about the base of the bladder, and when the desire to urinate is decidedly present, the discomfort is marked, nagging and exceedingly uncomfortable.

It is only necessary to place the positive physical signs and symptoms of cystitis, diseases of the prostate and kidneys, gonorrhoea, contracted and adherent prepuce, stricture of the urethra, etc., in contrast with the physical signs of inflammation of the deep urethra, to put the physician on his guard against confusing these diseases. I have called attention thus briefly to some of the symptoms and signs of deep urethritis to emphasize the fact that it is often mistaken for other diseases.

The diagnosis having been settled, an ordinary urethral speculum of a caliber as large as can be borne with comfort should be passed through the deep urethra. With absorbent cotton on a cotton-carrier the mucus at the bottom of the speculum should be taken up, and if any blood has filled the lumen it should be mopped away until the mucous membrane is dry. Another carrier, having a small ovoid of cotton on its point, nearly saturated with guaiacol may be used to make applications to the congested membrane.

Guaiacol in a fluid condition should not be permitted to cover the mucous membrane; barely enough to make a surface application is all that is desirable; thus applied, it is an anesthetic and mild stimulant. It gives rise to much less pain than the usual local applications. No stranguary results, as is usually the case when silver nitrate is used. The patient will often retain the urine for hours after the application. Its use is often followed by a lessening of the perineal and suprapubic discomfort after a few hours, and a few applications, from five to ten days apart, in my experience, have been more satisfactory to patient and physician than any remedy previously used. It has cured 20 per cent. of my patients.

About 70 per cent. of the cases are improved markedly. Some cases that would seem to fall fairly within our field are not improved. It applied every day or two it will produce local tumefaction, causing a diminished size of the urinary stream; this tumefaction passes away in a few days.

The application will not cure frequent and painful urination due to an enlarged prostate, but in so far as a congested prostatic urethra accompanying prostatitis is a factor in enuresis, the application of this agent is indicated. There are other diseases that cause enuresis which will not be improved by this treatment.

The following cases illustrate its effects. No description of the morbid condition in these cases will be given, as all come within the bounds previously described:

CASE 1.—A. W., male, aged 40, had gonorrhoea fifteen years ago and has since then had an "irritable bladder," has suffered many things from many physicians. When he consulted me the chief cause of complaint was the perineal discomfort and the annoyance of being compelled to void urine on very short notice. He was compelled to pass urine two or three times each night, and frequently during the day. Four applications, a week apart, made him nearly well. He comes to me once in about six or ten months for two or three local treatments, and is kept much more comfortable by them.

CASE 2.—M. E., a girl 10 years old; has been obliged to pass urine very often since babyhood. In the past three years she has got up on an average of six times a night, and passes urine ten or twelve times a day. One local application reduced the nocturnal number to four times a night; the second application reduced it to twice; the third and fourth gave improvement, a whole night being passed sometimes without disturbance of sleep. Although the patient was not fully cured, she has failed to continue treatment.

CASE 3.—MRS. L. T., a widow, aged 72, since 1898 has averaged getting up to pass urine five times a night. Three local applications have reduced the number to about two. This improvement has continued for four months without other attentions.

CASE 4.—MRS. F. J., married, aged 50, has passed urine four to five times a night for many years, and frequently during the day. Medicines by mouth were preferred by patient until it was evident to her that she obtained no benefit therefrom. Local treatment with guaiacol five times in five weeks restored the micturitions to normal number; patient has been in normal condition for a year.

CASE 5.—D. J., male, aged 28, had gonorrhoea one year previous to treatment; was confined to his bed one week with orchitis. During the year before treatment, after all gonorrhoeal discharge has ceased, he had a constant weight in the perineum, and above the bladder, with very frequent urinations; nocturnal enuresis occurred about three times a night. One thorough application was made; that night he urinated once only, and, in the six months since then, has been perfectly normal. The perineal and suprapubic pain has entirely ceased.

CASE 6.—MRS. P. J., aged 28, has had an "irritable bladder" since childhood. For twenty years at least she has passed urine ten or fifteen times a day, and three to five times a night. An examination showed the typical condition described above. A topical application was made at once; that night she passed urine only once for the first time in her recollection. She has never been obliged to get up in the night since that date, and urinates only four or five times a day. As the urethra was a little abnormal I made a second application, ten days after the first.

Medical Editor in Lay Journal. A special supplement to the German magazine the *Kleiner Journal* is to be published by a medical editor, with the title the *Kleiner Journal f. Hygiene*. The purpose is not merely to disseminate knowledge in regard to hygiene, but to educate the public in regard to quacks.

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THE large amount of space occupied by the Index in this issue necessitates the entire omission of some of the departments and a reduction in the amount of space devoted to others. We would again call attention to the Index of Current Medical Literature and to the Authors' Index, which cover all the medical literature of the United States and Canada for the past six months. These follow the General Index.

LABORATORY INVESTIGATION AND ITS EFFECT ON
CLINICAL DIAGNOSIS.

It is a common human characteristic to seek that which is new and to believe in new things without subjecting them to the criticisms which are advanced against older facts. Medical literature teems with instances in which medical men have been carried away by their enthusiasm over methods of diagnosis or treatment which experience has proved to possess no advantages, but rather disadvantages, over more well-trying measures. This desire for the new, however, is responsible for many of the advances which have been made, for were all men satisfied with that which they possess, seekers after additional facts would be few.

During the last few years the profession has been more or less carried away by the tendency to resort to laboratory methods of diagnosis, 1, because many of these are associated with the new science of bacteriology, and 2, because the results obtained have seemed more scientifically accurate and certain than those which were obtained by our predecessors, who were forced to reach their conclusions from a careful study of the symptoms and signs presented. The result has been that the physician of the present generation, at least the younger ones have been taught to rely more on chemical tests and on investigations with the microscope than on auscultation, palpation and inspection. While the newer methods possess advantages which can not be overestimated, still it would be unfortunate if modern physicians should lose the skill so often possessed by their predecessors, who had to rely on what seemed to be more crude methods of investigation, and yet which require on the part of the physician as broad an education, as great skill, and a degree of training which, after all, command the highest respect in the diagnostician and therapist.

We should cultivate the habit of keeping our eyes open to everything that is presented to them or that passes before them; and Dr. Mitchell Bruce¹ enters an earnest plea for the training of the eye, ear and touch in the investigation of disease. These were the portions of the physician's training in earlier times of which he was most apt to boast when his skill was well developed; and, as Dr. Mitchell well says, we ought to be ashamed to confess that a condition which was elucidated by Stokes, Skoda, Walshe and other masters of clinical medicine forty or more years ago, has lately become what might be called a "fashionable disease." "Were there no dilated hearts before the time of Schott, or was it that we did not trouble to find them or that we had forgotten to find them?"

There is still another factor in diagnosis to which Bruce has called attention, namely, the value of negative signs. Too often physicians are inclined to reach no conclusion unless definite positive signs are presented on making an examination. The reason of this is obvious. The presence of a murmur in the heart, of blowing breath in a lung, of tremor in a hand, or some similar definite symptoms leads one naturally to certain conclusions. But if on listening to a chest we find distant or feeble breathing, or on palpating a heart we get an insufficient impulse, or, again, if on taking the grasp of a patient, we find it not as strong as it should be, are we not inclined to regard these signs as of little importance, and to base our diagnosis on others which are really of less value, but which are more marked? This fact is well emphasized by Bruce when he says: "How often have not you and I turned from the auscultation of the posterior base of the chest in acute pneumonia at our first visit, and said: 'There is nothing wrong there,' when we ought to have said, 'I hear nothing there, the lung must be engorged.'"

It was said of the late Dr. Da Costa, than whom there has never been a more skillful diagnostician in our country, that on many occasions he seemed to make a diagnosis by instinct even before he had examined a patient. But those who were accustomed to meet him at the bedside soon learned that his apparent instinctive deductions were really based on an extraordinary power of observation, and he would frequently pass direct to the path which would lead him to a diagnosis by the facies of the patient or by some other superficial sign which the more careless and less experienced practitioner might have overlooked.

THE TREATMENT OF TUBERCULOSIS.

The nineteenth century has witnessed great advances in the treatment of tuberculosis. The epochal discovery of the bacillus of tuberculosis and the numerous painstaking investigations into the mode of infection and of spread of the disease, have given us a firm and scientific basis for effective preventive measures. The sur-

1. *Clinical Journal*, Oct. 31, 1900.

gical treatment of local tuberculosis in glands, bones and joints, as well as elsewhere, is surely accomplishing great results. The recent method of treating lupus by means of the actinic rays of light, introduced by Finsen, seems destined to become an effective and recognized procedure. The climatic and hygienic treatment of pulmonary tuberculosis is saving many a life. The idea that tuberculosis is necessarily a fatal disease is giving way to a more hopeful view. Actual clinical experience, and especially the anatomic evidences of healed tuberculous processes that are being gathered at autopsies, tend to show that in view of its well-nigh universal frequency, tuberculosis must be regarded as one of the decidedly curable chronic infections when not too far advanced or generalized, and not associated with secondary mixed infections, as so often is the case in pulmonary tuberculosis. Pulmonary tuberculosis, when at all advanced, and meningeal and generalized tuberculosis, still baffle treatment. Even here there is hope, because are not cases of healed tuberculous leptomeningitis occasionally reported?

At present the faith in specific, antitoxic and antibacterial treatment, analogous to the serum treatment of diphtheria, is without much real support. The actual results do not correspond to the expectations. In the case of pulmonary tuberculosis, even when advanced, something may perhaps be expected from intrapleural injections of nitrogen gas. At all events, this method now and then may save a life from fatal hemorrhage. It is, as yet, too early to pass final judgment on the merits of this method, which, so far, is somewhat too cumbersome and formidable to receive general application at the hands of practitioners. The recent discussion of this procedure before the Chicago Medical Society¹ is quite timely and interesting.

In the Harveian lecture of the Harveian Society, of London, briefly referred to in an editorial notice in *The Lancet*,² Dr. Robert Maguire suggests an entirely new treatment, of which we are probably destined to hear further, namely, the intravascular injections of formaldehyde solutions. This suggestion is based on the consideration that injections into the blood would have a more direct effect than the introduction of germicidal substances by means of other routes. Maguire has found by experiment that it is safe to inject 50 c.c. of a 1 to 2000 solution daily. It is stated that this method has been carried out with quite favorable results in 70 patients, and one case apparently fully cured was exhibited by the lecturer. It is needless to say that this novel method is yet wholly in the experimental stage. The suggestion may be allowed, however, that a safe method of introduction into the blood of germicidal substances, in quantities sufficient to render the whole blood germicidal, is likely to find a large field. Maguire suggests its probable usefulness in bronchiectasis, and pneumonia. To these may be added general infections,

endocarditis, meningitis, etc. There is a likelihood that much experimentation may be done along these lines in the near future. The "fight against the white plague" is on in dead earnest. Special societies for the study of tuberculosis in all its phases, the general awakening of public and professional interest in the disease, and the untiring efforts of scientific workers everywhere will be sure to result in much good. On the whole the outlook is promising.

IDIOPATHIC TRANSITORY OBSCURATION OF CONSCIOUSNESS.

Despite the study that has been given the subject, the physiology of sleep and of waking, of consciousness and of unconsciousness, has not yet been fully cleared up. Metaphysics has been replaced by psychology, and it has become necessary to explain function by cellular activity, and aberration of function by derangement of that activity. It may, therefore, be conceived that the waking state is dependent on the existence of certain nutritive conditions in the cortical cells and their processes, and that the various departures from that state, namely, sleep, coma, delirium, etc., result from alterations in those nutritive conditions. These may be brought about by the action of metabolic products of physiologic (fatigue) or pathologic origin (uremia, fever, diabetes), or of drugs employed for therapeutic purposes (anesthetics, hypnotics, anodynes).

In the development of these manifestations the motility of the neuron, with variations in the relations of its terminal processes, may play some part, but this must be due finally to influences acting on the cell, either from within or from without. In the absence of demonstration, the explanation suggested may, for the time being at least, be accepted as a working hypothesis, even though it leaves certain points unilluminated. Thus, perturbations of consciousness, with sharply limited impairment of memory, are known to attend hysteria and epilepsy, as well as injuries to the skull, and recently Placzek¹ has reported two cases in which such disturbances were observed apart from these disorders. One occurred in a widow 40 years old who, while engaged in conversation, complained of sudden loss of memory, of which she exhibited unmistakable evidence. Consciousness became clear in the course of six hours, and only a confused recollection of some of the events that had transpired remained. Twenty-four hours later a severe attack of migraine set in, with hyperesthesia for sound, light and touch, muscæ and numbness, disappearing soon under appropriate treatment. The patient presented no neurotic or hysterical stigmata. The second case occurred in a fireman who had had bilateral clonic spasm of the masseter muscles in connection with trigeminal neuralgia and who, after an outburst of anger while on a railroad journey, became taciturn, and subsequently had no recollection of what had happened. There had been no indulgence in alcohol.

1. See THE JOURNAL, A. M. A., Dec. 15, 1900.

2. *Lancet*, Nov. 24, 1900, p. 1514.

1. *Berliner klin. Wochenschrift*, 1900, No. 32, p. 705.

Though in neither were conditions present with which perturbation of consciousness is ordinarily associated, this was in one followed by an attack of migraine, of which the sensorial disturbance might be considered a prodrome or aura, while in the other, emotional influences were operative. The result in both instances is attributed to transient, diffuse changes in the cerebral cortex, possibly vascular spasm. Similar manifestations have been observed in those resuscitated from hanging. Apart from its psychopathologic interest, the question under consideration has a medicolegal significance, as not rarely defense for crimes committed is based on want of responsibility in consequence of disturbances of consciousness.

FRENCH METHODS TO INCREASE BIRTH-RATE.

The proposed tax on bachelors and old maids and upon childless couples in France will, if carried out, be an interesting experiment. If it succeeds in arresting the decrease of the birth-rate it will show the possibility of the more economic method. In any case it is the pecuniary consideration that is involved; if the thrifty French peasant, who under the bounties for children is a regular proletarian in Canada, can be made such in France by the reversed inducement by fines, the problem is solved. The question is essentially an economic one, but it has some medical interest also, and the experiment if tried will be worth watching.

PRETENDERS VS. HUMBUGS.

There are quacks and quacks, and while all are objectionable to decent and enlightened people, some of them are even a thorn in the flesh to other quacks. So it happens that we find the osteopaths in Missouri devising how to put down those whom they consider unauthorized pretenders to qualifications in their "science"; and in the extreme east the osteopaths that massage the faddists of the Back Bay, of Boston, are similarly troubled with what they call "fake osteopaths." It is a case of "bigger fleas have smaller ones to bite them," but they probably utilize the fact to exploit their own virtue and show that there are others really inferior even to themselves in medical qualifications.

PATHOLOGY OF ACUTE ASCENDING PARALYSIS.

There is considerable diversity of opinion as to the nature of the form of acute ascending paralysis described by Landry and known by his name, the disorder being unattended with macroscopic lesions of the nervous system; although of late, with the aid of refined methods of preparation and staining, microscopic alteration have been discovered in nerve-cells and nerve-fibers, sometimes in the periphery, sometimes in the cord and the brain. The belief is gaining ground that the disorder is an infectious one, but the final proof in this connection has not been brought forward. It is true that micro-organisms have been cultivated from the nerves, the cord and the spinal fluid, but these have exhibited no constancy and none of them can be looked on as

specific. Such histologic changes as have been found have involved principally the ganglion-cells of the anterior horns of the spinal cord and the peripheral nerves, and the lesions have been thought to consist essentially in a parenchymatous degeneration of the peripheral motor neuron. Schwab¹ has, however, recently reported a case, the histologic conditions in which lead him to believe that the process is rather an interstitial one, as exhibited mainly in an abnormal condition of the blood-vessels. The nerve-cells present only such slight alterations as could be explained by preagonal or post-mortem chromatolysis. The cord presented no degenerative or inflammatory alteration; there was no neuritis; but the blood-vessels and the perivascular lymph-spaces were in a condition of intense congestion, with thinning of the vessel-walls and escape of free blood into the nervous structures.

ACUTE INTERNAL HYDROCEPHALUS

The credit of having established internal hydrocephalus as a distinct disease belongs to Quincke. While hydrocephalus from mechanical causes is frequent, the so-called idiopathic hydrocephalus seems rather infrequent, appearing in two forms—acute and chronic. The acute form is more frequent in children. In adults the disease may follow injury to the head, infectious diseases and alcoholic poisoning. The case reported by Burr and McCarthy² is a good illustration of the clinical course of the acute form in adults: "A man is suddenly seized with fever, bradycardia, constipation, rigidity of the muscles of the neck, headache, stupor and delirium. After three weeks, during which the intensity of the symptoms varies greatly, he improves very much physically but shows many of the mental symptoms of parietic dementia. A week later fever and the meningeal symptoms return, last about a week, again intermit for four days only to return again and end in death." Post-mortem there was found a moderate internal hydrocephalus, sclerotic changes in the choroid plexus, proliferation of the ependyma, and perivascular cell accumulation in the subependymal tissues. In the early stages the case was diagnosed as a meningitis. Kernig's sign was present throughout the whole course of the disease. The absence and return of the knee-jerk and plantar reflex are interesting phenomena that await explanation. There also developed deafness, probably caused by degeneration of the eighth nerves. The parietic mental state has been noted in this disease by other observers, and the diagnosis of parietic dementia has been held in such cases. The limitation of the inflammatory changes to the ependyma pointed to some toxic or irritating action of the ventricular fluid on the ependymal membranes. Injecting sterile urine, tuberculin, carbolin, carbonic acid and other substances into the ventricles of kittens caused microscopic changes in the ependyma resembling those observed in the case reported, but no increase of ventricular fluid. The mental condition and the curious exacerbations in the symptoms are best explained by the hypothesis of auto-intoxication. Chronic internal hydrocephalus may

1. Journal of Nervous and Mental Diseases, Dec., 1900, p. 619.
2. Jour. Exp. Med., 1900, v. 196-205.

follow the acute. The symptoms are often vague; neurasthenia or brain tumor may be suspected; optic neuritis is rather constant. The long course of the disease with remissions and the good effects of lumbar puncture may lead to correct diagnosis. The spinal fluid will be found most likely under high pressure.

Medical News.

CALIFORNIA.

SAN BERNARDINO has a case of smallpox imported by a tramp, who is isolated and quarantined in a tent near the local hospital.

DR. JOHN D. DAMEBOY, Stockton, was elected health officer of San Joaquin County and Walter D. Stannard re-elected special health officer of Lodi, on December 4.

THE ALAMEDA BOARD OF HEALTH, recognizing that consumption is a contagious disease, has passed resolutions asking the co-operation of the State Medical Society, the local medical boards and the physicians throughout the state to urge upon their representatives in the coming legislature a bill providing for appropriation of sufficient money to erect, equip and maintain sanatoriums for the care of tuberculous patients who are unable to secure the necessary surroundings and treatment at home.

THE MANAGEMENT of the municipal hospitals in San Francisco has been greatly improved since the new charter became operative. Efficiency has increased, and expense decreased. The Receiving Hospital, Harbor Hospital and Detention Hospital are now conducted at an expense for maintenance of \$7200 a year. Under the divided control of the supervisors and the board of health under the consolidation act the maintenance expense was \$17,000. In place of worn-out instruments and lack of surgical supplies, the hospitals have now a modern equipment and supplies for an emergency. Furthermore, at this lessened expense the hospitals are treating about 950 patients a month, where they formerly treated 750. The salary roll has not increased.

PROPOSED MEDICAL PRACTICE ACT.

A law was drafted and presented to the legislature of California in 1898 governing medical practice in that state, but too late for passage that session. It is now proposed to reintroduce it at the coming session in January, 1901. The requirements of the law are simple: A diploma from a recognized school with letters of recommendation from two reputable persons constitutes the first requirement, as given by the *Occidental Medical Times*. The second demands an examination before a board of medical examiners from the three principal schools of medicine, composed of nine members, five regulars and two each from the homoeopathic and eclectic bodies and selected by the state societies of these bodies. The examinations in therapeutics and practice of medicine are to be separate. Six members of the board are to constitute a quorum, and the examination is to be practical and not technical in its character. The bill, if it passes, will not affect any one holding a certificate under the present medical-practice laws. The laxity of requirements in California at the present time is, as the *Medical Times* says, "making the state scarcely more than a place of refuge either for those who have proven themselves unfit to practice under the laws of other states or for the refuse of the second and third-rate colleges of the country." It is to be hoped that the bill may pass, both for the sake of medical progress in the country generally and for the benefit of the practitioners of California.

ILLINOIS.

THE PEORIA MEDICAL SOCIETY has given credentials to Drs. Bradley, Emerson M. Sutton and Thomas M. Melvaine, who are aspirants for state preferment.

DR. GEORGE A. ZELLER, Peoria, superintendent of the asylum for the incurable insane at South Bartonville, has surprised many aspirants for his position by announcing his early return from the Philippine Islands, and is a candidate for re-appointment.

Chicago.

DR. COLFMAN G. BYFORD was elected president of the Missouri Club, December 19.

THE ESTHER FREER HOME and training-school for nurses connected with Provident Hospital was dedicated December 21.

DR. HEZEDIAH T. CRAWFORD has been appointed resident physician at the Children's Hospital, San Francisco.

THE INCORPORATION of the West Side Hospital Training School for Nurses, by Drs. D. A. K. Steele, William L. Noble and George W. Newton, is announced.

ST. LUKE'S HOSPITAL is reported to have more than a dozen of the attendants, nurses, etc., ill with typhoid fever, the cause of which has not been ascertained thus far.

URING the last few days physicians have not been spared by burglars. Drs. E. Fletcher Ingals, Lyman Ware and H. C. Mackey are the latest victims.

DR. ANNA GLOSS, who has been a missionary in China for thirteen years, and who went through the siege of Peking, has returned to her home in Evanston for a period of rest, after which she proposes to return to her work in China.

"DR." DON SANG, the Chinese physician, who claimed to have lost his diploma and received a copy from China duly attested by the consul-general of China, is to be arraigned for practicing medicine without first having been registered.

DR. MATHEUS F. BOZINICH had a desperate fight on December 19 with a collector whom he had employed some time before but had prosecuted for embezzlement. Dr. Bozinch fortunately succeeded in overpowering his assailant and turning him over to the police.

NEW YORK.

DR. FREDERIC C. PETERSON, Watertown, has been elected county physician of Jefferson county.

SEVERAL additional cases of smallpox have been reported in Schenectady, and the public schools have been ordered closed by the board of health.

THE CONTRACT for building the new medical college at Cornell University, Ithaca, has been awarded. The building will cost \$125,000 and is to be completed in time for the fall term of 1902.

AN ISOLATION WARD for the city hospital of Binghamton, is to be erected in the fifth ward of that city, subject to the consent of the residents of that ward, which is to be decided by an election called for that purpose.

IN VIEW of the fact of the prevalence of smallpox in New York City and other parts of the state, namely Schenectady, the State Board of Health recommends to local health officers general vaccination throughout the state.

THE GOVERNOR has removed Dr. Peter M. Wise, State Lunacy Commissioner, on the specific charges of having solicited state employes in the asylums to take stock in a corporation in which he was interested, and that he obtained the installation of an ice plant in which he had an interest at the Long Island State Hospital. The Governor will not fill the vacancy caused by this removal, but will allow Governor-elect Odell to make the appointment. The salary is \$7500 and \$1200 traveling expenses.

Buffalo.

THE NUMBER of school children vaccinated by city physicians was 2612.

WILLIAM CARPENTER, an old man, was arrested December 12 on the charge of illegal practice of medicine. He was arrested last summer on a similar charge.

SOON AFTER January 1 the coroners will be able to move their offices into the new Morgan building, which is expected then to be ready for the reception of the city's dead. When finished it will be one of the most modern and complete buildings of the kind in the United States.

REV. MOSES HULL preached on Sunday last "On the Evils of Vaccination." In the course of his tirade he said that compulsory vaccination is not only unwise, unconstitutional and un-American, but dangerous to health, causing eczema, erysipelas, cancers, tumors and often death. He said that vaccination is the cause of more pulmonary consumption than any other thing in the world; that one-half of all cases of consumption originate in vaccination, and that vaccination fees a gang of hungry doctors at the expense of the public and so on ad nauseum.

MARINE-HOSPITAL SURGEON WASHBURN, in charge of the United States Marine-Hospital service at this port, hopes to secure from Congress at this session an appropriation of \$125,000 for a new marine-hospital at Buffalo. He is supported in this matter by the Buffalo Merchants' Exchange and other commercial organizations in the city, the Lake Carriers Association, and other organizations of lake men. The need of a marine hospital at Buffalo is generally recognized, as to this port come every season the great majority of men employed on vessels on the lake.

New York City.

THE FORMAL OPENING of the new building for Cornell Uni-

versity Medical College, on First Avenue, took place to-day with appropriate ceremonies.

A GIFT of \$75,000 has been made by William C. Schermerhorn, second vice-president of the New York Eye and Ear Infirmary, to be used for constructing a pavilion for ear-patients.

COMPULSORY vaccination is being practiced in the negro quarters of Williamsburg and vicinity. The presidents of two of the large life-insurance companies have issued orders that all their employes in the city are to be vaccinated.

DR. WARREN N. REYNOLDS, a medical school inspector, has had mandamus papers served on him to compel him to certify that the daughter of Edward Crystal, the plaintiff, is not suffering from any contagious or infectious disease which should bar her from attending school.

A SUIT for \$75,000 damages against the Charles Bessler Company has been commenced by Miss Frances Russell Taintor, who claims her physician prescribed the inhalation of oxygen gas; that she procured from the defendant company a tank of gas which, instead of oxygen, contained chlorine and oxid of nitrogen gas, "by which she was permanently injured and her life put in jeopardy."

OHIO.

DR. WILLIAM H. FALLS, Cincinnati, is lying in the Presbyterial Hospital in that city seriously ill with typhoid fever.

IN ONE cheap lodging-house in Cleveland, the city health department vaccinated in a single night 235 men, most of whom were tramps.

NO OSTEOPATHS appeared to take the examination at Columbus, December 10-13. They prefer to fight the state law and are said to be preparing a test case.

IN THE MEDICAL DEPARTMENT of Western Reserve University, Cleveland, on December 12, Dr. Frederick C. Herrick was made demonstrator of surgery; Dr. Frank J. Geib, demonstrator of medicine, and Dr. William E. Bruner, demonstrator of ophthalmology.

DR. ALEXANDER GRITZA, Toledo, has been attained by the State Board of Medical Registration, on the charge of unlawfully practicing medicine without a license. The defense contended that Dr. Grytza had been graduated from the Russian imperial medical college, that he had served as a surgeon in the Russian Army and that he had been physician for the poor at Bay City, Mich. It was claimed that he had not obtained a license to practice medicine, as he was not familiar enough with English to pass an examination held in that language. The jury returned a verdict not guilty.

PENNSYLVANIA.

OWING to the law which it is supposed will be passed by Congress in regard to the sale of oleomargarin, it is believed that no new bill on this subject will be presented before the next session of the legislature of this state.

DR. BENJAMIN LEE, of the State Board of Health, in his report to the governor stated that the number of cases of small-pox reported to the board from the first appearance of the epidemic, Dec. 11, 1898, was 1429, of which 18 were fatal. During the past year contagious diseases over the State have been suppressed as follows: Diphtheria at 38 places; typhoid fever, 40 places; scarlet fever, 19 places; complaints of pollution of drinking water, 20 places. Inspections have been made at 57 places. The board is in favor of placing tuberculosis on the list of contagious diseases and requiring physicians to report all cases to the local boards of health.

THE STATE INSANE ASYLUM at Norristown has entered suit against the city of Philadelphia to recover the sum of \$52,651.72, which is the balance of a total of \$103,331 expended in caring for the indigent insane persons in 1896 and 1897. At that time a total of \$2 per day was charged, but later the amount was reduced to \$1.75 for each patient. It is claimed by the city that the total amount overpaid during the intervening years was sufficient to equal the amount sued for; that the hospital gained by this agreement and that a surplus was formed which was spent for improvements on the hospital that therefore the Commonwealth reaped a profit.

Philadelphia.

DR. MICHAEL O'HARA has been very ill for the past few days with appendicitis, for which an operation was performed. He is doing well.

THE FINANCE COMMITTEE of the city council allowed the following appropriations for the Philadelphia Hospitals: For a new children's hospital, \$35,000; a new maternity house, \$10,000; and for other wards, \$35,000. An appropriation of \$35,000 was asked for to enlarge a ward in the insane department, but was not granted.

THE CITY COUNCIL of Philadelphia has refused to pay for

medical inspection of the public schools. There are more than 230 medical examiners of schools, most of whom have been doing work for a year without remuneration. When they accepted the positions it was hoped that in some way while good would result to the city, their practice might increase. The latter has not been the case. On the contrary some enemies to the movement consider it an affront to have their children sent home, for they have their own family physician to look after health matters. This action of the council has been taken, too, in the face of the fact that school medical inspection has been indorsed by the College of Physicians, the County Medical Society and the Philadelphia Pediatric Society.

GENERAL.

MAJOR TIMOTHY E. WILSON, surgeon, U. S. A., has been relieved from duty at Columbus Barracks, Ohio, and detailed to duty as chief surgeon, Headquarters Department of the Lakes, Chicago.

A BILL has been introduced by Senator Warren, of Wyoming, authorizing the free admission of honorably discharged soldiers and sailors into any hospital of the United States for medical or surgical treatment.

A FRAUD ORDER has been issued by the postoffice department against James Armstrong, 886 West Van Buren street, or 881 West Monroe street, Chicago; J. or James Armstrong, M.D., Dr. J. E. Armstrong, or any other modification of that name which is clearly intended for the James Armstrong described above; the Health University of Chicago, the Independent Medical College of Chicago, the Metropolitan Medical College of Chicago, the Scientific Medical College of Chicago, and the International Medical College of Chicago, and modifications of these names which are clearly intended for either of them at Chicago. The James Armstrong referred to is the president of the notorious diploma-mill, who, on December 15, was sentenced to fine and imprisonment for using the mails to defraud.

PAN-AMERICAN MEDICAL CONGRESS.

OWING to the postponement of the meeting in Havana to February 4, the transportation rates have been changed to the usual winter transit rates. The committee on transportation is, however, urging a reduction. We shall keep our readers posted on whatever changes are made.

SMALLPOX IN ALASKA.

The Yukon Council, the legislative body of the region, has passed an ordinance requiring all persons in Yukon territory, extending from White Horse to Forty Mile, to be vaccinated just as soon as the vaccin arrives. This order affects from 10,000 to 15,000 persons. The Council has appointed six Dawson physicians to make a house-to-house visit throughout Dawson and along all the Klondike creeks and vaccinate all persons who have not been vaccinated within the last seven years. The government bears all cost of vaccination under this compulsory order, and the doctors are paid \$30 a day for their services. A mounted policeman will accompany each doctor to see that his mission is not abused. Any one refusing to submit to vaccination will be liable to a fine of \$250 or three months in jail, and any one not reporting cases of rash or anything looking like smallpox will be subject to a much heavier penalty.

QUARANTINE PROCLAMATION OF STATE BOARD OF HEALTH OF KENTUCKY.

Whereas, official information has come to this board that smallpox is prevailing in epidemic form in several portions of Greenup County and in a population almost entirely unprotected by vaccination, and, whereas, after repeated notice and urging from the duly constituted Board of Health from the county, the Fiscal Court has persistently refused, and still refuses to provide funds for the proper control of such disease, or for necessary nurses, guards, provisions, or even for the vaccination of those exposed to contagion, or in any other way to cooperate or take any of the steps required by law to prevent the spread of this highly contagious and loathsome disease, within said county, or to adjoining counties or states, until the County Board of Health has been forced to resign and leave their jurisdiction without even the semblance of protection, thus greatly endangering the health, lives and business interests of the people of the entire state, and of adjoining states. Now, therefore, be it known, that the State Board of Health of Kentucky, in the exercise of authority vested in it by law, hereby declares Greenup County, Kentucky, and each of its inhabitants to be in quarantine, and establishes a quarantine line along the entire boundary of said county, and forbids any person to enter or leave, except to pass through, and forbids any railroad, steamboat, or other transportation company to make any stops, or to deliver any passengers or freight to

from said county, without a permit from this board, under the pains and penalties of law. The town of Russell, having an independent board of health, and having enforced compulsory vaccination, and complied with the other requirements of law for the suppression of smallpox, is hereby exempted from his quarantine. Boards of health and other officials of adjoining counties are requested and directed to enforce this order of quarantine at their respective county lines bordering on Fremont County, and to cause the prompt arrest, vaccination and prosecution of any and all persons violating the same. This proclamation of quarantine will take effect and be in force from noon on Sunday the 23d instant until officially raised or modified by this board. By order of the Board, J. M. Mathews, I.D., president, J. N. McCormack, M.D., secretary.

Army Efficiency Bill.

The following substitute for Section 18, senate bill 4300, has been approved by the surgeon-general of the army, and proposed by the committee on national legislation of the AMERICAN MEDICAL ASSOCIATION:

Section 18. That the medical department shall hereafter consist of one surgeon-general with the rank of brigadier-general; 10 surgeons with the rank of colonel; 20 surgeons with the rank of lieutenant-colonel; 80 surgeons with the rank of major; 200 surgeons [in lieu of 8, 12, 60 and 240 respectively of the original bill] with the rank, pay and allowances of first lieutenant of cavalry for the first five years' service and with the rank, pay, and allowances of captain of cavalry after five years' service; the hospital corps as now authorized by law, and the nurse corps; Provided, That all vacancies in the grade of colonel, lieutenant-colonel and major, created or caused by this section, shall be filled by promotion according to seniority, subject to the examinations now prescribed by law, and that all vacancies in the grade of surgeon with the rank of lieutenant shall be filled by selection after competitive examination: Provided, That the period during which any surgeon shall have served as a surgeon or assistant-surgeon of volunteers, or as a surgeon under contract, since April 21, 1898, shall be counted as a portion of the five years' service required to entitle him to the rank of captain, but that after he attains the rank of captain his relative rank for subsequent promotion shall not be disturbed by anything herein. That on and after the passage of this act the President may appoint, for duty in the Philippine Islands, fifty surgeons of volunteers with the rank, pay, and allowances of captain of cavalry: Provided, That so many of these volunteer medical officers as are not required shall be honorably discharged from the service whenever, in the opinion of the secretary of war their services are no longer necessary, and that the period for which they are appointed shall be limited to two years from the passage of this act. That on and after the passage of this act the President may appoint contract surgeons who have rendered faithful and satisfactory services for a year or more to be surgeons of volunteers with the rank, pay and allowances of first lieutenants of cavalry, subject to honorable discharge whenever in the opinion of the secretary of war their services are no longer required. Provided further, that all surgeons appointed shall be of good moral character and shall have passed a satisfactory professional and physical examination: Provided, That the surgeon-general of the army, with the approval of the secretary of war, be, and he is hereby authorized to employ dental surgeons to serve the officers and enlisted men of the regular and volunteer army, in the proportion of not to exceed one for every one thousand of said army, and not exceeding thirty in all. Said dental surgeons shall be employed as contract dental surgeons under the terms and conditions applicable to army contract surgeons under the terms and conditions applicable to army contract surgeons, and shall be graduates of standard medical or dental colleges, trained in the several branches of dentistry, of good moral and professional character, and shall pass a satisfactory professional examination: Provided, That three of the number of dental surgeons to be employed shall be first appointed by the surgeon-general, with the approval of the secretary of war, with reference to their fitness for assignment, under the direction of the surgeon-general, to the special service of conducting the examinations and supervising the operations of the others; and for such special service an extra compensation of \$60 a month will be allowed: Provided further, That dental college graduates now employed in the hospital corps who have been detailed for a period of not less than twelve months to render dental service to the army and who are shown by the reports of their superior officers to have rendered such service satisfactorily may be appointed contract dental surgeons without examination.

FOREIGN.

PROF. H. FEHLING, of Halle, has accepted a call to the chair of gynecology at Strassburg as the successor of Prof. Freund.

THE DEATH of Dr. E. J. Bergeron is announced. He was perpetual secretary and ex-president of the Paris Académie de Médecine. He was born in 1817.

VON LEYDEN reports that 8393 physicians in Prussia and 5584 in the rest of Germany replied to the circulars distributed by the Cancer Investigation Committee—about half the total number of physicians in the empire. As many of the rest are no longer practicing or have no cancer patients, the results are considered extremely gratifying—*Deu. Med. Woch.*, December 6. The circular enquired for the number of cancer patients being treated October 15. The total is 11,246 cases of cancer; of these 1141 are in the Rhine province of Prussia and 719 in Berlin alone. The information obtained from the replies to the other questions in the circular will require some time to sift and tabulate.

THE *Press Médicale* of December 5, calls attention to the extra-medical achievement of Dr. Boyé, the surgeon of the French body of 220 men, which recently captured Samory, chief of the rebellious tribes in the Soudan. Dr. Boyé accompanied the party, which made its way stealthily into the midst of the native village of 60,000 souls, including 12,000 armed warriors, and took the chief captive, holding him as a hostage until all had surrendered.

THE INFLUENZA epidemic in St. Petersburg is so severe that the mortality returns for the week preceding December 22, have been the highest for a decade. A meeting of physicians was summoned to discuss remedies, but scarcely half a dozen responded to the call, the rest being overworked, or themselves victims of the malady. The weather is conducive to the spread of the disorder, being changeable, snow and slush alternating.

THE STUDENTS of the Latin quarter in Paris have organized a co-operative restaurant, which is cordially encouraged by the authorities. The leading spirit is the son of Professor Hayem, and the executive board includes the professor of social economics in the law school, who has been instrumental in organizing successful co-operative associations elsewhere. The shares are \$5, but only 50 centimes is required at first, and the balance can be paid at the rate of five centimes a month. The dividends are not to be paid to the shareholders but to those who use the restaurant, pro rata for the number of meals taken.

DR. CLEMON states in *Janus* that before the time of Peter the Great the only representatives of medical science in Russia were the foreign physicians attached to the court. In 1707 Peter the Great inaugurated the first hospital and the first school of medicine and placed it in charge of his Dutch private physician. He was succeeded by Blumentrost, by the French Lestocq, and the English physicians Erskine, Rogerson and Dimsdale. The latter was raised to the hereditary nobility for his success in inoculating the Empress Catherine with variola.

Correspondence.

Status of Medical Officers in the Volunteer Army.

MILWAUKEE, Dec. 20, 1900.

To the Editor:—I desire through the columns of THE JOURNAL to communicate with the gentlemen who served in the Volunteer Army with State Volunteers during the war with Spain and who held the rank of captain and assistant-surgeon. These gentlemen were commissioned captains by authority of the act of April, 1898, calling into service volunteer armies. They were paid as first lieutenants, in accordance with a decision of the comptroller of the currency. Notwithstanding this, they are undoubtedly entitled to the pay of the rank of captain mounted, as is evidenced by the wording of the Law of Congress and the opinion of the surgeon-general and adjutant-general in respect to the law which was passed giving the captains and assistant-surgeons of the volunteers raised under the act of March 2, 1899, the pay of their rank.

It will be necessary, however, to induce Congress to pass a bill on the subject. Senator Hansborough, of North Dakota, has kindly interested himself in the matter at my request. If necessary I will submit correspondence which I have had up to date, and desire that all the gentlemen interested correspond

with me to the end that a proper bill may be drawn up and influence be brought to bear that will secure the passage of the same. We are asking no more than we are clearly entitled to and no more than has been accorded to the Volunteers of 1899. Any suggestions from the gentlemen interested will be greatly appreciated. Very truly yours,

NELSON M. BLACK, M.D.
Late Captain and Asst-Surgeon, U. S. V.

Association News.

Research Fund.

The Committee on Scientific Research of the American Medical Association desires to announce that it has available the sum of five hundred dollars for the assistance of researches to be undertaken in the next six months, and that the money will be appropriated if applications be received within the month of January, 1901. Applicants should state clearly the character of the research to be undertaken, and the facilities at their command. Address Dr. H. C. Wood, chairman, 1 - Chestnut street, Philadelphia.

Societies.

New York Academy of Medicine—Surgical Section.

Meeting Nov. 12, 1900.

HEAT-STROKE AS A POST-OPERATIVE COMPLICATION.

DR. CHARLES L. GIBSON said that while one must not be too ready to attribute to heat-stroke various constitutional disturbances after operations that might perhaps be the result of sepsis, iodoform poisoning or other causes, still he felt sure, from his own experience during the past summer, that heat-stroke is a real and an important post-operative complication. One case reported as an illustration of what he meant, was that of a boy who had reacted well immediately after the operation, but had developed on the following day a temperature of 104 F. and a pulse of 148, associated with delirium. The fever, rapid pulse and delirium had all quickly subsided under cold sponging, and the boy had made an excellent recovery without further incident. A second case had occurred on August 10, a day long remembered in the hospital, because of the oppressive heat of the operating room at that time. If the nature of this complication were recognized, the treatment would be evident. As a matter of prophylaxis such cases emphasized the importance of having a good circulation of air in hot weather, and where this could not be easily attained by the ordinary methods of ventilation, electric fans would be found a valuable auxiliary.

DR. A. B. JOHNSON cited one of his experiences of last summer. The operation had been done on a day when the temperature of the operating room had reached 102 F. It was a trivial affair, simply the excision of a sear on the lower lip and the application of a single skin-graft. Very little chloroform was used, and the child seemed in good condition when returned to the ward, but within a few hours the temperature had risen to 108 F. As the case was not regarded at the time as one of heat-stroke, cold applications had not been used, and death occurred during the night. A few days later he had two similar cases, and by exclusion had made a diagnosis of heat-stroke. The treatment for that condition having been instituted, there was a rapid subsidence of all bad symptoms. Looking back over his past experience, he now felt sure that he had met with several other cases in which the sudden onset of these urgent symptoms and the fatal termination had been explained at the time in other ways.

DR. GEORGE E. BREWER said that last July he had done a rather severe operation for sarcoma of the tonsil on a lad of 19, on a day when the temperature in the operating room had been 99 F. Within two hours the temperature was 105, the pulse 150, and the patient restless and delirious. At the suggestion of Dr. Gibson he had treated this case as one of heat-stroke, and with the most gratifying result.

DR. ROBERT T. MORRIS said it was well known that those who indulged freely in alcoholic drinks were most liable to heat-stroke, and this led him to query whether the anesthetic, like alcohol, might not, by lessening the powers of resistance, pre-dispose operative cases to this complication. He had met with a case two years ago which he had been inclined then to consider an example of heat-stroke, and now he felt more than ever convinced that this diagnosis was correct.

DR. JAMES P. TUTTLE said that he had met with several cases in the past summer in which there had been a sharp rise of temperature after operations, and he had been in doubt as to the cause. In one of these the temperature had rapidly risen to 107, and had reached 109 at the time of death. Chloroform had been the anesthetic employed in this case, and as there had been suppression of urine the natural supposition had been that death had been the result of nephritis. However, the autopsy had failed to confirm this view.

DR. A. V. MOSCICOWITZ said that last summer he had amputated in a case of Reynaud's disease, and in four hours thereafter the temperature had reached 109 F. A diagnosis of heat-stroke had then been made, but in spite of treatment death had occurred five hours after operation. A complete and most careful post-mortem examination had been made, but all that had been found was a hyperemia of the meninges and a marked rigidity of all the cerebral vessels—a condition pointing to heat-stroke.

DR. WILLIAM H. THOMSON asked if any surgeon present had had similar experiences in cool weather.

DR. ALEXANDER LAMBERT said that the very rapid rise of temperature in the cases just reported would be enough to exclude septicemia and even kidney disease. The common practice of swathing patients in towels and bulky dressings prior to an operation seemed to him to conduct to heat prostration. It should be remembered that while heat and moisture are contributing causes, the chief determining meteorological factor of heat-stroke was the absence of air in motion. Thus in the awful period of heat in 1896, when there were so many cases of heat-stroke, there had been less than the average humidity, but for ten days the velocity of the wind had not exceeded six or eight miles an hour. The practical application of this knowledge in instituting effective prophylaxis was obvious. It took exception to the statement that rigidity of the blood vessels of the brain indicated heat-stroke; a large experience had convinced him that there were no post-mortem findings aside from changes in the nerve cells, which were characteristic of heat-stroke. A most potent means of controlling the hyperpyrexia in these cases was by the administration of ice water enemata.

DR. W. E. STUDDIFORD reported a case of heat-stroke occurring last July within a few hours after a total hysterectomy. The temperature had reached 107.6 F. in thirty-six hours, but had yielded promptly to the ice-pack. There had been nothing about the abdominal wound or about the vaginal drainage to indicate sepsis, and after this time recovery had been uninterrupted.

CONSTRUCTION OF AMPUTATION STUMPS.

DR. A. V. MOSCICOWITZ read a paper on this subject, with a report of two cases of amputation by the osteoplastic method of Bier. He said that since he had become interested in this subject he had examined many amputation stumps made by a great variety of methods, and had convinced himself that every stump made by other than Bier's osteoplastic method or by a disarticulation, was more or less painful. It was true that sometimes, owing to the very bad condition of the patient, the longer operation of Bier would be contraindicated, but there could be no doubt about the superiority of the stump which it gives. In amputating the leg by this method, the periosteum of the anterior surface of the tibia is circumsised, the edge of the periosteum are raised for a short distance, and a thin plate of bone is sawn out, preferably with a saw specially devised for this purpose. A skiagraph taken eighteen days after such an amputation showed perfect union between the osteoplastic flap and the tibia, but not between this flap and the fibula.

Therapeutics.

Pichi in Subacute Urethritis.

Dr. Aronstam, in *The Physician and Surgeon*, contributes a very extensive article on the materia medica of pichi. He states that it should always be prescribed with an alkali, preferably the potassic salts:

R. Extracti pichi fluidi	.....	5iv	16
Potas-ii citratis	.....	3iii	12
Tinct. hyosyami	.....	3ii	8
Spts. etheris nitrosi	.....	3iii	12
Elix. aurantii q. s. ad	.....	3ii	64

M. Sig. One teaspoonful in water one and a half hours after meals. —*Theor. Gazette.*

[He describes pichi as a stimulant and alterative to the secretions in general and a sedative to the mucous membranes, especially to the urethral mucosa, as well as a urinary antiseptic. It is also recommended in dysmenorrhea in combination with viburnum prunifolium and potassium bromid.]

Spasmodic Cough in Bronchitis.

R. Codeina	.....	gr. v	33
Acidi hydrocyanici dil.	.....	m. xl	266
Acidi phosphorici dil.	.....	3i	4
Syr. toluanti	.....	3ii	64
Aque q. s. ad	.....	3iv	128

M. Sig. One teaspoonful every three or four hours. —*Merkel's Report.*

Scabies in Children.

The following ointment is recommended by Perrin:

R. Olei anethem camphorata	.....	5v	20
Unguenti storacis	.....	3i	4
Balsami peruviani	.....	m. xv	1

M. Sig. To be rubbed on in the evening; the next morning cleanse the skin with warm soap and water and sprinkle it with starch, or, if the skin is inflamed, continue the treatment one week or ten days. —*N. Y. Med. Jour.*

Treatment of Lobar Pneumonia.

Louis F. Bishop, in *The Medical Times*, states that the relief of pain is the most important thing; and this can be accomplished by immobilizing that side of the chest and applying warm soothing poultices. If necessary a small amount of morphia may be permitted. The following formula is given by him in some cases, although the treatment as a rule is expectant:

R. Tinct. acetonit	.....	m. i	66
Tinct. digitalis	.....	m. iii	18
Spts. frumenti	.....	3iii	12

M. Sig. One such dose to be taken every three hours.

Sterilization of the Hands.

J. Hahn, in *Chil. f. Chir.*, describes the following method of treating the hands before an operation:

In running-sterile water at about 40 C. with common yellow soap and sterile nail brushes, the hands are scrubbed hard and systematically in four sittings of a few minutes each. After the second scrubbing the nails are cleansed and trimmed. Next immerse the hands, for four minutes, in a 1 to 1000 solution of mercury bichlorid in 95 per cent. alcohol, followed by washing in a 1 to 1000 aqueous solution of the same until the alcohol is washed off. Finally, rinse the hands in the alcoholic solution and begin the operation. —*Med. News.*

Incontinence of Urine in Children.

The following combination is recommended by Mme. Perlis, in *These de Paris*:

R. Ext. rhus, fluidi	.....	m. v to xx	3
Syrupi aromatici	.....	m. xx	133
Aque destil. q. s.	.....	

M. Sig. One such dose to be given three times a day. The amount of the fluid extract to be taken three times a day is five to ten drops for a child between 1 and 5 years of age; ten to fifteen for a child between 5 and 10 years old and fifteen to twenty for children over 10 years of age. —*N. Y. Med. Jour.*

Treatment of Arteriosclerosis.

The Canadian Practitioner contains a very interesting article on treatment of arteriosclerosis; stating the importance of its early recognition and treatment. It is much influenced by habits and occupations and is frequently an early intimation of what may prove to be serious heart or kidney trouble.

The outline of treatment suggested: In the first place alcoholic drinks should be prohibited; caution against violent exercise or overwork; reduction of the amount of meat consumed; proper attention to the emunctories—the skin and kidneys should be made to do active duty by inducing the patient to drink plenty of water. It dilutes and washes out the compounds of uric acid which is so injurious to the liver, kidneys and arteries. One drug alone is mentioned and that is potassium iodid in small doses, two or three grains after meals in water three times a day.

Bismuth Subgallate in Gonorrhoea.

Dr. Dokerchaieff states that he has had brilliant results from the use of bismuth subgallate in both acute and chronic cases.

In the acute cases he first washes out the urethra with a boric acid solution or a 2 per cent. solution of potassium permanganate. Then he injects the following:

R. Bismuthi subgallati	.....	3ii	8
Pulveris acacie, aa	.....	3iii	96
Aque destil.	.....	

M. Sig. Use as an injection every two hours and retain the liquid each time for five minutes and allow it to escape drop by drop.

In the chronic cases the urethra is well irrigated and a bougie made up as follows is introduced:

R. Bismuthi subgallati	.....	gr. xx	66
Wool fat	.....	3iiss	10
Cerae alba—white wax	.....	3ss	2

M. Sig. Insert and lightly massage the penis to bring the mucous membrane in contact with the bougie.

—*Merkel's Archives.*

Bed-Sores in Spinal Cord Troubles.

J. H. Lloyd recommends the following dressing, to be applied as long as the skin remains unbroken:

R. Ol. ricini	.....	3i	32
Collodion, aa.	.....	

M. Sig. Apply locally to the affected part. If the skin is broken add to this a little iodoform. When sloughs have formed treat the same as any other wound.

—*Text-Book of Applied Ther.*

Bronchitis in Children.

Solis-Cohen uses counter-irritation to the chest, inhalation of creosote or formalin, eulomol gr. ¼ when needed and:

R. Tinct. acetonit	.....	m. i	66
Tinct. opii camphorata	.....	m. ii	12
Vini ipecacuanhe	.....	m. v	33

M. Sig. At one dose, to be repeated every two or three hours. He states that alcohol or quinin does but very little good. —*Med. News.*

Cod-Liver Oil Injections in Tuberculosis.

Dr. W. Zenner, in *Theor. Monats.*, advises the employment of the following combination to be given per rectum:

R. Pancreatin pur	.....	gr. xlviiii	320
Fel bovis—inspissated	.....	gr. v	33
Sodii chloratis	.....	gr. xlviiii	320
Dissolve in water	.....	3iii	96

and allow to digest for two hours with
Cod-liver oil 5xvi 512

M. Sig. Cleanse the bowel by enema and inject two or three ounces of this emulsion, previously warmed, through a rectal tube each night, the patient being placed in the knee-chest position. This formula is designed to possess easy absorbability and high nutritive value. —*Amer. Jour. Med. Science.*

Alcohol Dressings.

Freese, in *Munch. Med. Woch.*, reports very favorably on the use of alcohol dressings in inflammatory troubles, phlegmons, buboes, felonis, mastitis, etc., providing the treatment on this line is begun sufficiently early.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, December 15.

- 1 Foreign Bodies in the Air-Passages. Francis T. Stewart.
 - 2 *A Tropical Ration. (Concluded.) J. R. Kean.
 - 3 Principles of Asepsis Applied to Operative and Other Wounds of the Eye. (Concluded.) Edward Jackson.
 - 4 The X-Rays in the Treatment of Carcinoma. (Concluded.) Wallace Johnson and Walter H. Merrill.
 - 5 Some Remarks on the Hygiene of the Ear. Emil Amberg.
 - 6 *Chronic Villous Arthritis. S. L. West.
 - 7 Some Remarks on Catapsy, with Notes on a Case. George W. Norris.
 - 8 The Struggle for Like Lobule. Wallace Wood.
 - 9 Venesection in Pneumonia followed by Injection of Normal Salt Solution. William Parter.
 - 10 Hyalin Casts Present in Puerperal Eclampsia. L. Napoleon Boston.
 - 11 Report of a Case of Foreign Bodies in the Brain. Clarence A. Greenleaf.
 - 12 *The Electrical Treatment of Uterine Fibroids. Gideon C. Segur.
 - 13 Congenital Unilateral Ptosis with Associated Movements. Frederick Krauss.
 - 14 *National Volunteer Emergency Service Medical Corps: Its Objects, Scope, and Importance. J. Adelphi Gottlieb.
- New York Medical Journal, December 15.
- 15 Remarks on the Indications for the Radical Therapy of Uterine Fibroids. O. Thienhaus.
 - 16 *Derangements of the Organs of Vision, Which May Be Attributed to Autoinfection, or to Autointoxication. J. H. Woodward.
 - 17 *The Treatment of Trachoma by Expression, with Special Reference to the Recurrence of the Disease. Thomas R. Pooley.
 - 18 Cysts in the Ligamentum Latum: Their Kinds and Location. Byron Robinson.
 - 19 *The Prevention of Nausea and Vomiting During Anesthesia. Louis J. Hirschman.
 - 20 Strangulated Inguinal Hernia Containing the Cecum and Appendix. Henry Perkins Moseley.

Medical Record (N. Y.), December 15.

- 21 *Wounds of the Heart, with Report of Seventeen Cases of Heart Suture. L. L. Hill.
- 22 *Internal Hemorrhage, the Result of Traumatic Rupture of Adhesions Due to Acute Appendicitis, with the Report of a Case. Louis J. Ladinski.
- 23 *Insanity, Its Causes: Is There in Woman a Correlation of the Sexual Function with Insanity and Crime? Mary Dixon Jones.
- 24 *Analgesia in Children by Spinal Injection with a Report of a New Method of Sterilization of the Injection Fluid. William S. Bainbridge.

Medical News (N. Y.), December 15.

- 25 *Treatment of Influenza in Children. A. Jacobi.
- 26 The Clinical Picture of Epidemic Influenza. Glenworth R. Butler.
- 27 *Influenza and the Nervous System. J. M. Mosher.
- 28 The Bacteriology of the Influenza Bacillus. August J. Lartigau.
- 29 *The Treatment of Influenza in Adults. Reynold W. Wilcox.
- 30 *A Note Concerning the Treatment of Influenza by the Employment of Hydrotherapy. E. L. Shurly.
- 31 Infantile Grip, with Unusual Temperature Range. L. E. LaPetra.

Boston Medical and Surgical Journal, December 13.

- 32 Pericarditis with Effusion. George G. Sears.
- 33 *Cases of Acute Oral Inflammation. John C. Munro.
- 34 *The Results of Operations in Varicose Veins. J. B. Blake.
- 35 *A Contribution to the Therapeutic Action of Heroin. Bernard Lazarus.

Cincinnati Lancet-Clinic, December 15.

- 36 *Stricture of the Rectum. Geo. J. Monroe.
- 37 *Clinical Data on the Treatment of Rheumatism. M. A. Amerbach.
- 38 Polarity and Electrolysis. Wm. T. Bryan.

St. Louis Medical Review, December 15.

- 39 *Abdominal Relaxation, a Probable Factor in the Pathogenesis of Gall-Stones. Jesse S. Myer.

Pediatrics (N. Y.), December 1.

- 40 *The Treatment of Scarletinal Nephritis. (Continued.) Robert C. Kemp.

Medicine (Detroit, Mich.), December.

- 41 *Remarks on the Treatment of Exstrophy of the Bladder, with Report of a Case of Vesicovesigomoidal Anastomosis with the Frank Coupler for Exstrophy. A. E. Halstead.
- 42 A Case of Cirrhosis of the Liver and of the Pancreas, with Diabetes and Hemochromatosis. A. P. Condon.
- 43 A Case of Malarial Cystitis. Wm. F. Bennett.
- 44 Examination of the Stomach Contents with Respect to Hydrochloric Acid. Frederick G. McCreary.

- 45 *One Case of Cerebrospinal Rhinorrhea and Two Cases of Nasal Hydroorrhea. John Harold Philip and Philip King Brown. Woman's Medical Journal (Toledo, Ohio), October.
- 46 The Development of the Placenta. Susan Lehle.
- 47 Preventive Therapeutics. Julia S. Kapp.
- 48 The Medical Legal Relation of X-Rays.
- 49 The Auxiliary Space. Esther Mitchell.
- 50 Hints Gathered While Taking a Course at the Lying-In Hospital of the City of New York. Fanny C. Hutchins.
- 51 A Plea for Better Obstetrical Work. Lillian G. Towse.

AMERICAN.

2. **A Tropical Ration.**—In this continuation of his article Kean gives the essentials, as he sees them, of the different kinds of food in the tropical region. He thinks that there is too much pork and bacon used, especially in garrisons, and that fresh fish and mutton should be substituted for the present monotonous diet of beef and bacon to a certain extent. The vegetable he would discard in the tropics is the ordinary potato, and he would substitute for it rice, sweet potatoes, etc. The vegetable components should be rice 2½ ounces, or macaroni 2 ounces, fresh vegetables in appropriate variety, 16 ounces, purchased if possible, in the vicinity of the post or command. Rice should be a daily, not an alternative issue. Dried fruits are a valuable addition, and the commanding officer in the field should be authorized to increase the fruit component to 3 ounces when deemed necessary. The great perils of the tropics, aside from infectious disease, are from digestive disorders and these decrease the resistance to infectious disease; hence the importance of proper attention to this point.

5. **Aural Hygiene.**—In this paper Amberg deals with the hygiene of the ear: 1. In connection with the proper care of the nose and throat; 2, with general diseases, and 3, in general daily life. The dangers to the ear from nose and throat troubles are noticed and a special point made of the danger of the nasal syringe, the effects of coryza in infants, etc. Sixty per cent. of all ear affections, he says, are caused by disorders of the nose and throat, and yet the common combination of eye and ear instead of nose, throat and ear diseases exists. He also speaks especially of the dangers of intermarriage in those families where deafness exists, as affecting the chances for functional ear troubles. The dangers of dust are also remarked, the need of equable temperature for the best hygienic conditions of the ear, the abuse of drugs such as quinin, by the public and often by physicians, the Fourth of July nuisance, to which he attributes some aural troubles, and the possible dangers of piercing ears for ear-rings.

6. **Chronic Villous Arthritis.**—This peculiar morbid process occurring usually in young adult life, rarely after the 40th year and usually polyarthritic, is confined principally to the villi of the synovial membrane, producing chronic hyperplasia and seldom or never involving the ligaments, cartilages or bones. This is one of the strongest points of differentiation from chronic or other forms of arthritis. The villous hyperplasia produces a fringe-like growth much larger than is found in other forms of arthritis. The family history is usually negative. Trauma may be a causative factor. It does not depend on a strumous diathesis or general ill-health. It is attended by pain, enlargement of joints, impaired motion and usefulness, possibly deformity, and rarely shows any elevation of temperature, heat or discoloration. In chronic arthritis the family history is usually negative. It attacks both youths and adults. Usually there is a history of previous attacks of arthritis or infectious disease. There is fever, swelling, enlargement of the joints, etc. In tuberculous arthritis there is usually a history mentioned, it generally occurs in early childhood and the other symptoms are characteristic. Syphilitic arthritis is ordinarily polyarticular with a history of infection and other signs. Rheumatoid or gouty arthritis may be monoarticular or polyarticular, with history of previous attack, rheumatoid or gouty diathesis, proliferation, enlarged epiphyses and deposition of lime salts in the joint. In arthritis deformans there may be heredity or trauma; it may occur at any period of life; there is hyperplasia, proliferation and thickening of synovial membrane, thickening of capsule, degeneration of ligaments, distortion of joints, etc. For the treatment of villous arthritis, rest, regulation of the bowels and secretions,

and proper treatment to meet the complications are indicated: locally, ichthyol, mercury and belladonna, with dressings to immobilize the joints. Of surgical methods, free opening of the joints under thorough asepsis and excision and removal of hyperplasia, washing out of the cavity with antiseptics, etc., are employed. Later, massage and passive motion are practiced to restore the function.

12. **Uterine Fibroids.**—Segur is an advocate of the electric treatment of uterine fibroids, and sums up his paper as follows: 1. Electricity properly applied may be considered a specific for the treatment of uterine fibroids. 2. A moderate dosage, 40 to 50 milliampers, applied for 20 to 30 minutes relieves pain and influences a diminution in size. 3. There are no dangers to be feared from its use if carefully conducted. 4. Puncture is not necessary in order to obtain practical results. 5. No serious operation should be undertaken until after electricity has been tried.

14. This article has appeared elsewhere. See THE JOURNAL of August 25, title 100, p. 519.

16. **Autointoxication and Visual Disorders.**—Woodward divides these into two classes: 1. Those where the derangement is purely functional, and 2, where there is demonstrable structural lesion. Of the first, the most common and prominent, as well as the most therapeutically perplexing, is neurasthenia, and in its treatment he believes that attention to assimilation and excretion is the first consideration in the great mass of cases. It is true there may be cases where the difficulty is purely in the nervous system, but their number is limited. He does not lay too much stress on eyestrain in these cases. Migraine is another condition which he thinks is often due to slow poisoning by some noxious substance. Among organic derangements he mentions rheumatism producing rheumatic iritis especially, and Bright's disease. Diabetes and gout are omitted because he thinks the ocular manifestations in these conditions are more properly subjects for discussion before a society of ophthalmologists.

17. **Trachoma.**—In view of his later experiences, Pooley summarizes his conclusions as to the value of the improved method of treatment of trachoma as follows: 1. Of all the mechanical methods expression in suitable cases is the most efficient remedy yet discovered; effecting, in a large percentage, a more or less complete cure with better preservation of the conjunctiva than any method hitherto described. 2. It must, however, in every instance, be carefully followed by local treatment until all tendency to relapse has disappeared. 3. The success of the method depends on the conscientious removal, so far as possible, of all the trachomatous bodies without injury to the conjunctiva. 4. In any event, so far as the writer's experience goes, more or less frequent relapses will occur.

19. **Chloretone.**—Hirschman's paper on the prevention of nausea and vomiting during anesthesia is a recommendation of chloretone for this purpose. Out of thirty cases in which he has had experience with this drug, in only three, or 10 per cent., were the patients nauseated. In two of the three the chloretone was not given until just before the administration of the anesthetic, and he thinks the taste in the patient's mouth, together with the fumes of chloroform, caused the nausea, which in both cases was slight. The drug was given in 10-gr. doses to women and boys under 16 years of age, and 16-gr. doses to men, one-half hour, as a rule, before the anesthesia. He prefers to give it dry on the tongue, following the administration with one to two ounces of warm water. It may also be given in capsules, but he does not recommend the sugar coated tablets.

21. **Wounds of the Heart.**—Hill reports two cases of traumatism of the heart, one of penetration by a needle, which was extracted without any bad effects, and the other a wound of the heart muscle causing hemorrhage into the pericardium with serious symptoms, which were relieved by incision and emptying of the pericardium. The patient recovered, though he subsequently had traumatic pericarditis. The author notes the methods of cardiac suture, the interrupted-silk suture being preferable, the needle being introduced and it tied during diastole. Anesthetics are condemned by some, but it is pos-

sible according to some authorities to use good chloroform. He details briefly the seventeen cases of heart suture that have been reported.

22. **Hemorrhage from Ruptured Meso-Appendix.**—The case reported by Ladinski is of a boy 11 years old who apparently suffered from a mild attack of appendicitis and later from a fall, which produced serious symptoms of abdominal hemorrhage or rupture of some important viscus. The prognosis was unfavorable, but the operation seemed to be the only choice and celiotomy was performed. The abdomen was found full of blood which had escaped from the ruptured meso-appendix. The appendix, which was unusually long, was doubled up like the letter U, being held in this position by adhesions, and in the end of the meso-appendix there was a rent to the extent of one-half inch in which there were several small spurting vessels. The meso-appendix was ligated, the appendix separated from the adhesions and removed, the blood and clots wiped away, the peritoneal cavity washed out with saline solution and the wound closed. Recovery was uneventful. The author thinks that this is the only case on record of such a hemorrhage, and it is of interest also on account of its close similarity to general peritonitis, the result of perforation.

23. **Causes of Insanity.**—Jones' article is a review of the opinions of many authorities in regard to the causes of insanity. She does not emphasize the gynecologic causes, though she quotes the authors who have made much of these and reports cases where benefit has been observed from operations. The element of heredity is fully estimated in her article.

24. **Spinal Analgesia in Children.**—Seven cases of operation under medullary anesthesia are reported by Bainbridge, all of which seem to have been satisfactory. The author is rather inclined to favor cocaine over eucaïn in this method, and gives the following method of sterilizing the former, which he thinks is satisfactory so far as experiments can show. About a dram of ether is poured over 5 gr. of powdered cocaine or eucaïn in a measure-glass which has been boiled as well as the glass rod used to mix the ether thoroughly with the powder. The mixing process is continued until all the ether has disappeared, when one ounce of boiled, filtered water is added. The solution should be made fresh before each operation. All the after-effects of cocaine were temporary in his cases. He concludes that no final verdict for or against spinal injection can be reached without further experimental evidence, and the remote after-effects are yet to be determined.

25. **Influenza in Children.**—In this article, only a part of which is published, Jacobi says that the use of water slightly acidulated with hydrochloric acid will be useful as a prophylactic as well as for irrigation of the nose. There is no specific for the disease, and only rational, hygienic, symptomatic and sustaining treatment can be beneficial. He does not find the testimony as to the use of quinine uniform. He would reject acetanilid absolutely, but antipyrin has good effects in some cases, while its undesirable effects are also numerous. Phenacetin, salicyrin, and the salicylates are also mentioned, but none of these drugs should be given without the addition of stimulation. This should rarely be alcoholic, caffeine preparations are vastly preferable, and the use of strychnia is so well understood that he needs only to mention it. One of the best stimulants, but one sadly overlooked is Siberian musk. A child of two years should take of the 10 per cent. tincture five to ten minims every half hour until from half-a-dozen to a dozen doses have been given. In conclusion, he mentions a singular experience in Madeira, where vaccination seemed to be a preventive of the disease.

27. **Influenza and Nervous Symptoms.**—Practically every form of nervous disease has been attributed to influenza, and Mosher here gives an account of the symptoms, observed by him largely among the insane. He ends his paper with the following conclusions: 1. The infection of influenza produces a toxin, which has a severe and selective action upon the nervous system. 2. The immediate effects of this toxin are shown in affections of the peripheral nerves and the cerebro-

spinal centers. 3. The remote effects are manifested in lowered tone of the nervous system, predisposing to other diseases. 4. These ensuing diseases arise in weakened or predisposed organs, giving rise to the different classes of "respiratory," "alimentary," "genitourinary," and "circulatory" forms of influenza. 5. Postinfluenzal insanities are also a complication of the postinfluenzal states of nervous debility, in patients mentally predisposed. 6. The postinfluenzal insanities are not essentially different from other insanities due to vital depression. 7. The prognosis of influenzal affections is generally good, under proper management. 8. Exception to this is in influenzal affections arising during the course of other severe diseases, as pneumonia and general paralysis, and during senility complicated by mental or physical deterioration.

29. **Influenza in Adults.**—According to Wilcox the important matters in the treatment of adults suffering from influenza are: 1. The avoidance of opium, and, 2, all measures that depress the circulation. The affection is severe for a time, but is soon past and should, when properly treated, leave no trace. Elimination of toxins should be insured and diarrhea should be considered beneficial. In the respiratory type he would use ammonium carbonate in 5 to 10 gr. doses, given in 2 ounces of milk, as frequently as the situation may require, antiseptic sprays to the nose and throat and stimulation by strychnia, etc. If pneumonia occurs, the nitrites, preferably nitroglycerin, and strychnia are used. For a slowly-resolving pneumonia and tardy convalescence from bronchitis, creosote carbonate, 30 to 40 drops, several times a day is of value. In the gastrointestinal type, calomel and intestinal antiseptics are indicated with high intestinal irrigations if needed. In the neuro-muscular type, he rather advises against the use of coal-tar analgesics, though he uses them to some extent, and recommends stimulation by caffeine at the same time. Gelsemium is a remedy which he thinks offers great benefit if pushed until slight ptosis appears.

30. **Hydrotherapy in Influenza.**—The use of hydrotherapy for eliminative purpose, such as hot vapor baths, is favored by Shurly, though the employment of the cold pack should take precedence whenever the temperature is very high. With these measures he would give quinin in 3-gr. doses every two hours and opium to relieve pain. For the relief of debility and nervous perturbation after the first stage, he recommends phosphorus .001 grain in capsule in oil, also strychnia. Coal-tar products are generally condemned.

33. **Acute Oral Inflammation.**—The records of the Boston City Hospital for the severer forms of mouth disease are analyzed by Munro, including twenty-nine cases of ulcerative stomatitis chiefly treated in successful cases by washes containing myrrh, chlorate of potash, permanganate of potash and hydrogen peroxid, in addition to a vigorous and supporting diet. In twenty-eight cases of acute glossitis all but five were in males about 30 years of age. The causes were sometimes very obscure and swelling very rapid. In most cases the swelling increased until it almost filled the oral cavity. The history of the cases impressed him with the fact that the phlegmonous type is much severer than the abscess type. In some cases it was difficult to distinguish between true glossitis and Ludwig's angina. The two conditions may co-exist or the disease may start as a cellulitis of the floor of the mouth and extend to the tongue. Only nine cases of Ludwig's angina were recorded, one fatal. The clinical picture is very characteristic; a brawny fulness beneath the chin, an elevation of the floor of the mouth to the level of the edge of the teeth, pushing the tongue upward and backward, and in some cases a cellulitis extending in various directions as far as the shoulder or chest. In all these cases of oral disease the treatment must be vigorous, if it is severe. Where immediate operation for the discharge of the pus or blood is not required, medical treatment must be energetic. Catharsis, abundant food, rest, cleansing antiseptic washes and large hot poultices to the neck and chest will often abort a case that threatens to become rapidly serious. Where there is doubt, however, or delay would seem dangerous, free incision is advisable, whether pus is present or not. In glossitis, unless there is a well-defined, localized collection of

pus, incision is best made in the dorsum on the right side of the median line. In angina cases the incision should be made in most instances in the median line below the chin as from this each lateral space can be easily explored with a blunt instrument until the small focus of pus, if present, is found. These cases are frequently distressing and the condition is grave, but under good treatment they are of brief duration and without sequelæ as a rule.

34. **Varicose Veins.**—The conclusions as to the operative treatment of varicose veins are given by Blake as follows: 1. Operation for radical cure of varicose veins by dissection is not successful in every case. 2. To obtain successful results, cases must be selected and certain conditions avoided, and recommended to palliative treatment. 3. The condition which will probably militate fatally against satisfactory results are: *a*, old age, or an extremely debilitated condition; *b*, excessive and very extensive varicosity; *c*, occupations which to an extraordinary degree favor the development of varicose veins. 4. Cases which may be cured by a thorough and careful operation are: *a*, Local varix, even of marked prominence, particularly if thrombosis has occurred, either in thigh or lower leg; *b*, extensive varix, limited to a single venous stem; *c*, varicosities which are a bar to passing civil service, military or naval examination; *d*, cases in youth and middle life; *e*, cases in which the development of the permanent varicosity was at least partially due to more or less removable conditions—flat foot, garters, etc. 5. Operation, even if not entirely successful, will usually relieve such complications as thrombosis, hemorrhage and ulceration. 6. The usual conditions which follow unsuccessful operations are: *a*, Pain in and around the scar; *b*, general swelling and tenderness of the leg; *c*, development of varicosities above or below the operation scar, but not at the site of the operation itself. 7. In all operated cases, general systemic treatment as well as local treatment should be prescribed, together with exercise and the avoidance of a continued upright position whenever possible. 8. Cure of symptoms does not necessarily mean the removal of all visible varicosities. 9. Comparison of relative methods of multiple ligation and continuous dissection must be based on a larger number of cases than are here recorded. 10. Bennett's conclusions and his extreme limitation of the indications for successful operation are too sweeping.

35. **Heroin.**—Lazarus reports a number of cases of respiratory disorders producing cough or other symptoms and also one of intercostal neuralgia relieved by heroin. He considers the drug a most valuable aid which should rank as a specific in pulmonary affections combined with cough, while its analgesic qualities in neuralgia and its antispasmodic effect in asthma and whooping cough have been well established.

36. **Rectal Stricture.**—Monroe considers stricture of the rectum largely due to poor rectal surgery, especially to the amount of carbolic acid formerly used in the treatment of rectal disease. He has also seen it follow meddlesome procedures on the rectum by so-called official surgeons, and Whitehead's operation. Other causes mentioned are constipation, foreign bodies, syphilis, etc. He discusses the symptoms and diagnosis. The prognosis is, he thinks, generally unfavorable. We can usually alleviate but not often completely cure.

37. **Aspirin.**—Aurbach reports several cases treated with aspirin, which he thinks is a valuable remedy in the treatment of rheumatism. The method of administration is usually 10 gr. powders three times, or less, daily. In addition he gives supporting treatment.

39. **Abdominal Relaxation and Gall-Stones.**—Meyer's paper is summed up in the following: 1. Visceral ptosis consequent upon abdominal relaxation and other causes results in stagnation of the bile through interference with its normal expulsion. 2. The inactivity of the gall-bladder and stagnation of the bile predispose the mucous membrane to infection. 3. The infection may be either hematogenic, through the portal system, etc., or ascending from the duodenum. 4. This results in catarrhal inflammation of the mucous membrane, an albuminous exudate, and the exfoliation of epithelial cells.—According to Naunyn, the addition of albumin to the bile

produces a copious precipitation of the stone-forming elements. This precipitate, with clumped bacteria—Blachstein—and degenerated-cell masses as nuclei, forms biliary calculi.

40. See abstract in *THE JOURNAL*, xxxiv, p. 1133.

41. **Ectopia Vesicae.**—Halsted reports a case of operation for ectopia vesicae by Frank's method of anastomosing the bladder to the rectum by means of his decalcified-bone coupler. The operation per se was successful, but the patient died of shock due to long operation, which he thinks can be avoided in future cases.

45. **Cerebrospinal Rhinorrhea.**—One of the three cases reported by Philip and Brown is considered by them to be a true case of escape of the cerebro-spinal fluid through the nose, similar to that reported by St. Clair Thompson. The patient was a young woman, 25 years old, and the condition was first noticed some months previous. The flow was intermittent, sometimes from one nostril and sometimes from the other. It was preceded by no headache, but a dull frontal pain followed it for several hours. The only premonition was a tickling sensation between the eyes followed by sneezing. It would begin on awakening whenever that might be and last two or three hours, when it would stop for a few hours and begin again later in the day. The flow was enough to saturate a number of handkerchiefs, which would become stiff enough to stand alone, but in no way discolored. On examination of the fluid it was found sterile, and feebly alkaline in reaction; there was a slight and retarded reduction of copper when boiled with Fehling's solution. Atropin was the only drug that gave her any relief and finally led to a stoppage of the flow in the patient's opinion. Two other cases are reported that are considered to be of the ordinary rhinorrheal type.

FOREIGN.

Bulletin de l'Acad. de Med. (Paris), November 27.

Surgical Treatment of Essential Epilepsy. VIDAL.—Reviewing the various operations that have been performed for the relief of essential epilepsy, Vidal concludes that resection of the skull or of the sympathetic is the only rational procedure known to date. The epilepsy resulting from direct or indirect pressure on the brain is the only form amenable to craniectomy. Resection of the sympathetic should be reserved for certain epilepsies of toxic origin, especially those in which the primary hyperexcitability of the cortical cells is reinforced by ischemia from excitation of the cervical sympathetic by lesions in or near it. This auxiliary factor of irritation of the brain should be suppressed, as aside from its direct share in the genesis of the convulsive symptoms, it entails in time definite histologic and physiologic alterations in the motor cells, which suffice in themselves to perpetuate the affection. On the other hand, resection of the sympathetic will be ineffectual in reflex epilepsy, in epilepsy from pressure on the brain or from intoxication by an indifferent or vasodilating poison. The nature of the essential epilepsy may possibly be determined beforehand by a preliminary test with amyl nitrite. In patients refractory to this substance administered at the premonitory symptoms of a seizure, it is probable that the disturbances in the circulation have no share in determining the seizure, which is probably a reflex neurosis or vasodilating intoxication, and consequently, resection of the sympathetic would have no effect on the epilepsy, as there is no anemia in the brain. In other patients in whom the seizure is favorably influenced by amyl nitrite, the epilepsy would probably be favorably influenced by sympathicotomy. Done in time, it might arrest the seizures and preserve the gray matter from the serious consequences of an insufficient blood supply. Resection of the sympathetic is, however, formally contraindicated in cases in which the amyl nitrite induces a seizure in the absence of premonitory symptoms. The above assertions are the result of reasoning, much experimental research and study of physiologic and pathologic conditions, but they lack clinical confirmation.

Immunization Against Tuberculosis. TATSU-BABO.—The writer of this communication is a medical officer in the Japanese navy who has been completing some research lately under Roux at the Paris Institut Pasteur. He proclaims that

he has succeeded in immunizing guinea-pigs against tuberculosis and curing already established infection, by a new system of serotherapy. It is founded on the attenuating influence of a first tubercular infection on a second, and the discovery of two substances in dead Koch bacilli, which possess a bactericidal and antitoxic power against the pathogenic agent of tuberculosis. None of the serums hitherto prepared, he states, have possessed the essential properties of the tubercle bacillus. His first substance or tubercle-mycoprotein, induces a leucocytosis at the point of injection, which is an essential property of the live bacillus. The second substance or tubercle-bactericidin, causes vascularization in the tissues and the genesis of perivascular, microscopic granulations. It is a true toxin, endowed with the essential pathogenic properties of the bacillus. Injection of the first confers antitoxic immunity and of the second, bactericidal immunity. No clinical tests are reported.

Bulletin de l'Acad. de Med. de Belgique, 1900, Nos. 7 and 8.

Lesions of Nerve Cells Induced by Acute Anemia. D. DE BUCK.—This experimental study of the conditions caused by acute anemia of the lumbosacral spinal cord, shows that disturbances in nutrition induce an exudation of the migrating cells of the blood, with possible phagocytosis and neuronophagia. This is followed by proliferation of the connective tissue and neuroglia elements. They may participate in the phagocytosis and neuronophagia, but their chief task is the production of the sclerosis which substitutes the destroyed tissue.

No. 8.

Tobacco for Persons Under Sixteen. MASOIN.—Among the points in the report of a committee appointed to consider this subject in response to the request of the government, we note that moist tobacco should always be avoided, as the nicotine escapes from it without being decomposed. As nicotine vaporizes at 250 C., the portion not decomposed by the heat accumulates in the unburned portion toward the mouth, and the last quarter of a cigar should never be smoked. Pipes should have long stems. The cigarette is, of all the methods of smoking, the least harmful. No one should smoke before meals nor on an empty stomach, nor in a close room. Young people should be effectively warned at home and at school of the dangers of excess and abuse of tobacco. Tobacco should be regarded as possibly dangerous at all ages and especially during the period of active growth.

Echo Med. (Lille), December 2.

Apocodein for Hypodermic Administration of a Laxative. RAVIART.—The drugs that can be administered hypodermically to control the functioning of the intestines are not numerous. The hydrochlorate of apocodein has proved that it possesses remarkable evacuating properties, laxative rather than purgative, and an experience of thirty-four cases shows that it can be used without fear of the slightest accident. Two cgm. were injected at a time of a solution of apocodein hydrochlorate: 50 cgm. in 50 gm. water. Raviart's experience has been in reality much more extensive, but thirty-four cases are related in detail. A few proved rebellious to the small dose injected, one a patient with chorea, others with hemiplegia or delirium tremens, malarial fever, neurasthenia, hyperchlorhydria or tuberculosis. The apocodein is a sedative and hypnotic with a peculiar, stimulating effect on the peristalsis and glandular hypersecretion. Toy announced at the Bordeaux Congress of Alienists that he had been invariably successful with apocodein in soothing the patients and procuring several hours of sleep for them; one, and sometimes three, stools occurring during the night, with no vomiting nor other inconvenience.

Corr. Bl. f. Schweiz. Aerzte (Basle), October 1 and November 1.

Spinal Cocainization. F. DUMONT.—The results of spinal cocainization were discouraging in the three cases in which Dumont used it. He injected 15 mg. in each case, one a carcinoma mammae, another an umbilical hernia, and in neither was analgesia obtained. The operation had to be completed with ether. The third patient was much debilitated from tubercular lesions in foot and hand. One knee had been re-

sected a few months before. In each patient intense headache and nausea persisted for four days, and the third patient died the fifth day. The autopsy showed the spinal membranes apparently normal, the cord moderately anemic. Tubercular lesions in lungs and intestines explained the fatal termination which, Dumont believes, was undoubtedly hastened by the cocaineization. He adds that the little patient who continued eating candy while Koehner was resetting his foot under spinal analgesia, has since died of meningitis.

November 1.

Carcinoma of the Stomach. L. RUETIMYER.—In fourteen cases carefully studied no free HCl was found in 84 per cent., while it was discovered in 16 per cent. Lactic acid was found in 87 per cent. and long bacilli in 80 per cent. Three patients with carcinoma of the stomach were 14, 19 and 23 years old. Ruetimyer reviews the statistics of various cities during the last few decades and points out that not only is the frequency of carcinoma of the stomach increasing, but that the average age is less than it used to be, the majority now occurring between 40 and 50, instead of between 60 and 70 as formerly. The statistics for Basle of 666 cases occurring during the last twenty-eight years are 102 between 40 and 50; 141 between 50 and 60; 182 between 60 and 70; men, 311; women, 355.

Deutsche Med. Wochenschrift (Leipzig), November 22.

Bactericidal Powers of the Ultra Violet Rays. H. STREBEL.—In this preliminary communication Strebel, of Munich, states that the invisible ultra violet rays of the spark of a powerful induction coil are strongly bactericidal. They killed a flourishing colony of the micrococcus prodigious for instance, at a distance and even through thick media of quartz, in twenty minutes. The ultra violet rays are especially numerous in the induction spark and the number can be increased by using aluminum and cadmium electrodes and a Leyden jar to accumulate and regulate the electricity. With this combination the ultra violet portion of the invisible spectrum can be seen with the barium-platinum-cyanid screen to be more than four times the length of the visible portion of the spectrum. Finsen uses chiefly the blue violet rays in his radiotherapy, which are weaker chemically than the ultra violet. Any one owning a Roentgen induction coil outfit, Strebel adds, can establish the truth of his assertions and give radiotreatment himself.

Exclusion of a Kidney. L. LANDAU.—During the extirpation of a carcinoma of the cervix in a woman of 38, the ureter was resected. The proximal stump was merely ligated and replaced. The patient recovered with no disturbance on the part of the urinary system. Landau has excluded the kidney in this way three times, and has found it a harmless procedure when unavoidable.

Traumatic Diabetic Coma. W. SPITZER.—An intelligent man of 46 had been diabetic for six years, but the affection was kept well under control. At the end of this time he met with a slight fall which caused him a severe fright. The sugar rose from 25 to 250 gr. a day and only by strenuous efforts was the threatened coma averted.

Deutsche Ztit. f. Chir. (Leipzig), October.

Lung Affections After Operations. M. GERULANOS.—Out of the ninety-five deaths at Heflerich's surgical clinic at Kiel during 1899, pulmonary complications were observed in eighteen. In seven of these the lung affection was evidently directly connected with the operative intervention. By detailed study of these seven and the reports from Mikulicz and other clinics, Gerulanos finds that pulmonary complications are at least as frequent after infiltration anesthesia as after general narcosis. He considers the emotions of the patient as he consciously follows the operation, a factor in determining physical disturbances later, quoting Riesel and Aufrecht, who have observed cases in which violent emotions were the cause of pneumonia with severe cerebral symptoms. This factor possibly predominates in pulmonary troubles after infiltration anesthesia. The insensible aspiration of particles from the secretions of the mouth probably co-operates, finding a soil altered by the effect of emotion or from the irritating action of ether. A macroscopic or bacterial embolus may also be the

source of infection. But the principal cause of post-operative pneumonia is probably hypostasis from the continuous reclining, the paresis of the intestines and meteorism pushing up the diaphragm and consequently crowding the lungs. This hypostasis should be prevented by frequently changing the position of the patient, with the trunk slightly inclined to one side or the other. The patient should be urged to breathe deep, with morphin if necessary to reduce the painfulness of deep breathing. All binding bandages should be avoided. Gas should not be allowed to distend the abdomen; a mild purgative is preferable to opium for this reason even after a laparotomy. An expectorant should be administered in case of existing bronchial symptoms and all other means should be used to prevent hypostasis, which is especially dangerous in debilitated, elderly persons, and after laparotomies in particular, as the patient is inclined to hold himself as immovable as possible. Chilling during the operation is also a factor in post-operative pulmonary troubles. At Kiel it is now the practice to cover the patient warmly or pack the extremities in cotton. A bath just before the operation is also warned against. Narcosis should be avoided as much as possible, particularly in elderly, debilitated persons. For minor operations infiltration anesthesia is preferable, but for serious operations the patient's distress of mind is more injurious than the shock of general narcosis. Ether should be used only exceptionally and for strong patients, on account of its more intense and injurious action on the lungs and circulation, especially to be feared in case of existing bronchial affections. In narcosis with chloroform, it should be completely suspended in a laparotomy for instance, as long as the manipulations are restricted to the intestines. By this means the patient gets very little chloroform and the actual narcosis is much abridged. The head should be lowered to prevent aspiration of secretions from the mouth.

Clinica Med. Italiana (Milan), 1900, No. 8.

Hematogenic Value of the Metals. F. APORTI.—Copper, zinc, gold and mercury proved to have no hematogenic action in the extensive experimental research described in this article. Iron proved to have a marked influence in this respect, most intense when introduced directly into the blood. Manganese has also a hematogenic action, but it is much slower and less pronounced than that of iron. But it does increase the hemoglobin and also the number of red corpuscles in time. Aporti is inclined to believe that this is accomplished by the manganese substituting the iron in the tissues and thus restoring it to the blood.

Vratch (St. Petersburg), November 24.

Injurious Effects of Excessive Spitting. P. P. GELLAT.—Five cases are described of what Gellat terms "psychic salivation," which he considers is quite frequent. In a typical case a middle-aged woman applied for relief from an excessive secretion of mucus in the nasopharynx which prevented her from sleeping. She became frightened during the local irrigation and resorted to a newspaper "specialist." He treated her for a year. When she applied to Gellat the secretion of mucous saliva had become excessive and the patient was spitting or wiping her mouth every minute, with nausea at the idea of swallowing "the horrible stuff." Gellat told her she must not spit, and ordered 20 drops of hydrochloric acid in a glass of water. Whenever she felt an inclination to spit she must sip from the glass and swallow instead of expectorating. In three days she was very much better and was soon completely cured. Her general health, which had been much debilitated was restored to normal at the same time. The loss of the oxydases in the saliva, which are wasted in the excessive spitting, depresses the metabolism and leads to local and general disturbances and neurasthenia. He therefore suggests that the more correct term for the condition would be "aptalya," and that the public should be warned of the injury resulting from the perverted use of the saliva.

Upsala Laek. Foerh., July and August.

Gall Stones from Polar Bears. O. HAMMARSTEN.—The bile and gall stones found in an old and a young female polar bear contained from nearly 4 to more than 6 per cent. of bili-

rubin. The presence of urobilin, Hammarsten observes, indicates that putrefaction must have occurred in the intestines, which conflicts with the recent statements that the intestines of animals in the arctic regions are nearly or entirely sterile.

Actinomycotic Appendicitis. G. EKEHORN.—The slow, gradual course, the insidious commencement and the constantly progressive tendency while still the patient feels comparatively well, are important points in differentiating actinomycotic appendicitis. Ekehorn has observed four cases. The last was treated by resection of the appendix and of a portion of the cecum. The patient was a married woman of 53, who had noticed a small tumor in the right iliac fossa for two years. It had never caused serious inconvenience, but it was diagnosed and removed as an evening temperature of 38 C. was noted at times. Complete recovery after the operation. The preceding cases were in a much more advanced stage when first seen.

August.

Operative Treatment of Prolapsus Uteri. A. O. LINDFORS.—Twelve personal cases of ventrofixation for prolapse are described and twelve by other Swedish surgeons are analyzed. Sixty-eight cases in which this operation was followed by more or less interference with pregnancy are also tabulated, including some published in American journals in the last few years. In the Swedish statistics the mortality has been nil, and in the foreign, 2.9 per cent. Lindfors concludes from a general review that the benefits of operative intervention in case of genital prolapsus are uncertain and relapses frequent even at the best. Consequently, he thinks that pessary treatment combined with a strengthening regime, will prevent the necessity of an operation in many cases, at least among patients in easy circumstances. Among the operative procedures vaginoplasty takes an important if not the most important rank, but severe, primary antelexion may require a high fixation rather than vaginoplasty. The Alexander-Adams operation proved insufficient in some cases, and ventrofixation accessory to vaginoplasty, is preferable. Indications vary with the sexual age of the patient. He prefers a combined Martin-Fehling or Tait-Fehling for his personal technique in vaginoperineal plastic operations. Total extirpation is only indicated in case of tumors or gangrene or in elderly women whose tissues have lost their tonus to such an extent that plastic operations have little chance of success. Neurasthenic patients should never be operated on when possible to avoid it. Whichever method is chosen the surgeon should be prepared for relapses or all kinds of complications. He should always be guided by the principle that a relapse is much less to be feared than serious interference with pregnancy or delivery.

New Patents.

Patents of interest to physicians, etc., Dec. 4 and 11 inclusive: 663,224. Bunton or corn shield. John J. Georges, Washington, D. C.
663,088. Apparatus for making chlorin. Paul Naef, New York City.
663,089. Making chlorin. Paul Naef, New York City.
663,723. Design, casing for disinfecting apparatus. Emil Tausig, New York City.
663,691. Syringe. Robert N. Barber, Hopedale, Ill.
663,723. Apparatus for making and dispensing infusions. Wm. J. Brown and J. R. Beer, London, England.
663,427. Invalid bedstead. Ida D. Eddy, Quiner, Ill.
663,536. Hemoglobinometer. Samuel L. Fox, Haverford, and E. S. Clare, Philadelphia.
663,754. Unstable acetonalikamins and making same. Carl Harries, Berlin, Germany.
663,825. Shoulder-brace and anti-snoring attachment. Leonidas E. Wilson, Broken Bow, Neb.
33,684. Design. Albert L. Gray, St. Louis, Mo.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 6 to 12, 1900, inclusive:
Edward G. Beeson, captain and asst.-surgeon, 39th U. S. V. Inf., now at San Francisco, Cal., to join his regiment in the Philippine Islands.
John G. Byrne, acting asst.-surgeon, from San Francisco, Cal., to Fort Wright, Wash., for duty in the Department of the Columbia.
T. F. Goulding, acting asst.-surgeon, leave of absence, from the Department of Western Cuba, extended.
William L. Keller, acting asst.-surgeon, from temporary duty at Fort Logaa, Colo., to San Francisco, Cal., for duty with troops en

route to Manila and subsequent assignment in the Division of the Philippines.

James P. Kimball, lieut.-col. and deputy surgeon-general, U. S. A., member of a board at Des Moines, Iowa, to examine sites for a military post at or near that place.

Francis M. McCallum, acting asst.-surgeon, now on leave of absence at Kansas City, Mo., to report for temporary duty at Jefferson Barracks, Mo.

James K. Stockard, acting asst.-surgeon, leave of absence, from the Department of California, extended.

Sanford H. Wadhams, lieutenant and asst.-surgeon, U. S. A., relieved of further duty in the Department of Porto Rico; on the expiration of his present leave of absence to report at Columbus Barracks, Ohio, for post duty.

Philip G. Wales, captain and asst.-surgeon U. S. A., from San Francisco, Cal., to Fort De Chesne, Italy, for post duty.
Timothy H. Wheat, major and surgeon U. S. A., from Columbus Barracks, Ohio, Chicago, for duty as chief surgeon, Department of the Lakes.

Abraham D. Williams, acting asst.-surgeon, to proceed from New York City to Washington, D. C., and thence to San Francisco, Cal., for duty with troops en route to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

Compton Wilson, acting asst.-surgeon, leave of absence granted.
Richard Wilson, acting asst.-surgeon, leave of absence granted.

Navy Changes.

Changes in the Official Corps of the Navy for the week ending Dec. 15, 1900:

Pharmacist J. F. Pearson, ordered to the Naval Academy.
Asst.-Surgeon J. C. Pryor detached from the *Albatross* on reporting of relief and ordered home to wait orders.

Asst.-Surgeon W. Butler, detached from the *Independence* and ordered to the *Albatross*.

Asst.-Surgeon J. B. Dennis, detached from the *Wheeling*, on reporting of relief, and ordered home and to wait orders.

Asst.-Surgeon C. S. Fliske, detached from the naval hospital, Mare Island, Cal., and ordered to the *Wheeling*.
P. A. Surgeon W. M. Wheeler, detached from the *Kearsarge* and ordered to the *Alabama*.

P. A. Surgeon T. W. Richards, detached from the *Alabama*, and ordered to the Bureau of Medicine and Surgery, Navy Department.
P. A. Surgeon F. L. Piedwell, detached from the Bureau of Medicine and Surgery, and ordered to the *Kearsarge*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Dec. 13, 1900:

Surgeon H. W. Austin, detailed as medical officer in command of the station quarantining service at the Delaware Bay and River.
Surgeon P. W. Mead, granted leave of absence for one day.

A. A. Surgeon R. C. Craig, granted leave of absence for seven days from Dec. 13.

Senior Hospital Steward M. Steward M. Valerius, granted leave of absence for seven days from Dec. 4.

CASUALTY.

Senior Hospital Steward James Craig died at Key West, Fla., Dec. 2, 1900.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 14, 1900:

SMALLPOX—UNITED STATES.
California: Oakland, Nov. 24-Dec. 1, 4 cases.
Georgia: Houston, Dec. 1-7, 24 cases, 1 death.
Illinois: Chicago, Dec. 1-8, 1 case.
Kansas: Dec. 1-8, 9 cases.
Kentucky: Lexington, Dec. 1-8, 2 cases; Russell, Nov. 20, epidemic.

Michigan: Detroit, Dec. 1-8, 2 cases; Grand Rapids, Nov. 24-Dec. 1, 1 case; reported present at 28 places Nov. 25-Dec. 1.

Minnesota: Minneapolis, Dec. 1-8, 1 case.
Nebraska: Omaha, Nov. 24-Dec. 1, 3 cases.

New Hampshire: Manchester, Dec. 1, 8 cases.
New York: New York, Dec. 1-12, 12 cases, 3 deaths.

Ohio: Dec. 1-8, Ashtabula, 4 cases; Cleveland, 32 cases; 2 deaths.

Pennsylvania: Steelton, Dec. 1-8, 1 case.
Tennessee: Memphis, Nov. 24-Dec. 8, 5 cases; Nashville, Dec. 1-8, 1 case.

Utah: Salt Lake City, Nov. 24-Dec. 8, 69 cases.

SMALLPOX—FOREIGN.

British Columbia: Nov. 21, Gabriola Island, 1 case; Nanaimo, 13 cases.

Egypt: Cairo, Nov. 1-18, 1 case.
France: Paris, Nov. 18-25, 8 deaths.

Mexico: Tuxpam, Nov. 19-26, 4 deaths.
Russia: St. Petersburg, Nov. 10-17, cases, 1 death; Vladivostok, July 1-30, 1 case; Warsaw, Nov. 10-17, 32 deaths.

Scotland: Glasgow, Nov. 23-30, 30 cases, 1 death.
Spain: Barcelona, Oct. 6-Nov. 11, 49 deaths; Valencia, Nov. 4-18, 1 case.

Yucatan: Merida, Nov. 15-30, several cases.

YELLOW FEVER—FOREIGN AND INSULAR.
Cuba: Havana, Nov. 24-Dec. 1, 7 deaths; Puerto Padre, Dec. 3, 1 case.

Mexico: Mexico, Nov. 18-25, 1 death; Tampico, Nov. 18-25, 6 deaths; Yeta Cruz, Nov. 24-30, 12 deaths.

CHOLERA.
India: Bombay, Oct. 30-Nov. 6, 3 deaths; Madras, Oct. 27-Nov. 2, 10 deaths.

PLAGUE—FOREIGN AND INSULAR.
Egypt: Alexandria, Nov. 5-12, 1 case, 1 death.

Germany: Bremen, Nov. 6, 1 death.
India: Bombay, Oct. 30-Nov. 6, 84 deaths; Madras, Oct. 27-Nov. 2, 1 death.

Madagascar: Tamatave, Oct. 15-29, 2 cases, 1 death.
Philippine Islands: Manila, Oct. 13-20, 3 cases, 2 deaths.

GENERAL INDEX.

Use of the index will be facilitated by bearing in mind that subjects are frequently given under two or more headings, e. g., brain, cerebral, tumors, etc.; heart and cardiac; cirrhosis, liver and hepatic; child, children and infant; gland, thyroid, etc. Often, too, writers treat of the eye, ear, nose and throat under one head, etc., and the titles do not always permit of indexing under the several headings. The "General Index" contains only titles of articles, editorials, society reports, abstracts, and miscellaneous matter appearing in the Journal, the book notices, deaths, societies, correspondents, discussions, authors, and titles of articles mentioned in the "Current Medical Literature" department being indexed and arranged under their separate headings instead of in the body of the "General Index."

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